

APPENDIX 'B'

Updated Existing Hydraulic Model (HEC-RAS) and Floodlines

Falcon Creek Erosion Control Study (CNR to Willowbrook Road)

City of Burlington

Appendix 'B' Contents:

- **Figure B.1** – Updated Existing Conditions HEC-RAS Schematic
- **Table B.1** – Updated Existing Conditions HEC-RAS Model Results
- **Figure B.2** – Updated Existing Conditions Regional Floodlines

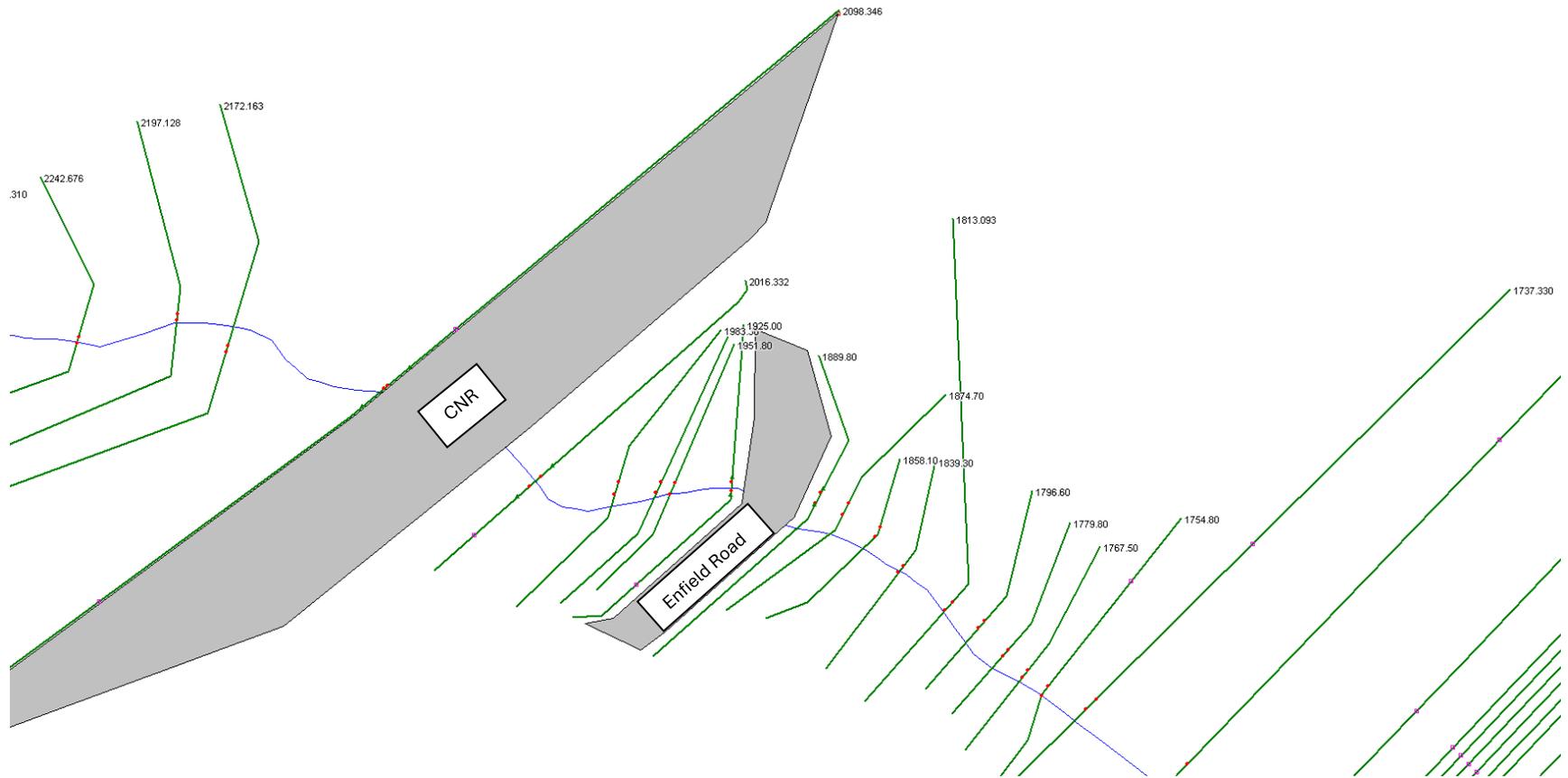


Figure B.1: Updated Existing Conditions Hydraulic Model (HEC-RAS) Schematic

VALDOR ENGINEERING INC.

File: 22118

Date: June 2024

**TABLE B.1 : UPDATED EXISTING HEC-RAS MODEL
RESULTS (100-YR AND REGIONAL FLOWS)**

Updated Existing Conditions HEC-RAS Model Provided by CH (2010) and Revised by Valdor for Falcon Creek, City of Burlington												
Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
main_Stream	2016.332	100-yr	20.57	99.42	101.16	101.16	101.55	0.011102	2.82	8.81	26.2	0.87
main_Stream	2016.332	Regional	25.35	99.42	101.29	101.29	101.72	0.010932	3.02	10.59	45.28	0.88
main_Stream	1983.3	100-yr	20.57	99.15	101.04		101.24	0.003073	2.04	13.14	13.36	0.52
main_Stream	1983.3	Regional	25.35	99.15	101.11		101.38	0.004106	2.42	14.01	15.14	0.61
main_Stream	1959.3	100-yr	20.57	98.95	100.95		101.17	0.002956	2.1	12.45	12.72	0.52
main_Stream	1959.3	Regional	25.35	98.95	100.95	100.58	101.27	0.004539	2.6	12.38	12.64	0.64
main_Stream	1951.8	100-yr	20.57	98.81	100.97		101.13	0.002004	1.85	15.27	17.7	0.43
main_Stream	1951.8	Regional	25.35	98.81	100.98		101.22	0.002997	2.27	15.41	17.94	0.53
main_Stream	1925	100-yr	20.57	98.02	100.98	99.86	101.05	0.000973	1.35	39.44	65.65	0.27
main_Stream	1925	Regional	25.35	98.02	101	100.08	101.09	0.001401	1.63	40.66	66.57	0.32
main_Stream	1900		Culvert									
main_Stream	1889.8	100-yr	20.57	97.33	99.06	98.9	99.47	0.007471	2.89	8.19	8.05	0.79
main_Stream	1889.8	Regional	25.35	97.33	99.13	99.07	99.69	0.009524	3.37	8.71	8.3	0.9
main_Stream	1874.7	100-yr	20.57	97.21	99.14		99.3	0.002105	1.84	15.21	16.13	0.45
main_Stream	1874.7	Regional	25.35	97.21	99.25		99.45	0.002501	2.1	17.03	16.6	0.5
main_Stream	1858.1	100-yr	20.57	96.69	99.2		99.25	0.000615	1.21	38.77	42.32	0.25
main_Stream	1858.1	Regional	25.35	96.69	99.33		99.39	0.00069	1.33	44.5	43.65	0.27
main_Stream	1839.3	100-yr	20.57	96.5	99.2		99.23	0.000465	1.1	44.97	34.53	0.22
main_Stream	1839.3	Regional	25.35	96.5	99.33		99.37	0.000566	1.26	49.6	36.36	0.25
main_Stream	1813.093	100-yr	20.57	96.19	99.2		99.22	0.000268	0.91	54.73	55.79	0.17
main_Stream	1813.093	Regional	25.35	96.19	99.33		99.36	0.000315	1.02	62.32	59.33	0.19
main_Stream	1796.6	100-yr	20.57	96.03	99.2		99.22	0.000173	0.77	75.87	66.8	0.14
main_Stream	1796.6	Regional	25.35	96.03	99.33		99.35	0.000202	0.85	84.88	68.54	0.15
main_Stream	1779.8	100-yr	20.57	95.91	99.2		99.21	0.000131	0.7	88.58	70.56	0.12
main_Stream	1779.8	Regional	25.35	95.91	99.33		99.35	0.000154	0.78	98.03	71.47	0.14
main_Stream	1767.5	100-yr	20.57	95.76	99.2		99.21	0.000094	0.6	99.51	72.51	0.11
main_Stream	1767.5	Regional	25.35	95.76	99.34		99.34	0.000112	0.67	109.22	73.41	0.12
main_Stream	1754.8	100-yr	20.57	95.57	99.19	96.97	99.21	0.000132	0.72	82.79	84.73	0.12
main_Stream	1754.8	Regional	25.35	95.57	99.33	97.15	99.34	0.000142	0.77	107.77	114.35	0.13



**Figure B.2: Current and Updated Regional Floodlines
Falcon Creek (CNR to Willowbrook Road)**



LEGEND

Survey Features	
	Bottom of Bank
	Road Centre Line
	Edge of Pavement
	Profile (Creek Segment)
	Top of Bank
	Survey Elevation Points
Erosion Sites	
	Erosion Sites
	Debris Piles
	Updated Existing Floodplain
	Spills
	Spill Direction
	Existing Floodplain
	Creek Infrastructure
Storm Line	
	CBLEAD
	DITCH
	MAINLINE
	SMCULVERT
Storm Point	
	CB
	MHS
	Easements
	Parcels
	Road
	House Number
	Railway
	Contour

APPENDIX 'C'

Public Information Centre (PIC) Documentation, Stakeholder Meetings and Response to CH Comments

Falcon Creek Erosion Control Study (CNR to Willowbrook Road)

City of Burlington

Appendix 'C' Contents:

- Notice of Study Commencement (27 May 2022)
- Correspondence with MNDMNR (23 June 2022)
- Correspondence with MOECP (14 July 2022)
- Meeting Minutes (Steering Committee)
- Meeting Minutes and Misc. Correspondence with MCFN and Six Nations
- CH Preliminary Comments (09 February 2023)
- Notice of PIC (08 March 2023)
- PIC Presentation (08 March 2023)
- PIC Attendee Questions and Responses
- Meeting Minutes re: On-Site Meeting with Area Residents (11 May 2023) and Responses to Questions



There are changes happening in your community

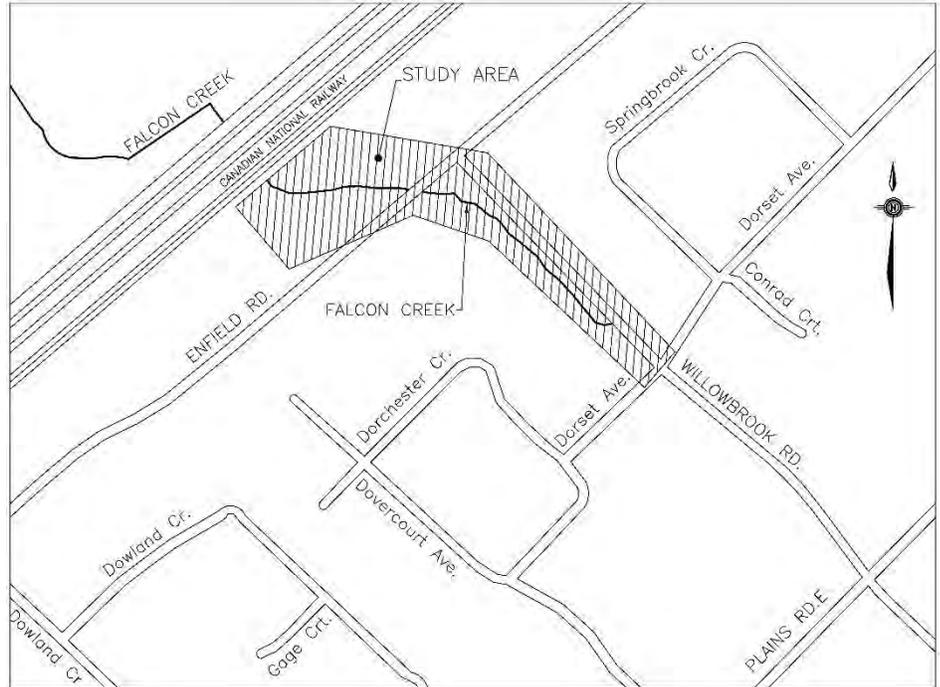
NOTICE OF STUDY COMMENCEMENT Municipal Class Environmental Assessment Falcon Creek Erosion Control Project

The Study

The City of Burlington, through their consultant Valdor Engineering Inc., is undertaking a Municipal Class Environmental Assessment to address erosion concerns in the section of Falcon Creek, between the CN Railroad and Dorset Avenue in the City of Burlington. The map shows the location of the study area.

The Process

The Study will be carried out under *Schedule "B"* in accordance with the requirements of the Municipal Engineers Association (MEA), *Municipal Class Environmental Assessment for Municipal Projects*. The study process includes public and stakeholder consultation and identification of measures to mitigate adverse impacts.



Public Interaction

The Project Team invites public input and comments and will incorporate them into the planning and design of this project. A Public Information Centre (PIC) will be held as part of the process to provide an opportunity for the public to review and comment on the study findings. Notice of the PIC will be provided to the public and agencies as the study progresses.

Comments

The City wishes to ensure that anyone with an interest in this study has the opportunity to provide input on the study alternatives. Except for personal information, all comments will become part of the public record. To provide your comments, request additional information concerning this project or to join the study mailing list, please contact either of the Project Team members:

Arif Shahzad, M.Eng., P.Eng.
Senior Project Manager
City of Burlington
426 Brant Street, P.O. Box 5013
Burlington, Ontario, L7R 3Z6
Tel: 905-335-7600 ext. 7486
arif.shahzad@burlington.ca

Bill Coffey, M.Sc., P. Eng.
Project Manager
Valdor Engineering Inc.
571 Chrislea Road, Suite 4
Woodbridge ON L4L 8A2
Telephone: 905-264-0054 ext. 232
bcoffey@valdor-engineering.com

Date mailed: May 27, 2022



NOTICE OF STUDY COMMENCEMENT

Municipal Class Environmental Assessment Rambo Creek Erosion Control Project

The Study

The City of Burlington, through their consultant Matrix Solutions Inc., is undertaking a Municipal Class Environmental Assessment to address erosion concerns for Rambo Creek, between Mountainside Drive and Industrial Street in the City of Burlington. The map shows the location of the study area.

The Process

The Study will be carried out under Schedule “B” in accordance with the requirements of the Municipal Engineers Association (MEA), Municipal Class Environmental Assessment for Municipal Projects. The study process includes public and stakeholder consultation and identification of measures to mitigate adverse impacts.

Public Interaction

The Project Team invites public input and comments and will incorporate them into the planning and design of this project. A Public Information Centre (PIC) will be held as part of the process to provide an opportunity for the public to review and comment on the study findings. Notice of the PIC will be provided to the public and agencies as the study progresses.

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Senior Project Manager

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mpushkar@matrix-solutions.com



Municipal Class Environmental Assessment Falcon Creek Erosion Control Project

The Study

The City of Burlington, through their consultant Valdor Engineering Inc., is undertaking a Municipal Class Environmental Assessment to address erosion concerns in the section of Falcon Creek, between the CN Railroad and Dorset Avenue in the City of Burlington. The map shows the location of the study area.

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The Study will be carried out under Schedule “B” in accordance with the requirements of the Municipal Engineers Association (MEA), Municipal Class Environmental Assessment for Municipal Projects. The study process includes public and stakeholder consultation and identification of measures to mitigate adverse impacts.

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Project Manager

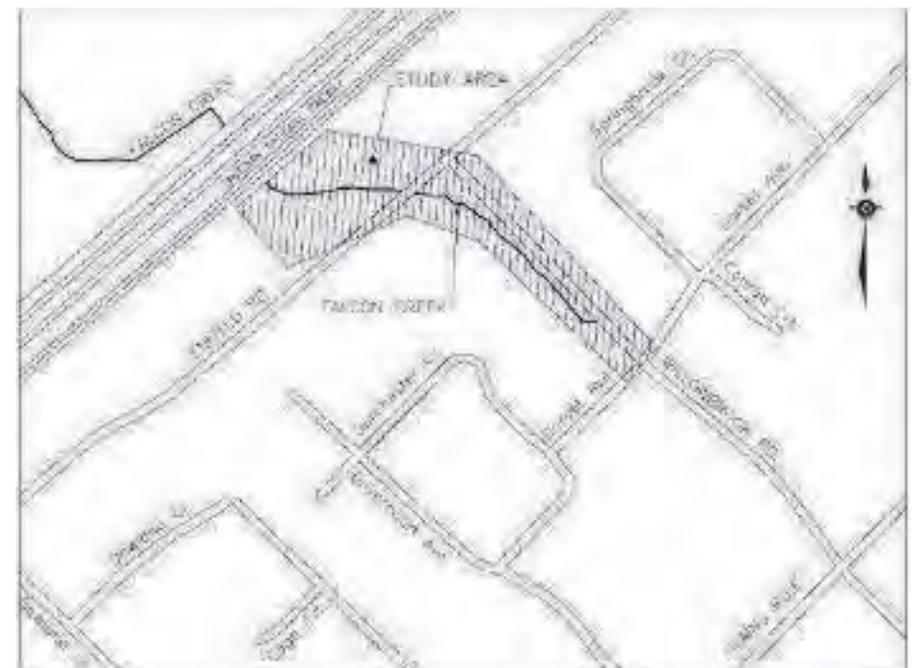
Valdor Engineering Inc.

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bcoffey@valdor-engineering.com



**Ministry of Northern Development,
Mines, Natural Resources and Forestry**

Land Use Planning and Strategic Issues
Section
Southern Region

Regional Operations Division
300 Water Street
Peterborough, ON K9J 3C7

Tel.: 705 761-4839
Fax.: 705 755-3233

**Ministère du Développement du Nord,
des Mines, des Richesses naturelles et des Forêts**

Section de l'aménagement du territoire et des
questions stratégiques
Région du Sud

Division des opérations régionales
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June 23, 2022

To Bill Coffey

SUBJECT: Falcon Creek Erosion Control Environmental Assessment Study

The Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNR) received the Notice of Study Commencement for the Falcon Creek Erosion Control Environmental Assessment Study on June 1, 2022. Thank you for circulating this to our office. Please note that we have not completed a screening of natural heritage or other resource values for the project at this time. This response, however, does provide information to guide you in identifying and assessing natural features and resources as required by applicable policies and legislation, as well as engaging with the Ministry for advice as needed.

Please also note that it is the proponent's responsibility to be aware of, and comply with, all relevant federal or provincial legislation, municipal by-laws or other agency approvals.

Natural Heritage

NDMNR's natural heritage and natural resources GIS data layers can be obtained through the Ministry's [Land Information Ontario \(LIO\)](#) website. You may also view natural heritage information online (e.g., Provincially Significant Wetlands, ANSI's, woodlands, etc.) using the [Make a Map: Natural Heritage Areas](#) tool.

We recommend that you use the above-noted sources of information during the review of your project proposal.

Natural Hazards

A series of natural hazard technical guides developed by NDMNRF are available to support municipalities and conservation authorities implement the natural hazard policies in the Provincial Policy Statement (PPS). For example, standards to address flood risks and the potential impacts and costs from riverine flooding are addressed in the *Technical Guide River and Stream Systems: Flooding Hazard Limit (2002)*. We recommend that you consider these technical guides as you assess specific improvement projects that can be undertaken to reduce the risk of flooding.

Petroleum Wells & Oil, Gas and Salt Resources Act

There may be petroleum wells within the proposed project area. Please consult the Ontario Oil, Gas and Salt Resources Library website (www.ogsrlibrary.com) for the best-known data on any wells recorded by NDMNRF. Please reference the 'Definitions and Terminology Guide' listed in the publications on the library website to better understand the well information available. Any oil and gas wells in your project area are regulated by the *Oil, Gas and Salt Resources Act*, and the supporting regulations and operating standards. If any unanticipated wells are encountered during development of the project, or if the proponent has questions regarding petroleum operations, the proponent should contact the Petroleum Operations Section at POSRecords@ontario.ca or 519-873-4634.

Fish and Wildlife Conservation Act

Please note, that should the project require:

- The relocation of fish outside of the work area, a Licence to Collect Fish for Scientific Purposes under the *Fish and Wildlife Conservation Act* will be required.
- The relocation of wildlife outside of the work area (including amphibians, reptiles, and small mammals), a Wildlife Collector's Authorization under the *Fish and Wildlife Conservation Act* will be required.

Public Lands Act & Lakes and Rivers Improvement Act

Some Project may be subject to the provisions of the *Public Lands Act* or *Lakes and River Improvement Act*. Please review the information on NDMNRF's web pages provided below regarding when an approval is, or is not, required. Please note that many of the authorizations under the *Lakes and Rivers Improvement Act* are administered by the local Conservation Authority.

- For more information about the *Public Lands Act*:
<https://www.ontario.ca/page/crown-land-work-permits>

- For more information about the *Lakes and Rivers Improvement Act*:
<https://www.ontario.ca/page/lakes-and-rivers-improvement-act-administrative-guide>

After reviewing the information provided, if you have not identified any of NDMNRF's interests stated above, there is no need to circulate any subsequent notices to our office. If you have identified any of NDMNRF's interests and/or may require permit(s) or further technical advice, please direct your specific questions to the undersigned.

If you have any questions or concerns, please feel free to contact me.

Best Regards,



Sam Short
Regional Planner
sam.short@ontario.ca
Ph: 705-772-9329
Land Use Planning and Strategic Issues Section – Southern Region
Ministry of Northern Development, Mines, Natural Resources and Forestry



05 July 2022
File: 22118

Meeting #2 with the City and Conservation Halton
Falcon Creek Erosion Control Project – CN Railroad to Willowbrook Road
City of Burlington

NOTES OF MEETING

Location:	On-Site – Creek Walk		
Date of Meeting:	29 June 2022 (12h00 – 13h30)		
Attendees:	Arif Shahzad	Project Manager	City of Burlington (CoB)
	Teresa Giangregorio	SWM Technologist	City of Burlington (CoB)
	Cecilia Mattina	Summer Assistant	City of Burlington (CoB)
	Braden Fleming	EA Planner, CH Point Person	Conservation Halton (CH)
	Karen Reis	Planning Ecology Specialist	Conservation Halton (CH)
	David Irwin	Water Resources Engineer	Conservation Halton (CH)
	Kristen Harrison	Senior Ecologist	North-South Environmental (NSE)
	Ed Gazendam	Senior Geomorphologist	Water's Edge (WE)
	Bill Coffey	Consultant Lead	Valdor Engineering (Valdor)
Regrets:	Lisa Jennings	Senior Planning Ecologist	Conservation Halton (CH)

Introductions

1. Introductions were made.
2. The purpose of the meeting was to walk the watercourse reach between the CN Railroad and Willowbrook Road and to review/discuss the preliminary identified erosion areas and any potential concerns/issues moving forward.

Project Discussions – Summary of Key Items

3. The creek walk commenced at the downstream (d/s) limit of the study area at Willowbrook Road and finished at the upstream (u/s) limit of the study area at the CN Railroad. The following is a summary of the key sites discussed within the study area:
 - a. Storm Sewer Inlet Area Adjacent 423 Willowbrook Road – the visible condition of the inlet headwall and stone wingwalls was discussed. While some cracks and general deterioration was visible regarding the stone headwall and wingwalls, the overall condition appeared to be reasonable with no significant issues apparent that would warrant immediate attention. Please note these observations are not based on any structural or geotechnical investigations. Given that the inlet headwall/wingwall condition assessment is outside the scope of this project and generally covered under other City programs, it was agreed this will be considered at a high level only and included as a recommendation in the EA report for continued monitoring and potential upgrade in the future.



- b. Erosion Site Along Willowbrook Road u/s of the Willowbrook Road Storm Sewer Inlet – This site is identified as Prelim ES #4 in the attached figures including a figure indicating property ownership. Based upon the proximity of this erosion site to Willowbrook Road, it was agreed that this site would be included as part of the EA study for further evaluation and probable mitigation. Regarding any potential mitigation works, it was agreed that the work should be contained within the limits of the Willowbrook Road ROW and that encroachment within private property should be avoided unless absolutely necessary. A discussion was had on site regarding possible mitigation solutions including vegetated sub-angular river stone bank protection with stone toe protection and a possible armourstone block wall to enable containment within the confined limits of the Willowbrook Road ROW.
- c. Erosion Site Along Willowbrook Road d/s of Enfield Road – This site is identified as Prelim ES #3 in the attached figures including a figure indicating property ownership. This site was identified for mitigation in the City’s 2020 *Creeks Inventory and Erosion Assessment*. It was agreed that this site should be included for assessment and probable mitigation as part of the EA study. Regarding any potential mitigation works, it was agreed that the work should be contained within the limits of the Willowbrook Road ROW and the City Block and that encroachment within private property should be avoided unless absolutely necessary. A discussion was had on site regarding possible mitigation solutions including vegetated sub-angular river stone bank protection with stone toe protection and possible creek realignment within the Willowbrook Road ROW and City Block to achieve appropriate stable bank slope requirements.
- d. Culvert Inlet Area u/s of Enfield Road – The City indicated that a local resident had complained regarding the condition of the culvert inlet area at this location. It was agreed that this area will be considered for assessment and possible mitigation as part of the EA study.
- e. Erosion Site Adjacent 419 Enfield Road – This site is identified as Prelim ES #1 in the attached figures including a figure indicating property ownership. The erosion adjacent 419 Enfield Road was observed/reviewed as it lies adjacent an existing parking area. Although the parking area is not currently impacted by the erosion, it was agreed that the erosion migration rate would be calculated to determine the time frame in which impacts to the parking area might become a problem. Based on the calculated erosion migration rate, an assessment/evaluation of any potential mitigation will be included as part of the EA study. Should it be determined that impacts to the parking area are not imminent, an option may be to recommend further monitoring and possible mitigation in the future. ***Action Item (WE): WE to complete erosion migration rate calculations at this location and advise the Project Team.*** The City noted that the Owner at 419 Enfield Road had complained regarding the erosion at this location. ***Action Item (City/Valdor): The City to arrange a meeting with the landowner at 419 Enfield Road to discuss the erosion site and their concerns once the erosion migration rates are calculated.***
- f. Erosion/Slope Stability Site Adjacent 417 Enfield Road – This site is identified as Prelim ES #2 in the attached figures including a figure indicating property ownership. The erosion/slope stability adjacent 417 Enfield Road was observed/reviewed as it lies adjacent an existing house. Although the house is not currently impacted by the erosion, it was agreed that the erosion migration rate would be calculated to determine the time frame in which impacts to the existing house might become a problem. Based on the calculated erosion migration rate, an assessment/evaluation of any potential mitigation will be included as part of the EA study. Should it be determined that impacts to the house are not imminent, an option may be to recommend further monitoring and possible mitigation in the future. Based on visual observations, it was noted that this area appears to be primarily a slope stability issue and not a significant erosion issue ***Action Item (WE): WE to complete erosion migration rate calculations at this location and advise the Project Team.***
- g. Debris Pile Adjacent 423 Enfield Road – A debris pile was noted within the watercourse adjacent 423 Enfield Road. It was agreed that a recommendation would be included in the EA report for further monitoring and future removal by City maintenance crews, as required.

-
4. CH noted the following requirements regarding any proposed erosion mitigation works along Falcon Creek within the study reach:
 - a. The existing tree/shrub canopy over the watercourse should be maintained to the greatest extent possible.
 - b. Bioengineered erosion mitigation solutions (e.g. vegetated river stone, root wads) are preferred to “hard” mitigation solutions (e.g. armourstone walls).
 - c. Tree removal should be minimized and any removed trees will require replacement as per the requisite replacement criteria to the greatest extent possible.
 - d. No major issues were identified regarding the proposed conceptual mitigation solutions although CH noted that all mitigation solutions would require further consideration once the conceptual/preliminary designs and/or EA report are completed for review. **Action Item (Valdor): Valdor to discuss further the potential erosion mitigation solutions with CH and the City once the conceptual/preliminary designs are prepared.**
 - e. Discussions between CH and NSE confirmed that electrofishing will be required to identify any existing fish within the study reach as fish were observed during the site walk. **Action Item (NSE): NSE to complete the optional electrofishing item included in the contract with the City.**
 5. It was noted that the City Block (SW corner of the Willowbrook Road and Enfield Road intersection) appears to have been planted with gardens by the adjacent landowner. Should this area be required for staging of the erosion mitigation construction works, discussions may be required with the adjacent landowner to notify them of this encroachment.
 6. The meeting was adjourned.

Notes Prepared By*:

VALDOR ENGINEERING INC.

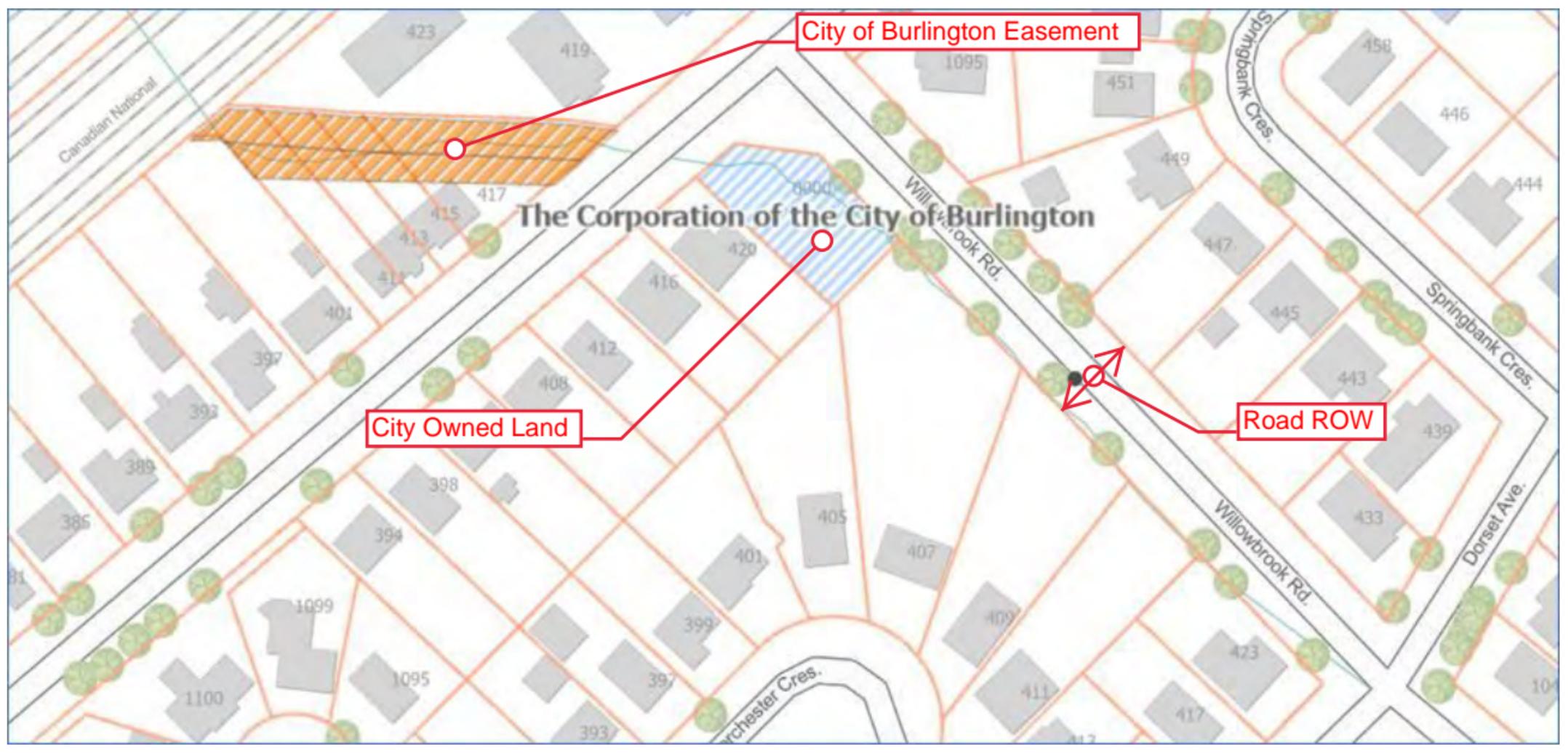


Bill Coffey, M.Sc., P.Eng.
Head of Water Resources

c: **All Attendees and Regrets**

*Any errors or omissions should be reported to the author in writing as soon as possible.

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City of Burlington Easement

City Owned Land

Road ROW

The Corporation of the City of Burlington

Falcon Creek CNR to Willowbrook ESC Erosion Hazard Assessment

11 May 2022
 Identification of Key Erosion Sites
 Preliminary for Discussion Only



Prelim ES #1



Prelim ES #3



Prelim ES #2

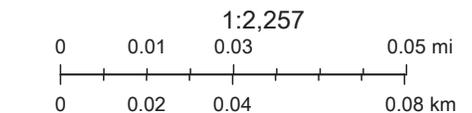


Prelim ES #4



3/14/2022, 9:57:32 AM

- | | | | |
|-------------------------|-----------------------|--|--------------------------------|
| Official CH Boundary | Reserve Area | Waterflow | Shoreline Dynamic Beach Hazard |
| Land Holdings (Outline) | Other | Non-Regulated | Shoreline STOB Erosion Hazard |
| Conservation Area | ARL Current Watershed | Regulated | STOB Hazard |
| Natural Area | | Shoreline 100yr Flood Elevation Hazard | |



CH GIS, Conservation Halton, 2021, CH, FBS, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Conservation Halton, Esri Community Maps Contributors, City of Burlington, City

Preliminary Erosion Site #1

Erosion Potential Risk to Private Infrastructure (Parking)



Preliminary Erosion Site #2



Bank Stability Potential Risk to Private Infrastructure (House)

Preliminary Erosion Site #3
Identified in *2020 Creeks Inventory*
and *Erosion Assessment Study*



Erosion Potential Risk to Public
Infrastructure (Willowbrook Road)



Preliminary Erosion Site #4

Erosion Potential Risk to Public Infrastructure (Willowbrook Road)



Ministry of the Environment,
Conservation and Parks

Environmental Assessment Branch

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Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax.: 416 314-8452

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Protection de la nature et des Parcs

*Direction des évaluations
environnementales*

Rez-de-chaussée
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Toronto ON M4V 1P5
Tél. : 416 314-8001
Télééc. : 416 314-8452



July 14, 2022

Arif Shahzad, M.Eng., P.Eng.
Senior Project Manager
City of Burlington
arif.shahzad@burlington.ca

BY EMAIL ONLY

Re: **Falcon Creek Erosion Control Project
City of Burlington
Schedule B Municipal Class Environmental Assessment
Notice of Study Commencement**

Dear Mr. Shahzad,

This letter is in response to the Notice of Commencement for the above noted project. The Ministry of the Environment, Conservation and Parks (MECP) acknowledges that the project is following the approved environmental planning process for a Schedule B project under the Municipal Engineers Association's Municipal Class Environmental Assessment (Class EA).

The attached "Areas of Interest" document provides guidance regarding the ministry's interests with respect to the Class EA process. Please identify the areas of interest which are applicable to the project and ensure they are addressed. Proponents who address all the applicable areas of interest can minimize potential delays to the project schedule.

The Crown has a legal duty to consult Aboriginal communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing this project, the Crown must ensure that its duty to consult has been fulfilled, where such a duty is triggered. Although the duty to consult with Aboriginal peoples is a duty of the Crown, the Crown may delegate procedural aspects of this duty to project proponents while retaining oversight of the consultation process.

The proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada's *Constitution Act* 1982. Where the Crown's duty to consult is triggered in relation to the proposed project, **the MECP is delegating the procedural aspects of rights-based consultation to the proponent through this letter.** The Crown intends to rely on the delegated consultation process in discharging its duty to consult and maintains the right to

participate in the consultation process as it sees fit.

Based on information provided to date and the Crown's preliminary assessment the proponent is required to consult with the following communities who have been identified as potentially affected by the proposed project:

- Mississaugas of the Credit First Nation; and
- Six Nations of the Grand River (Both the Six Nations Elected Council and Haudenosaunee Confederacy Chiefs Council (HCCC)/Haudenosaunee Development Institute (HDI)).

Steps that the proponent may need to take in relation to Aboriginal consultation for the proposed project are outlined in the "[Code of Practice for Consultation in Ontario's Environmental Assessment Process](#)".

Additional information related to Ontario's *Environmental Assessment Act* is available online at: www.ontario.ca/environmentalassessments

Please also refer to the attached document "A Proponent's Introduction to the Delegation of Procedural Aspects of consultation with Aboriginal Communities" for further information.

The proponent must contact the Director of Environmental Assessment Branch under the following circumstances after initial discussions with the communities identified by MECP:

- Aboriginal or treaty rights impacts are identified to you by the communities;
- You have reason to believe that your proposed project may adversely affect an Aboriginal or treaty right;
- Consultation with Indigenous communities or other stakeholders has reached an impasse; or
- A Section 16 Order request is expected based on impacts to Aboriginal or treaty rights.

The MECP will then assess the extent of any Crown duty to consult for the circumstances and will consider whether additional steps should be taken, including what role you will be asked to play should additional steps and activities be required.

Once the report is finalized, the proponent must issue a Notice of Completion providing a minimum 30-day period during which documentation may be reviewed and comment and input can be submitted to the Proponent.

Please ensure that the Notice of Completion advises that outstanding concerns are to be directed to the proponent for a response, and that in the event there are outstanding concerns regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, Section 16 Order requests on those matters should be addressed in writing to:

Minister David Piccini
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

and

Director, Environmental Assessment Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
EABDirector@ontario.ca

Please note the project cannot proceed until at least 30 days after the end of the public review period provided for in the Notice of Completion.

Further, the project may not proceed after this time if:

- a Section 16 Order request has been submitted to the ministry regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights; or
- the Director has issued a Notice of Proposed Order regarding the project.

The public can request a higher level of assessment on a project if they are concerned about potential adverse impacts to constitutionally protected Aboriginal and treaty rights. In addition, the Minister may issue an order on his or her own initiative within a specified time period. The Director will issue a Notice of Proposed Order to the proponent if the Minister is considering an order for the project within 30 days after the conclusion of the comment period on the Notice of Completion. At this time, the Director may request additional information from the proponent.

Once the requested information has been received, the Minister will have 30 days to make a decision or impose conditions on your project.

A draft copy of the report should be sent to me prior to the filing of the final report, allowing a minimum of 30 days for the ministry's technical reviewers to provide comments.

Please also ensure a copy of the final notice is sent to the ministry's Central Region EA notification email account (eanotification.cregion@ontario.ca) after the report is finalized.

Should you or your project team members have any questions regarding the material above, please contact me at trevor.bell@ontario.ca.

Sincerely,



Trevor Bell
Regional Environmental Planner

cc: Tina Dufresne, Manager, Halton Peel District Office, MECP
Katy Potter, Supervisor (A), Project Review Unit, MECP
Bill Coffey, Project Manager, Valdor Engineering Inc.

Attachments: Areas of Interest
A Proponent's Introduction to the Delegation of Procedural Aspects of
consultation with Aboriginal Communities

AREAS OF INTEREST

It is suggested that you check off each applicable area after you have considered / addressed it.

Species at Risk

- The Ministry of the Environment, Conservation and Parks has now assumed responsibility of Ontario's Species at Risk program. For any questions related to subsequent permit requirements, please contact SAROntario@ontario.ca.

Planning and Policy

- Ontario has released "A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2019)" which replaces the "Growth Plan for the Greater Golden Horseshoe (2017)". More information, including the Plan, is found here: <https://www.placestogrow.ca>.
- Parts of the study area may be subject to the [A Place to Grow: Growth Plan for the Greater Golden Horseshoe](#) (2019), [Oak Ridges Moraine Conservation Plan](#) (2017), [Niagara Escarpment Plan](#) (2017), [Greenbelt Plan](#) (2017) or [Lake Simcoe Protection Plan](#) (2014). Applicable policies should be referenced in the report, and the proponent should describe how the proposed project adheres to the relevant policies in these plans.
- The [Provincial Policy Statement](#) (2020) contains policies that protect Ontario's natural heritage and water resources. Applicable policies should be referenced in the report, and the proponent should describe how the proposed project is consistent with these policies.

Source Water Protection (all projects)

The *Clean Water Act*, 2006 (CWA) aims to protect existing and future sources of drinking water. To achieve this, several types of vulnerable areas have been delineated around surface water intakes and wellheads for every municipal residential drinking water system that is located in a source protection area. These vulnerable areas are known as a Wellhead Protection Areas (WHPAs) and surface water Intake Protection Zones (IPZs). Other vulnerable areas that have been delineated under the CWA include Highly Vulnerable Aquifers (HVAs), Significant Groundwater Recharge Areas (SGRAs), Event-based modelling areas (EBAs), and Issues Contributing Areas (ICAs). Source protection plans have been developed that include policies to address existing and future risks to sources of municipal drinking water within these vulnerable areas.

Projects that are subject to the Environmental Assessment Act that fall under a Class EA, or one of the Regulations, have the potential to impact sources of drinking water if they occur in designated vulnerable areas or in the vicinity of other at-risk drinking water systems (i.e. systems that are not municipal residential systems). MEA Class EA projects may include activities that, if located in a vulnerable area, could be a threat to sources of drinking water (i.e. have the potential to adversely affect the quality or quantity of drinking water sources) and the activity could therefore 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, Class EA projects (where the project includes an activity that is a threat to drinking water) 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 October 2015, the MEA Parent Class EA document was amended to include reference to the Clean Water Act (Section A.2.10.6) and indicates that proponents undertaking a Municipal Class EA project must identify early in their process whether a project is or could potentially be occurring with a vulnerable area. **Given this requirement, please include a section in the report on source water protection.**
 - The proponent should identify the source protection area and should clearly document how the proximity of the project to sources of drinking water (municipal or other) and any delineated vulnerable areas was considered and assessed. Specifically, the report should discuss whether or not the project is located in a vulnerable area and provide applicable details about the area.
 - If located in a vulnerable area, proponents should document whether any project activities are prescribed drinking water threats and thus pose a risk to drinking water (this should be consulted on with the appropriate Source Protection Authority). Where an activity poses a risk to drinking water, the proponent must document and discuss in the report how the project adheres to or has regard to applicable policies in the local source protection plan. This section should then be used to inform and be reflected in other sections of the report, such as the identification of net positive/negative effects of alternatives, mitigation measures, evaluation of alternatives etc.
- While most source protection plans focused on including policies for significant drinking water threats in the WHPAs and IPZs it should be noted that even though source protection plan policies may not apply in HVAs, these are areas where aquifers are sensitive and at risk to impacts and within these areas, activities may impact the quality of sources of drinking water for systems other than municipal residential systems.
- In order to determine if this project is occurring within a vulnerable area, proponents can use this mapping tool: <http://www.applications.ene.gov.on.ca/swp/en/index.php>. The mapping tool will also provide a link to the appropriate source protection plan in order to identify what policies may be applicable in the vulnerable area.
- For further information on the maps or source protection plan policies which may relate to their project, proponents must contact the appropriate source protection authority. **Please consult with the local source protection authority to discuss potential impacts on drinking water. Please document the results of that consultation within the report and include all communication documents/correspondence.**

More Information

For more information on the *Clean Water Act*, source protection areas and plans, including specific information on the vulnerable areas and drinking water threats, please refer to Conservation Ontario's website where you will also find links to the local source protection plan/assessment report.

A list of the prescribed drinking water threats can be found in section 1.1 of Ontario Regulation 287/07 made under the *Clean Water Act*. In addition to prescribed drinking water threats, some source protection plans may include policies to address additional "local" threat activities, as

approved by the MECP.

□ **Climate Change**

Ontario is leading the fight against climate change through the [Climate Change Action Plan](#). Recently released, the plan lays out the specific actions Ontario will take in the next five years to meet its 2020 greenhouse gas reduction targets and establishes the framework necessary to meet its long-term targets. As a commitment of the action plan, **the province has now finalized a guide, "[Considering Climate Change in the Environmental Assessment Process](#)" (Guide).**

The Guide is now a part of the Environmental Assessment program's Guides and Codes of Practice. The Guide sets out the MECP's expectation for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes. The guide provides examples, approaches, resources, and references to assist proponents with consideration of climate change in EA. **Proponents should review this Guide in detail.**

- The MECP expects proponents to:
 1. Consider during the assessment of alternative solutions and alternative designs, the following:
 - a. the project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation); and
 - b. resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation).
 2. Include a discrete section in the report detailing how climate change was considered in the EA.

How climate change is considered can be qualitative or quantitative in nature, and should be scaled to the project's level of environmental effect. In all instances, both a project's impacts on climate change (mitigation) and impacts of climate change on a project (adaptation) should be considered.

- The MECP has also prepared another guide to support provincial land use planning direction related to the completion of energy and emission plans. The "[Community Emissions Reduction Planning: A Guide for Municipalities](#)" document is designed to educate stakeholders on the municipal opportunities to reduce energy and greenhouse gas emissions, and to provide guidance on methods and techniques to incorporate consideration of energy and greenhouse gas emissions into municipal activities of all types. We encourage you to review the Guide for information.

□ **Air Quality, Dust and Noise**

- If there are sensitive receptors in the surrounding area of this project, an air quality/odour impact assessment will be useful to evaluate alternatives, determine impacts and identify appropriate mitigation measures. The scope of the assessment can be determined based on the potential effects of the proposed alternatives, and typically includes source and receptor characterization and a quantification of local air quality impacts on the sensitive receptors and the environment in the study area. The assessment will compare to all applicable standards or guidelines for all contaminants of concern. **Please contact this office for**

further consultation on the level of Air Quality Impact Assessment required for this project if not already advised.

- **If a full Air Quality Impact Assessment is not required for the project, the report should still contain:**
 - A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions;
 - A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors;
 - A discussion of local air quality impacts that could arise from this project during both construction and operation; and
 - A discussion of potential mitigation measures.
 - As a common practice, “air quality” should be used as an evaluation criterion for all road projects.
 - Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the study area are not adversely affected during construction activities.
 - The MECP recommends that non-chloride dust-suppressants be applied. For a comprehensive list of fugitive dust prevention and control measures that could be applied, refer to [Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities](#). report prepared for Environment Canada. March 2005.
 - The report should consider the potential impacts of increased noise levels during the operation of the completed project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.
- Ecosystem Protection and Restoration**
- Any impacts to ecosystem form and function must be avoided where possible. The report should describe any proposed mitigation measures and how project planning will protect and enhance the local ecosystem.
 - All natural heritage features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. The following sensitive environmental features may be located within or adjacent to the study area:
 - Areas of Natural and Scientific Interest (ANSIs)
 - Rare Species of flora or fauna
 - Watercourses
 - Wetlands
 - Woodlots

We recommend consulting with the Ministry of Natural Resources and Forestry (MNRF), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional studies will be necessary to preserve and protect these

sensitive features. In addition, you may consider the provisions of the Rouge Park Management Plan if applicable.

□ **Surface Water**

- The report must include enough information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking.
- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry's [Stormwater Management Planning and Design Manual \(2003\)](#) should be referenced in the report and utilized when designing stormwater control methods. **A Stormwater Management Plan should be prepared as part of the Class EA process** that includes:
 - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained
 - Watershed information, drainage conditions, and other relevant background information
 - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
 - Information on maintenance and monitoring commitments.
- Ontario Regulation 60/08 under the *Ontario Water Resources Act* (OWRA) applies to the Lake Simcoe Basin, which encompasses Lake Simcoe and the lands from which surface water drains into Lake Simcoe. If the proposed sewage treatment plant is listed in Table 1 of the regulation, the report should describe how the proposed project and its mitigation measures are consistent with the requirements of this regulation and the OWRA.
- Any potential approval requirements for surface water taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, except for certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the [Water Taking User Guide for EASR](#) for more information. Additionally, an Environmental Compliance Approval under the OWRA is required for municipal stormwater management works.

□ **Groundwater**

- The status of, and potential impacts to any well water supplies should be addressed. If the project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, project activities may infringe on existing wells such that they must be reconstructed or sealed and abandoned. Appropriate information to

define existing groundwater conditions should be included in the report.

- If the potential construction or decommissioning of water wells is identified as an issue, the report should refer to Ontario Regulation 903, Wells, under the OWRA.
- Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.
- Any potential approval requirements for groundwater taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, with the exception of certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the [Water Taking User Guide for EASR](#) for more information.

□ **Contaminated Soils**

- Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act (EPA)* and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. Please contact the appropriate MECP District Office for further consultation if contaminated sites are present.
- Any current or historical waste disposal sites should be identified in the report. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the EPA may be required for land uses on former disposal sites.
- The location of any underground storage tanks should be investigated in the report. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The ministry's Spills Action Centre must be contacted in such an event.
- The report should identify any underground transmission lines in the study area. The owners should be consulted to avoid impacts to this infrastructure, including potential spills.

□ **Excess Materials Management**

- Activities involving the management of excess soil should be completed in accordance with the MECP's current guidance document titled "[Management of Excess Soil – A Guide for Best Management Practices](#)" (2014).
- All waste generated during construction must be disposed of in accordance with ministry requirements

□ Servicing and Facilities

- Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste must have an Environmental Compliance Approval (ECA) before it can operate lawfully. Please consult with the Environmental Approvals Access and Service Integration Branch (EAASIB) to determine whether a new or amended ECA will be required for any proposed infrastructure.
- We recommend referring to the ministry's [environmental land use planning guides](#) to ensure that any potential land use conflicts are considered when planning for any infrastructure or facilities related to wastewater, pipelines, landfills or industrial uses.

□ Mitigation and Monitoring

- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation are met. Mitigation measures should be clearly referenced in the report and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly.
- Design and construction reports and plans should be based on a best management approach that centres on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.
- The proponent's construction and post-construction monitoring plans must be documented in the report, as outlined in Section A.2.5 and A.4.1 of the MEA Class EA parent document.

□ Consultation

- The report must demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the SR that identifies concerns that were raised and **describes how they have been addressed by the proponent** throughout the planning process. The Class EA also directs proponents to include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments.

□ Class EA Process

- The report should provide clear and complete documentation of the planning process in order to allow for transparency in decision-making.
- If this project is a Master Plan: there are several different approaches that can be used to conduct a Master Plan, examples of which are outlined in Appendix 4 of the Class EA. The Master Plan should clearly indicate the selected approach for conducting the plan, by identifying whether the levels of assessment, consultation and documentation are sufficient to fulfill the requirements for Schedule B or C projects. Please note that any Schedule B or C projects identified in the plan would be subject to Section 16 Order requests under the

Environmental Assessment Act, although the plan itself would not be.

- The report must demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the report that identifies concerns that were raised and **describes how they have been addressed by the proponent** throughout the planning process. The Class EA also directs proponents to include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments.
- The Class EA requires the consideration of the effects of each alternative on all aspects of the environment. The report should include a level of detail (e.g. hydrogeological investigations, terrestrial and aquatic assessments) such that all potential impacts can be identified, and appropriate mitigation measures can be developed. Any supporting studies conducted during the Class EA process should be referenced and included as part of the report.
- Please include in the report a list of all subsequent permits or approvals that may be required for the implementation of the preferred alternative, including but not limited to, MECP's PTTW, EASR Registrations, ECAs, and Species at Risk permits, Conservation Authority permits, and approvals under the *Impact Assessment Act*, 2019.
- Ministry guidelines and other information related to the issues above are available at <http://www.ontario.ca/environment-and-energy/environment-and-energy>. We encourage you to review all the available guides and to reference any relevant information in the report.

A PROPONENT'S INTRODUCTION TO THE DELEGATION OF PROCEDURAL ASPECTS OF CONSULTATION WITH ABORIGINAL COMMUNITIES

Definitions

The following definitions are specific to this document and may not apply in other contexts:

Aboriginal communities – the First Nation or Métis communities identified by the Crown for the purpose of consultation.

Consultation – the Crown's legal obligation to consult when the Crown has knowledge of an established or asserted Aboriginal or treaty right and contemplates conduct that might adversely impact that right. This is the type of consultation required pursuant to s. 35 of the *Constitution Act, 1982*. Note that this definition does not include consultation with Aboriginal communities for other reasons, such as regulatory requirements.

Crown – the Ontario Crown, acting through a particular ministry or ministries.

Procedural aspects of consultation – those portions of consultation related to the process of consultation, such as notifying an Aboriginal community about a project, providing information about the potential impacts of a project, responding to concerns raised by an Aboriginal community and proposing changes to the project to avoid negative impacts.

Proponent – the person or entity that wants to undertake a project and requires an Ontario Crown decision or approval for the project.

I. Purpose

The Crown has a legal duty to consult Aboriginal communities when it has knowledge of an existing or asserted Aboriginal or treaty right and contemplates conduct that may adversely impact that right. In outlining a framework for the duty to consult, the Supreme Court of Canada has stated that the Crown may delegate procedural aspects of consultation to third parties. This document provides general information about the Ontario Crown's approach to delegation of the procedural aspects of consultation to proponents.

This document is not intended to instruct a proponent about an individual project, and it does not constitute legal advice.

II. Why is it Necessary to Consult with Aboriginal Communities?

The objective of the modern law of Aboriginal and treaty rights is the *reconciliation* of Aboriginal peoples and non-Aboriginal peoples and their respective rights, claims and interests. Consultation is an important component of the reconciliation process.

The Crown has a legal duty to consult Aboriginal communities when it has knowledge of an existing or asserted Aboriginal or treaty right and contemplates conduct that might adversely impact that right. For example, the Crown's duty to consult is triggered when it considers issuing a permit, authorization or approval for a project which has the potential to adversely impact an Aboriginal right, such as the right to hunt, fish, or trap in a particular area.

The scope of consultation required in particular circumstances ranges across a spectrum depending on both the nature of the asserted or established right and the seriousness of the potential adverse impacts on that right.

Depending on the particular circumstances, the Crown may also need to take steps to accommodate the potentially impacted Aboriginal or treaty right. For example, the Crown may be required to avoid or minimize the potential adverse impacts of the project.

III. The Crown's Role and Responsibilities in the Delegated Consultation Process

The Crown has the responsibility for ensuring that the duty to consult, and accommodate where appropriate, is met. However, the Crown may delegate the procedural aspects of consultation to a proponent.

There are different ways in which the Crown may delegate the procedural aspects of consultation to a proponent, including through a letter, a memorandum of understanding, legislation, regulation, policy and codes of practice.

If the Crown decides to delegate procedural aspects of consultation, the Crown will generally:

- Ensure that the delegation of procedural aspects of consultation and the responsibilities of the proponent are clearly communicated to the proponent;
- Identify which Aboriginal communities must be consulted;
- Provide contact information for the Aboriginal communities;
- Revise, as necessary, the list of Aboriginal communities to be consulted as new information becomes available and is assessed by the Crown;
- Assess the scope of consultation owed to the Aboriginal communities;
- Maintain appropriate oversight of the actions taken by the proponent in fulfilling the procedural aspects of consultation;
- Assess the adequacy of consultation that is undertaken and any accommodation that may be required;
- Provide a contact within any responsible ministry in case issues arise that require direction from the Crown; and
- Participate in the consultation process as necessary and as determined by the Crown.

IV. The Proponent's Role and Responsibilities in the Delegated Consultation Process

Where aspects of the consultation process have been delegated to a proponent, the Crown, in meeting its duty to consult, will rely on the proponent's consultation activities and documentation of those activities. The consultation process informs the Crown's decision of whether or not to approve a proposed project or activity.

A proponent's role and responsibilities will vary depending on a variety of factors including the extent of consultation required in the circumstance and the procedural aspects of consultation the Crown has delegated to it. Proponents are often in a better position than the Crown to discuss a project and its potential impacts with Aboriginal communities and to determine ways to avoid or minimize the adverse impacts of a project.

A proponent can raise issues or questions with the Crown at any time during the consultation process. If issues or concerns arise during the consultation that cannot be addressed by the proponent, the proponent should contact the Crown.

a) What might a proponent be required to do in carrying out the procedural aspects of consultation?

Where the Crown delegates procedural aspects of consultation, it is often the proponent's responsibility to provide notice of the proposed project to the identified Aboriginal communities. The notice should indicate that the Crown has delegated the procedural aspects of consultation to the proponent and should include the following information:

- a description of the proposed project or activity;
- mapping;
- proposed timelines;
- details regarding anticipated environmental and other impacts;
- details regarding opportunities to comment; and
- any changes to the proposed project that have been made for seasonal conditions or other factors, where relevant.

Proponents should provide enough information and time to allow Aboriginal communities to provide meaningful feedback regarding the potential impacts of the project. Depending on the nature of consultation required for a project, a proponent also may be required to:

- provide the Crown with copies of any consultation plans prepared and an opportunity to review and comment;
- ensure that any necessary follow-up discussions with Aboriginal communities take place in a timely manner, including to confirm receipt of information, share and update information and to address questions or concerns that may arise;
- as appropriate, discuss with Aboriginal communities potential mitigation measures and/or changes to the project in response to concerns raised by Aboriginal communities;
- use language that is accessible and not overly technical, and translate material into Aboriginal languages where requested or appropriate;
- bear the reasonable costs associated with the consultation process such as, but not limited to, meeting hall rental, meal costs, document translation(s), or to address technical & capacity issues;
- provide the Crown with all the details about potential impacts on established or asserted Aboriginal or treaty rights, how these concerns have been considered and addressed by the proponent and the Aboriginal communities and any steps taken to mitigate the potential impacts;
- provide the Crown with complete and accurate documentation from these meetings and communications; and
- notify the Crown immediately if an Aboriginal community not identified by the Crown approaches the proponent seeking consultation opportunities.

b) What documentation and reporting does the Crown need from the proponent?

Proponents should keep records of all communications with the Aboriginal communities involved in the consultation process and any information provided to these Aboriginal communities.

As the Crown is required to assess the adequacy of consultation, it needs documentation to satisfy itself that the proponent has fulfilled the procedural aspects of consultation delegated to it. The documentation required would typically include:

- the date of meetings, the agendas, any materials distributed, those in attendance and copies of any minutes prepared;
- the description of the proposed project that was shared at the meeting;
- any and all concerns or other feedback provided by the communities;
- any information that was shared by a community in relation to its asserted or established Aboriginal or treaty rights and any potential adverse impacts of the proposed activity, approval or disposition on such rights;
- any proposed project changes or mitigation measures that were discussed, and feedback from Aboriginal communities about the proposed changes and measures;
- any commitments made by the proponent in response to any concerns raised, and feedback from Aboriginal communities on those commitments;
- copies of correspondence to or from Aboriginal communities, and any materials distributed electronically or by mail;
- information regarding any financial assistance provided by the proponent to enable participation by Aboriginal communities in the consultation;
- periodic consultation progress reports or copies of meeting notes if requested by the Crown;
- a summary of how the delegated aspects of consultation were carried out and the results; and
- a summary of issues raised by the Aboriginal communities, how the issues were addressed and any outstanding issues.

In certain circumstances, the Crown may share and discuss the proponent's consultation record with an Aboriginal community to ensure that it is an accurate reflection of the consultation process.

c) Will the Crown require a proponent to provide information about its commercial arrangements with Aboriginal communities?

The Crown may require a proponent to share information about aspects of commercial arrangements between the proponent and Aboriginal communities where the arrangements:

- include elements that are directed at mitigating or otherwise addressing impacts of the project;
- include securing an Aboriginal community's support for the project; or
- may potentially affect the obligations of the Crown to the Aboriginal communities.

The proponent should make every reasonable effort to exempt the Crown from confidentiality provisions in commercial arrangements with Aboriginal communities to the extent necessary to allow this information to be shared with the Crown.

The Crown cannot guarantee that information shared with the Crown will remain confidential. Confidential commercial information should not be provided to the Crown as part of the consultation record if it is not relevant to the duty to consult or otherwise required to be submitted to the Crown as part of the regulatory process.

V. What are the Roles and Responsibilities of Aboriginal Communities' in the Consultation Process?

Like the Crown, Aboriginal communities are expected to engage in consultation in good faith. This includes:

- responding to the consultation notice;
- engaging in the proposed consultation process;
- providing relevant documentation;
- clearly articulating the potential impacts of the proposed project on Aboriginal or treaty rights; and
- discussing ways to mitigate any adverse impacts.

Some Aboriginal communities have developed tools, such as consultation protocols, policies or processes that provide guidance on how they would prefer to be consulted. Although not legally binding, proponents are encouraged to respect these community processes where it is reasonable to do so. Please note that there is no obligation for a proponent to pay a fee to an Aboriginal community in order to enter into a consultation process.

To ensure that the Crown is aware of existing community consultation protocols, proponents should contact the relevant Crown ministry when presented with a consultation protocol by an Aboriginal community or anyone purporting to be a representative of an Aboriginal community.

VI. What if More Than One Provincial Crown Ministry is Involved in Approving a Proponent's Project?

Depending on the project and the required permits or approvals, one or more ministries may delegate procedural aspects of the Crown's duty to consult to the proponent. The proponent may contact individual ministries for guidance related to the delegation of procedural aspects of consultation for ministry-specific permits/approvals required for the project in question. Proponents are encouraged to seek input from all involved Crown ministries sooner rather than later.



21 October 2022
File: **22118**

Meeting #1 with the City and Six Nations of the Grand River
Falcon Creek Erosion Control Project – CN Railroad to Willowbrook Road
City of Burlington

NOTES OF MEETING

Location:	Virtual (Teams Meeting)	
Date of Meeting:	21 October 2022 (10h00 – 11h00)	
Attendees:	Peter Graham	Six Nations of the Grand River (Six Nations)
	Trevor Bomberry	Six Nations of the Grand River (Six Nations)
	Lonny Bomberry	Six Nations of the Grand River (Six Nations)
	Philip Monture	Six Nations of the Grand River (Six Nations)
	Lauren Jones	Six Nations of the Grand River (Six Nations)
	Tanya Hill	Six Nations of the Grand River (Six Nations)
	Arif Shahzad	Project Manager City of Burlington (CoB)
	Teresa Giangregorio	SWM Technologist City of Burlington (CoB)
	Bill Coffey	Consultant Lead Valdor Engineering (Valdor)
Regrets:	Dawn Russell	Six Nations of the Grand River (Six Nations)

Introductions

1. Introductions were made.
2. The purpose of the meeting was to discuss the proposed mitigation works with Six Nations of the Grand River for the existing identified erosion sites on Falcon Creek between the CNN Railroad and Willowbrook Road in the City of Burlington and to address any questions or concerns now and moving forward.

Project Discussions – Summary of Key Items

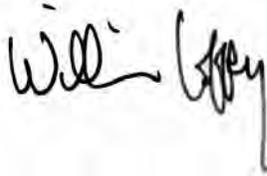
3. A project overview was provided by the City and Valdor including a review of the existing identified erosion sites that are a potential threat to existing private and public infrastructure, in particular along Willowbrook Road.
4. A brief overview of the archaeological investigations and report completed by AMICK Consulting including any conclusions and recommendations was provided by Valdor. It was indicated that notifications to both Six Nations of the Grand River and Mississaugas of the Credit First Nation had been circulated at the onset of the project and that the archaeological report has been submitted to the Ontario Ministry of Tourism, Culture and Sport (MTCS) for review as well as to both Six Nations and Mississaugas of the Credit.
5. Six Nations (Lauren) noted that efforts to make the environment better regarding any proposed mitigation works are supported by Six Nations. Generally, “hardened” erosion mitigation measures such as concrete or armourstone walls are not desirable unless as a last resort.



6. Six Nations (Lauren) inquired regarding the existing vegetation on site and the general environmental investigations that had been completed. Valdor confirmed that investigations including fisheries, vegetation and wildlife have been completed by the environmental consultant (North-South Environmental) and that this information will be included in the EA report that will be made available for review. This will include a listing of the existing vegetation on site. Lauren noted that efforts should be made to include any existing medicinal plants native to the area in the proposed landscape plan. It was asked if a contractor from Six Nations could be used to complete the planting for the site. The City noted there are established protocols in place regarding the tendering and award of construction contracts that generally do not support sole sourcing, however, this will be reviewed further.
7. Six Nations (Peter/Philip) inquired regarding the contributing factors to erosion within the study area and whether a broader holistic approach is considered rather than direct mitigation of the erosion sites. The City noted that erosion is a naturally occurring process and that current development approvals must include stormwater management measures that provide erosion controls to prevent downstream erosion. These practices are evolving with time and so older developments would not have been subject to the current erosion control requirements.
8. Six Nations (Tanya) requested a copy of the archaeological report to review as she has some detailed questions regarding the investigations. **Action Item: Valdor to provide a copy of the archaeological report directly to Tanya.**
9. The meeting was adjourned.

Notes Prepared By*:

VALDOR ENGINEERING INC.

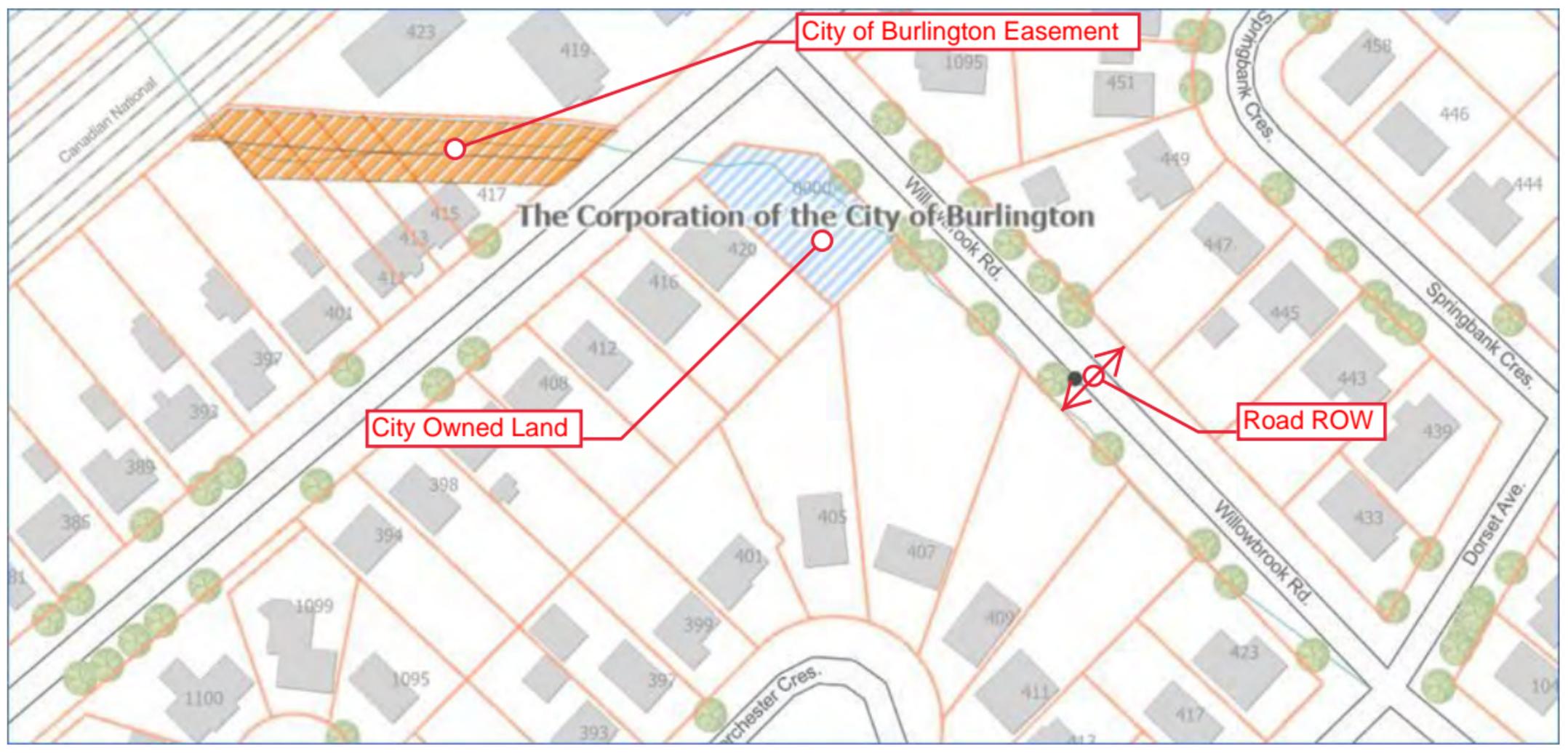


Bill Coffey, M.Sc., P.Eng.
Head of Water Resources

c: **All Attendees and Regrets and Michael Henry (AMICK)**

*Any errors or omissions should be reported to the author in writing as soon as possible.

s:\projects\2022\22118\class ea\meetings\2022 10 21 - meeting with six nations\22118 - 21 oct 2022 - meeting with city and six nations.doc



City of Burlington Easement

City Owned Land

Road ROW

The Corporation of the City of Burlington

Falcon Creek CNR to Willowbrook ESC Erosion Hazard Assessment

11 May 2022
 Identification of Key Erosion Sites
 Preliminary for Discussion Only



Prelim ES #1



Prelim ES #3



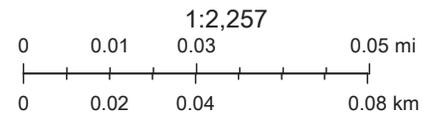
Prelim ES #2



Prelim ES #4

3/14/2022, 9:57:32 AM

- | | | | |
|-------------------------|-----------------------|--|--------------------------------|
| Official CH Boundary | Reserve Area | Waterflow | Shoreline Dynamic Beach Hazard |
| Land Holdings (Outline) | Other | Non-Regulated | Shoreline STOB Erosion Hazard |
| Conservation Area | ARL Current Watershed | Regulated | STOB Hazard |
| Natural Area | | Shoreline 100yr Flood Elevation Hazard | |



CH GIS, Conservation Halton, 2021, CH, FBS, Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Conservation Halton, Esri Community Maps Contributors, City of Burlington, City

Preliminary Erosion Site #1

Erosion Potential Risk to Private Infrastructure (Parking)



Preliminary Erosion Site #2



Bank Stability Potential Risk to Private Infrastructure (House)

Preliminary Erosion Site #3
Identified in *2020 Creeks Inventory*
and *Erosion Assessment Study*



Erosion Potential Risk to Public
Infrastructure (Willowbrook Road)



Preliminary Erosion Site #4

Erosion Potential Risk to Public Infrastructure (Willowbrook Road)



From: [Bill Coffey](#)
To: [Peter Graham](#)
Cc: [Shahzad, Arif](#); [Giangregorio, Teresa](#); [Michael Henry](#)
Subject: RE: Meeting Minutes - Meeting with City of Burlington/Valdor and Six Nations - Falcon Ck Erosion Control
Date: November 23, 2022 11:18:00 AM
Attachments: [image002.jpg](#)

Hi Peter,

Thank you for the confirmation. Much appreciated. Regarding the preference towards a naturalized solution, we will make a note of this and factor into the overall evaluation of options. For your information, we have also received similar comments regarding the preference towards a naturalized approach from Mississaugas of the Credit First Nation and Conservation Halton. Thank you again for your feedback and input.

Regards,

Bill Coffey, M.Sc., P.Eng.
Head of Water Resources

VALDOR ENGINEERING INC.

Head Office: Greater Toronto Area
571 Chrislea Road, Unit 4
Vaughan, Ontario, L4L 8A2
Tel: 905-264-0054 x232 Fax: 905-264-0069
Mobile: 647-404-3332
E-Mail: bcoffey@valdor-engineering.com
URL: www.valdor-engineering.com

Branch Office: Peterborough & The Kawarthas
580 The Queensway, Unit 1
Peterborough, Ontario, K9J 7H2

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From: Peter Graham <petergraham@sixnations.ca>
Sent: Wednesday, November 23, 2022 10:28 AM
To: Bill Coffey <BCoffey@Valdor-Engineering.com>
Subject: RE: Meeting Minutes - Meeting with City of Burlington/Valdor and Six Nations - Falcon Ck Erosion Control

Hi Bill,

I think an important item to add in association with Lauren's #5 is that we favour naturalization wherever possible. We don't have any additional concerns at this time.

Thank you, Peter

From: Bill Coffey <BCoffey@Valdor-Engineering.com>
Sent: November 21, 2022 2:36 PM
To: Peter Graham <petergraham@sixnations.ca>; Trevor Bomberry <adnb@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>; Shahzad, Arif <arif.shahzad@burlington.ca>; Giangregorio, Teresa <teresa.giangregorio@burlington.ca>; Tanya Hill-Montour <tanyahill-montour@sixnations.ca>
Cc: Dawn Russell <dawnrussell@sixnations.ca>; Abdul Baten <ABaten@Valdor-Engineering.com>; Michael Henry <mhenry@amick.ca>
Subject: RE: Meeting Minutes - Meeting with City of Burlington/Valdor and Six Nations - Falcon Ck Erosion Control

Dear All,

As an update, we are currently preparing the EA report and will be holding a PIC in December or January. Six Nations will be circulated a copy of the EA report as well as a notice of the PIC.

We appreciate Six Nations taking the time to review the archaeological report completed for this

site. We will be considering any comments discussed at our recent meeting as we move forward. In the interim, if you could please confirm there are no outstanding concerns or requirements beyond those discussed in our recent meeting (meeting minutes attached for reference), it would be appreciated. Thank you.

Regards,

Bill Coffey, M.Sc., P.Eng.
Head of Water Resources

VALDOR ENGINEERING INC.

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From: Bill Coffey

Sent: Friday, October 21, 2022 4:38 PM

To: Peter Graham <petergraham@sixnations.ca>; Trevor Bomberry <adnb@sixnations.ca>; Lonny Bomberry <lonnybomberry@sixnations.ca>; Shahzad, Arif <arif.shahzad@burlington.ca>; Giangregorio, Teresa <teresa.giangregorio@burlington.ca>; Tanya Hill-Montour <tanyahill-montour@sixnations.ca>

Cc: Dawn Russell <dawnrussell@sixnations.ca>; Abdul Baten <ABaten@Valdor-Engineering.com>; Michael Henry <mhenry@amick.ca>

Subject: Meeting Minutes - Meeting with City of Burlington/Valdor and Six Nations - Falcon Ck Erosion Control

Dear All,

Thank you again to Six Nations for making the time to meet with us today. Please find attached a copy of the meeting minutes attached regarding this morning's meeting. Please advise as soon as possible regarding any errors or omissions.

Tanya, please find attached a copy of AMICK's Archaeological Report, as requested. Also, if you could please circulate the meeting minutes to Lauren and any others I may have missed, that would be greatly appreciated. Thank you.

Regards,

Bill Coffey, M.Sc., P.Eng.
Head of Water Resources

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Bill Coffey

Subject: FW: Falcon Creek Erosion Project Class EA - Archaeological Property Assessment Report

From: Marie-Annick Prevost <Marie-Annick.Prevost@mncfn.ca>

Sent: Thursday, November 24, 2022 11:46 AM

To: Bill Coffey <BCoffey@Valdor-Engineering.com>

Cc: arif.shahzad@burlington.ca; teresa.giangregorio@burlington.ca; Adam LaForme <Adam.LaForme@mncfn.ca>

Subject: RE: Falcon Creek Erosion Project Class EA - Archaeological Property Assessment Report

Aanii Bill,

I confirm that there are currently no outstanding issues on our side with the Falcon Creek Erosion creek project. We appreciate that you are open to suggestions for improvement in the future and we look forward to continuing working with you on this project.

Miigwech,

Marie-Annick Prevost, Ph.D. (she/her)

Field archaeologist



Mississaugas of the Credit First Nation (MCFN)

Department of Consultation and Accommodation (DOCA)

4065 Highway 6 North, Hagersville, ON NOA 1H0

Cell: 905-870-5844

From: Bill Coffey <BCoffey@Valdor-Engineering.com>

Sent: Monday, November 21, 2022 2:16 PM

To: Adam LaForme <Adam.LaForme@mncfn.ca>; Marie-Annick Prevost <Marie-Annick.Prevost@mncfn.ca>

Cc: arif.shahzad@burlington.ca; teresa.giangregorio@burlington.ca

Subject: RE: Falcon Creek Erosion Project Class EA - Archaeological Property Assessment Report

Hi Adam,

I wanted to follow-up with you regarding our recent correspondence to confirm there are no outstanding issues or concerns regarding the proposed erosion mitigation works on Falcon Creek and as a part of the EA process. As an update, we are currently preparing the EA report and will be holding a PIC in December or January. MCFN will be circulated a copy of the EA report as well as a notice of the PIC.

We appreciate you and your team taking the time to review the archaeological report completed for this site. Based on our previous correspondence, MCFN noted their concerns regarding the archaeological consultant (AMICK) that completed the archaeological investigations and report. We appreciate your feedback in this regard and we have made

a note of this for future EA work. Thank you again for providing a list of alternate archaeological consultants that MCFN holds in high regard and that we can approach in the future. You indicated recently it was not necessary to meet further regarding these concerns.

Just so there is no misunderstanding as we move forward through the EA process, could you please confirm this approach is acceptable to MCFN and that there are no outstanding concerns or requirements that need to be addressed at this time. Thank you.

Regards,

Bill Coffey, M.Sc., P.Eng.
Head of Water Resources



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February 9, 2023

Valdor Engineering Inc. *c/o Bill Coffey*
571 Chrislea Road, Unit 4
Vaughan, ON L4L 8A2

BY EMAIL ONLY (BCoffey@Valdor-Engineering.com)

Dear Bill Coffey:

**Re: Erosion Control Options/Mitigations for PIC #1
Falcon Creek Erosion Control (CNR to Willowbrook Rd) EA
City of Burlington
CH File: AMPR-78**

Conservation Halton (CH) staff has reviewed these alternatives as per our responsibilities under Ontario Regulation 162/06; and our provincially delegated responsibilities under Ontario Regulation 686/21 (i.e., represent provincial interests for Sections 3.1.1-3.1.7 of the Provincial Policy Statement (PPS). CH staff has reviewed the documents received on December 19, 2022, and offer the following Key Comment with Detailed Comments included in Appendix A.

On January 1, 2023, a new Minister's regulation (Ontario Regulation 596/22: Prescribed Acts – Subsections 21.1.1 (1.1) and 21.1.2 (1.1) of the Conservation Authorities Act) came into effect which provides that conservation authorities (CAs) may not provide a municipal (Category 2) or other (Category 3) program or service related to reviewing and commenting on proposals, applications, or other matters under a prescribed Act, including the Environmental Assessment Act. As a result, technical review services (e.g., technical reviews related to natural heritage and select aspects of stormwater management) that CH formerly provided under to the Memorandums of Understanding (MOU, 1999 and 2018) and Interim Ecological Services Agreement (IESA, 2021) with Halton Region will no longer be provided for applications received after January 1, 2023.

CH is working with its municipal partners to develop a transition plan for applications currently under review and submitted prior to January 1, 2023. Since this application was received prior to this time, technical reviews related to the MOU have been identified separately.

Notwithstanding, CH does not have any feedback related to the MOU/IESA on this particular submission.

Ontario Regulation 596/22 does not affect CAs provision of mandatory or Category 1 programs or services (i.e., natural hazards and wetlands) related to reviewing and commenting on a proposal, application, or other matter made under those Acts. Municipalities are still required to circulate environmental assessments and technical reports to CAs so that we may review and comment on natural hazard and wetland matters per Ontario Regulation 686/21.

Key Comment

1. Alternatives with potential to shift the toe of slope of a confined valley towards development have potential to increase the long-term stable slope hazard on adjacent lands, which is not supported by CH. This factor should inform decision-making on selection of a preferred alternative. Note that CH may credit toe erosion protection in select circumstances such as robust measures built and maintained by a public agency.

We trust these comments are of assistance. Should you have any questions, please contact the undersigned.

Sincerely,



Braden Fleming, B.Sc. (Hons), ESCP
Environmental Planner
905.336.1158 ext. 2335
bfleming@hrca.on.ca

Encl. Appendix A: Detailed Comments

C.C. Arif Shahzad (Arif.Shahzad@burlington.ca), City of Burlington (via email)
Teresa Giangregorio (Teresa.Giangregorio@burlington.ca), City of Burlington (via email)

Appendix A – Detailed Comments

#	Topic/Section	CH Comments (February 9, 2023)
Conceptual Plans		
1.	General	Confirm if the red line shown on drawings is the Regional Storm floodplain and include on legend.
2.	General	Confirm source for floodlines. Per previous correspondence, Falcon Creek was examined as part of the Aldershot GO Major Transit Station Area (MTSA) Study (formerly known as the Mobility Hub Study). CH staff recommend use of modelling from that study for baseline purposes.
3.	General	For options where toe protection is proposed using riverstone, topsoil is not considered an appropriate fill material as it would likely be washed away. At detailed design for the selected option, sizing of riverstone and void space fill should be supported by appropriate calculations.
4.	FIG-1 (Erosion Site 1, Option 2)	Channel realignment has potential to shift long term stable slope (LTSS) towards private property south of Falcon Creek. Further consideration of this option must confirm no impact to LTSS on private property.
5.	FIG-2 (Erosion Site 1, Option 3)	Channel realignment has potential to shift LTSS towards private property north of Falcon Creek. Further consideration of this option must confirm no impact to LTSS on private property.
6.	FIG-2 (Erosion Site 2, Option 3)	Confirm the proposed treatment of sub-angular riverstone extends the entirety of the 2:1 slope.
7.	FIG-7 (Erosion Site 3, Option 2)	Channel realignment has potential to shift LTSS towards the west. Further consideration of this option must confirm no impact to LTSS on private property.
8.	FIG-8 (Erosion Site 3, Option 3)	Channel realignment has potential to shift LTSS towards the west. Further consideration of this option must confirm no impact to LTSS on private property.
9.	FIG-11 (Erosion Site 4, Option 3)	The title block above Section D-D indicates realignment of the watercourse, which does not appear to be required based on CH review of the drawing. Confirm realignment is not required.
10.	FIG-12 (Erosion Site 4, Option 6)	Toe of armourstone wall extends beyond existing toe of creek. Further consideration of this option must confirm no impact to LTSS.
Summary Table		
11.	General	A longer list of conceptual alternatives (e.g., energy dissipation features, relocation of development, land acquisition) has not been provided, and should be included in the EA with explanation for the short list of alternatives carried forward to this summary table.
12.	General	Include quantitative assessment of alternatives.
13.	General	Alternatives with potential to shift the toe of slope of a confined valley towards development have potential to increase the long-term stable slope hazard on adjacent lands, which is not supported by CH. Include this factor

		as a disadvantage where applicable (see comments on Conceptual Plans for Erosion Sites & Options where this is the case).
14.	General	Alternatives where creek realignment and potential loss of flood storage is proposed must be assessed to confirm the total system does not lose riparian or manmade flood storage as a result of the proposed works.
15.	General	Alternatives where creek realignment is proposed must be supported by a geomorphological design brief to the satisfaction of CH at detailed design stage.
16.	Erosion Site 2, Option 4	Include in "disadvantage" column that this option would require unnecessary widening of the channel.
17.	General	To offset the removal of tree canopy within the regulated limits, the EA should identify the location of compensation plantings within the study area.



There are changes happening in your community

NOTICE OF PUBLIC INFORMATION CENTRE

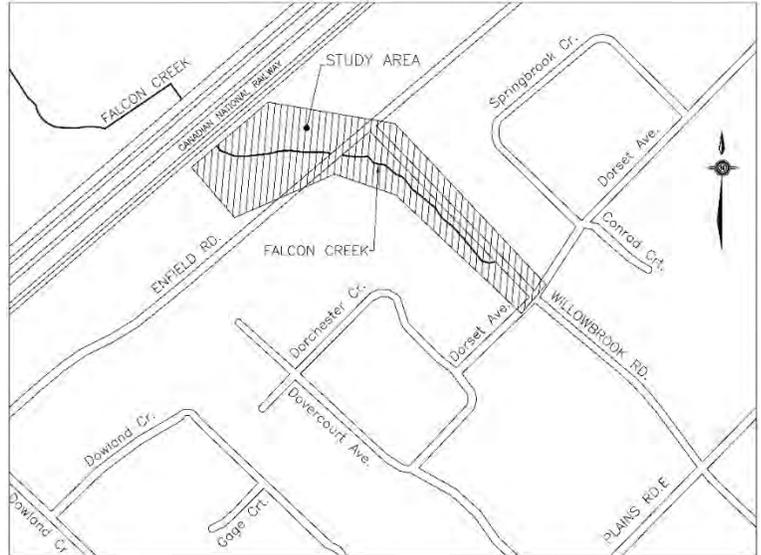
Municipal Class Environmental Assessment
Falcon Creek Erosion Control Project

The Study

The City of Burlington, through their consultant Valdor Engineering Inc., has started a Municipal Class Environmental Assessment (EA) to address erosion concerns in the section of Falcon Creek, between the CN Railroad and Dorset Avenue (Study Area shown to right).

The Process

The Study is being done under *Schedule "B"* in accordance with the requirements of the Municipal Engineers Association (MEA), *Municipal Class Environmental Assessment for Municipal Projects*. The study process includes public and stakeholder consultation and identification of ways to reduce negative impacts.



Public Engagement

As public engagement is an important part of City projects, the City will be holding a Public Open House where the alternatives and construction timing will be discussed. Public input and comments are welcomed and will be considered in the completion of the project.

Online Public Information Centre

Online Public Information Centre (PIC) will be hosted where the residents will have an opportunity to share input, concerns, and comments about the construction of the project.

How to Participate:

Step 1: Visit: burlington.ca/falconcreek by using your computer or mobile phone

Step 2: View the PIC materials provided on the website.

Step 3: Attend the web presentation as per details below:

When: Wednesday, March 8, 2023 from 6 to 7:30 p.m. (1-hour presentation, 30-minute Q&A)

Where: Microsoft Teams Meeting Link, on Burlington.ca/falconcreek or
www.microsoft.com/en-ca/microsoft-teams/join-a-meeting

Meeting ID: 284 499 246 349

Passcode: TA7PGY

For those who are unable to attend online, presentation slides will be available for review on the City's webpage. We encourage you to participate by reviewing the information materials and providing any comments to the Project Team. Information will be collected in accordance with the Municipal Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

Comments

If you have any comments or questions regarding the study or the Class EA process, please contact either of the individuals below. Except for personal information, all comments will become part of the public record.

Arif Shahzad, M.Eng., P.Eng.
Senior Project Manager
City of Burlington
426 Brant St., P.O. Box 5013
Burlington, Ontario, L7R 3Z6
905-335-7600, ext. 7486
arif.shahzad@burlington.ca

Bill Coffey, M.Sc., P. Eng.
Project Manager
Valdor Engineering Inc.
571 Chrislea Rd., Suite 4
Woodbridge, Ontario, L4L 8A2
905-264-0054, ext. 232
bcoffey@valdor-engineering.com

**FALCON CREEK EROSION CONTROL
CN RAILROAD TO WILLOWBROOK ROAD**

MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT



**PUBLIC INFORMATION CENTRE
(PIC)**

**Wednesday 08 March 2023
6:00 pm to 7:30 pm**

VIRTUAL MEETING (MS TEAMS)

First Nations Land Acknowledgement

Burlington as we know it today is rich in history and modern traditions of many First Nations and the Métis. From the Anishinaabeg to the Haudenosaunee, and the Métis – our lands spanning from Lake Ontario to the Niagara Escarpment are steeped in Indigenous history. The territory is mutually covered by the “Dish with One Spoon Wampum Belt Covenant,” an agreement between the Iroquois Confederacy, the Ojibway, and other allied Nations to peaceably share and care for the resources around the Great Lakes. We would like to acknowledge that the land on which we gather is part of the Treaty Lands and Territory of the “Mississaugas of the Credit.”

FALCON CREEK EROSION CONTROL MUNICIPAL CLASS EA STUDY

Consultant Team

The Consultant Team retained by the City of Burlington to complete the Falcon Creek Erosion Control Study includes the following firms:

Valdor Engineering – Lead consultant, water resources and municipal engineers

North-South Environmental – Ecologists

Water's Edge – Fluvial Geomorphologists

Soil Engineers – Geotechnical engineers

Amick - Archaeologists



FALCON CREEK EROSION CONTROL MUNICIPAL CLASS EA STUDY

Problem Statement and Background Information

The City of Burlington is undertaking the preparation of erosion control and detailed design for a section of Falcon Creek extending from the CN Railroad to Willowbrook Road following the Municipal Class Environmental Assessment (EA).

As reported in the City Creeks Inventory and Erosion Assessment Report completed in 2020, sections of this reach have been significantly eroded and remediation measures are required as private properties and public infrastructure are at risk. The City retained Valdor Engineering to complete the *Falcon Creek Hydrology and Hydraulics Study* (Dec 2012) and additional investigations on Falcon Creek were completed as part of the Aldershot Go Major Transit Station Area (MTSA) Study.

The length of the study area is approximately 320 meters within City easements on private property and the public road allowance along Willowbrook Road. Falcon Creek outlets to Hamilton Harbour and Lake Ontario and includes a drainage area of approximately 380 ha. Land uses within the watershed consist of rural and residential/industrial developed areas and includes the Burlington Golf and Country Club near the downstream limit of the watershed at North Shore Boulevard.

The project purpose is to complete an erosion control study to identify the preferable alternative(s) to stabilize the existing creek erosion, including bank sections that have fallen into the creek which has resulted in creek instability and ongoing erosion. The project will include the completion of the erosion control study and proposed design while following the Class EA process. This will include the completion of surveys and field investigations to analyze available alternatives and present the preferred solution for detailed design and construction, while considering hydraulic impacts and revising existing modelling. Detailed design and construction supervision will also be included as a part of the project, pending successful completion of the preceding project components.



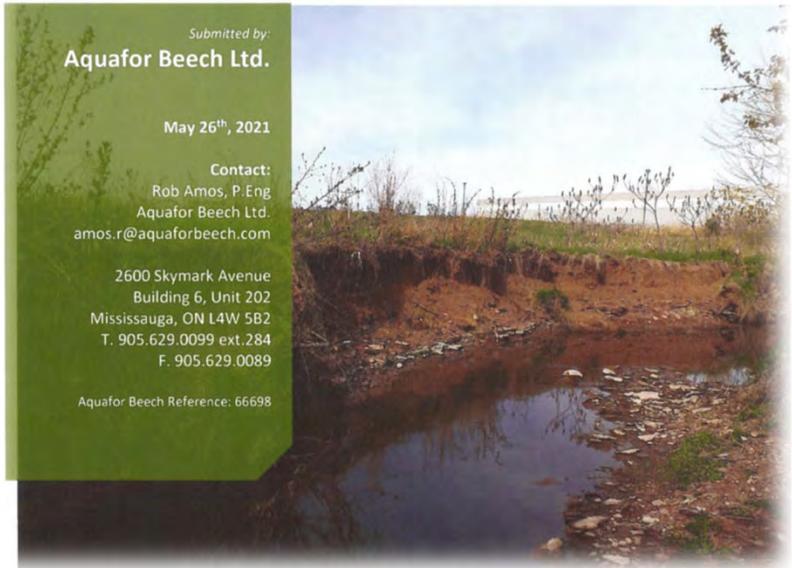
FALCON CREEK EROSION CONTROL MUNICIPAL CLASS EA STUDY

2020 Creeks Inventory and Erosion Assessment



Prepared for:
City of Burlington
 Mr. Arif Shahzad, M.Eng., P.Eng.
 Senior Project Manager
 Stormwater Engineering
 Capital Works Department
 City of Burlington
 426 Brant Street
 Burlington, Ontario L7R 3Z6

City of Burlington 2020 Creeks Inventory and Erosion Assessment



Submitted by:
Aquafor Beech Ltd.

May 26th, 2021

Contact:
 Rob Amos, P.Eng.
 Aquafor Beech Ltd.
 amos.r@aquaforbreech.com

2600 Skymark Avenue
 Building 6, Unit 202
 Mississauga, ON L4W 5B2
 T. 905.629.0099 ext.284
 F. 905.629.0089

Aquafor Beech Reference: 66698

Site ID: 76

FALCON CREEK

Priority Rank: 20

Overview

Priority Rank: 20 (of 94)
 Erosion Hazard Score: 80 /100
 Risk Type: Critical Infrastructure (Willowbrook Rd)
 City of Burlington
 5 m

Description of Problem

- Willowbrook Rd is at risk on an outside meander bend of Falcon Creek (F05), downstream of Enfield Rd.
- The creek passes through a circular concrete culvert at Enfield Rd after which the channel meanders towards Willowbrook Rd.
- The top of bank is approximately 2 m from the guardrail and 3 m from the pavement.
- The bank slope is 2.5 m and comprised of unconsolidated soils and is highly erodible.
- Several large trees are located along the slope between the road and the watercourse.



Recommended Solution

- Utilize City land holding to realign channel approximately 6 m to the southwest away from Willowbrook Rd to accommodate 2.5:1 (H:V) regrading of east slope.
 - Construct vegetated buttress slope protection on both banks (approximately 15 m in length) with boulders at the toe for long-term stability.
 - Revegetate upper slopes above buttress.
- Constraints & Comments:**
- Warm water stream classification (specific construction timing window to be determined at the detailed design stage).
 - Retain large trees at top of slope where possible to maintain established tree canopy on residential street.

Construction Cost Estimate: \$300,000

Recommended Timeframe: 0 - 5 Years (2020 - 2025)

Representative Photographs



Looking east towards Willowbrook Rd at exposed tree roots



Looking upstream at active erosion along toe of slope



CITY CREEKS INVENTORY AND EROSION ASSESSMENT 2020

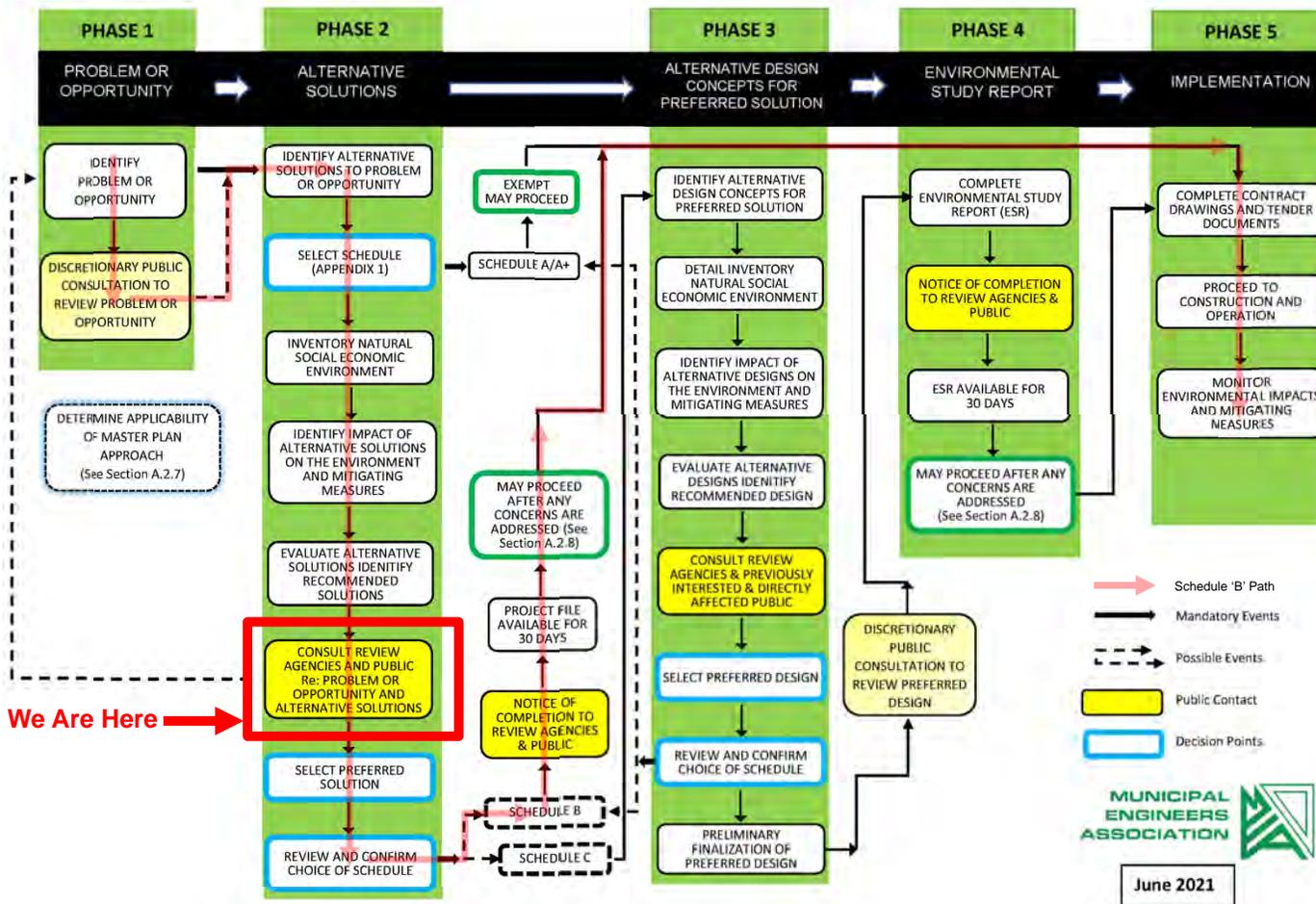


FALCON CREEK EROSION CONTROL MUNICIPAL CLASS EA STUDY



Municipal Class Environmental Assessment (EA) Process

The Municipal Class EA applies to municipal infrastructure projects including roads, water and wastewater projects. Depending on the potential environmental impact of projects undertaken by the municipality, the project is classified according to the following schedules that must be adhered to as part of the Municipal Class EA process:



Schedule A

Generally includes normal or emergency operational and maintenance activities. The environmental effects of these activities are usually minimal and, therefore, these projects are pre-approved.

Schedule A+

These projects are pre-approved, however, the public is to be advised prior to project implementation. The manner in which the public is advised is to be determined by the proponent.

Schedule B

Generally includes improvements and minor expansions to existing facilities. There is the potential for some adverse environmental impacts and, therefore, the proponent is required to proceed through a screening process including consultation with those who may be affected.

Schedule C

Generally includes the construction of new facilities and major expansions to existing facilities. These projects proceed through the environmental assessment planning process outlined in the Municipal Class EA document (MEA, 2011).

Municipal Class EA Process

FALCON CREEK EROSION CONTROL MUNICIPAL CLASS EA STUDY

Study Area Location Plan

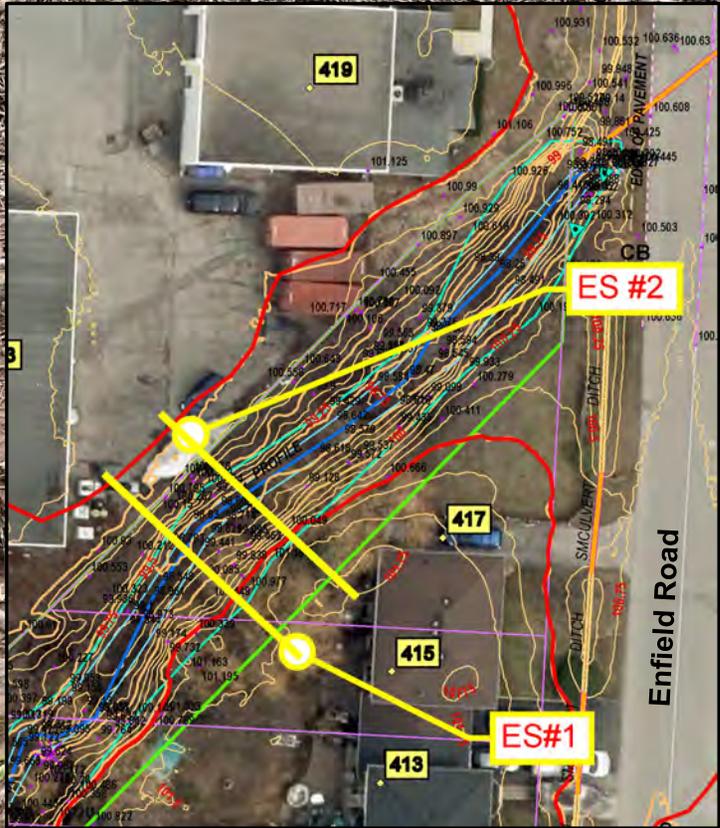


LEGEND

- Survey Features**
 - Bottom of Bank
 - Road Centre Line
 - Edge of Pavement
 - Profile (Creek Segment)
 - Top of Bank
 - Survey Elevation Points
- Erosion Sites**
 - Erosion Sites
 - Debris Piles
 - Updated Existing Floodplain
 - Spills
 - Spill Direction
 - Existing Floodplain
 - Creek Infrastructure
- Storm Line**
 - CBLEAD
 - DITCH
 - MANLINE
 - SANICULVERT
- Storm Point**
 - CB
 - MHS
- Contours**
 - Contours
 - Parcels
 - Road
 - House Number
 - Railway
 - Clamor

FALCON CREEK EROSION CONTROL MUNICIPAL CLASS EA STUDY

Erosion Site #1



FALCON CREEK EROSION CONTROL MUNICIPAL CLASS EA STUDY

Erosion Site #3



INVENTORY OF THE SOCIAL/CULTURAL & ECONOMIC ENVIRONMENT

Economic Environment

The existing economic environment within the study area is summarized as follows:

- There is some economic activity based on the commercial and industrial businesses.
- Economic growth is limited.

Social Environment

The existing social environment within the study area is described as follows:

- The current land use consists of primarily of residential lands with a small amount of commercial/industrial lands.
- Some persons are employed within the study area.
- Residential and employment densities have been relatively constant for many years.
- Development expansion is restricted by the current floodplain and railroad corridor.

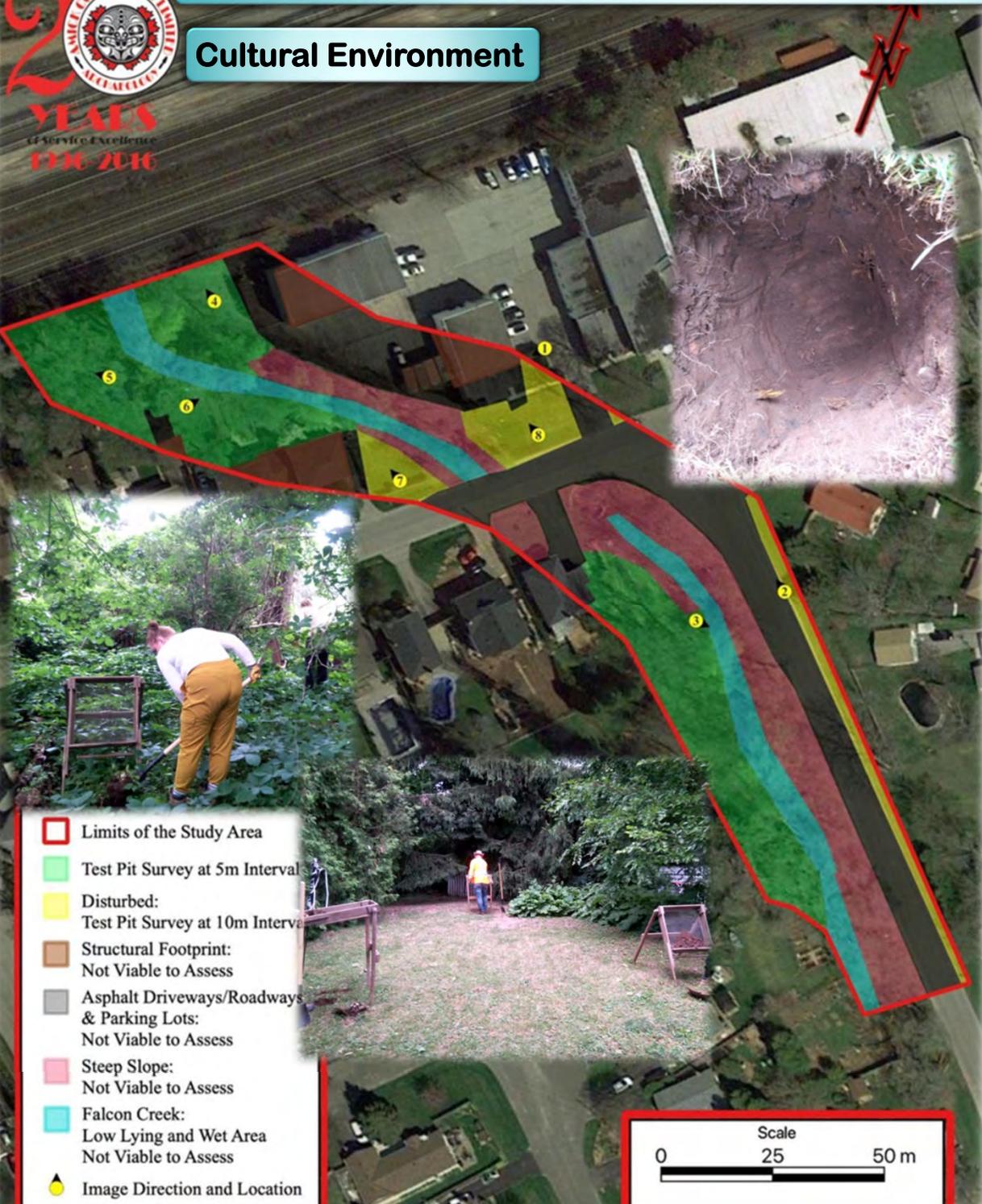
Cultural Environment

The entirety of the study area was subject to Stage 1/Stage 2 archaeological investigations consisting of high intensity test pit methodology at a five-metre interval between individual test pits and test pit survey at a ten-metre interval to confirm disturbance on 29 June 2022. All records, documentation, field notes, photographs, and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the MTCS on behalf of the government and citizens of Ontario.

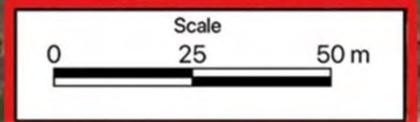
As a result of the Stage 2 Property Assessment of the study area, no archaeological resources were encountered.

Based on the archaeological investigations completed, the following recommendations are made:

- No further archaeological assessment of the study area is warranted.
- The Provincial interest in archaeological resources with respect to the proposed undertaking has been addressed.
- The proposed undertaking is clear of any archaeological concern.



- Limits of the Study Area
- Test Pit Survey at 5m Interval
- Disturbed:
Test Pit Survey at 10m Interval
- Structural Footprint:
Not Viable to Assess
- Asphalt Driveways/Roadways
& Parking Lots:
Not Viable to Assess
- Steep Slope:
Not Viable to Assess
- Falcon Creek:
Low Lying and Wet Area
Not Viable to Assess
- Image Direction and Location



INVENTORY OF THE NATURAL ENVIRONMENT

Aquatic and Terrestrial Investigations

An inventory of the natural environment (aquatic and terrestrial investigations) was completed by the project ecologist (North-South Environmental) in 2022.

It was determined that erosion control measures along this reach of Falcon Creek would improve terrestrial and aquatic habitat by eliminating or reducing the erosion of land into the watercourse which not only results in a loss of terrestrial habitat but also introduces sediment pollution which can detrimentally impact fish and other aquatic species.

During erosion control works to stabilize the banks, there is an opportunity to enhance/restore the natural environment by channel design, removing invasive species, restoring habitat with native plants, and cleaning up garbage.

Table 4. Summary of Natural Heritage Constraints

Constraint	Assessment
Fish and Fish Habitat	Falcon Creek is fish habitat. Depending on the preferred alternative selected, there may be potential for impact to fish and fish habitat. A DFO Request for Review may be required once the preferred design alternative has been selected.
Species at Risk	Present (Barn Swallow and Chimney Swift). Further, seven of the screened SAR assessed in Appendix 6 have moderate or high potential to be present (Little Brown Myotis, Northern Myotis, Tri-coloured Bat, Monarch, Yellow-banded Bumblebee, Midland Painted Turtle, Snapping Turtle).
Significant Wildlife Habitat	No confirmed SWH is present (see Appendix 7). There are six types of candidate (i.e., 'potential') SWH: Bat Maternity Colonies, Turtle Wintering Areas, Reptile Hibernacula, Migratory Butterfly Stopover Areas, Turtle Nesting Areas, Habitat for Special Concern and Rare Wildlife Species.
Significant Woodland	None present.
Significant Valleyland	None present.
Life Science Area of Natural and Scientific Interest (ANSI)	None present.
Natural Heritage System	None present.
Savannah, Tallgrass Prairie, Alvar	None present.
Provincially Significant Wetlands or Other Wetlands	None present.
Migratory Bird Nesting Habitat	The study area supports migratory birds that could be disturbed during erosion control works.
Conservation Halton Regulated Area	The study area is within Conservation Halton's regulated limit. A permit from Conservation Halton is required.
Conservation Halton Hazard Lands	Conservation Halton has hazard lands mapped within the study area (floodplain hazard, stable top of slope hazard, and meander belt hazard). A permit from Conservation Halton is required.



Reach 1: Downstream grate/culvert with vertical wall



Reach 1: Overhanging vegetation and in-stream debris



Reach 2: Downstream culvert and stabilization wall



Reach 2: Debris fish barrier



Reach 1: Erosion



Reach 1: Upstream culvert at Enfield



Reach 2: Riffle (facing downstream)



Reach 2: Upstream culvert

INVENTORY OF THE NATURAL ENVIRONMENT

Fluvial Geomorphology Investigations

An inventory of the natural environment (fluvial geomorphology - or the study of river behaviour) was completed by the project geomorphologist (Water's Edge) in 2022 and the following is a summary of the investigations:

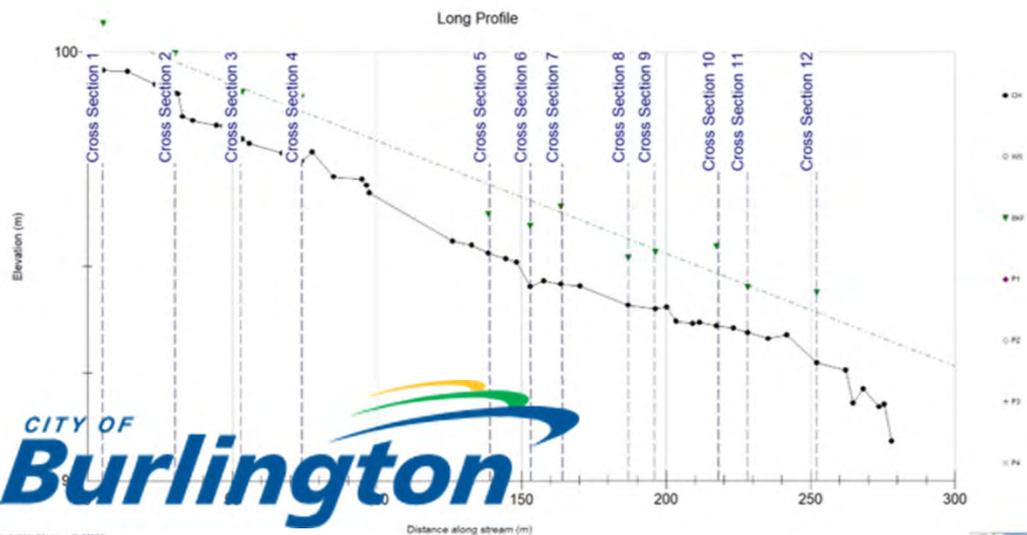
- In order to carry out a fluvial geomorphic and erosion assessment, a geomorphic survey of approximately 270 m of the stream reach in the area of interest was carried out. The sediment substrate in the riffles of the studied reach was dominated by gravels and cobbles.
- Bank erosion is occurring within the reach. The channel has been classified as 'In Adjustment' and 'Fair' conditions for river stability. There are signs of significant erosion. ES#1 and 2 do not, however, require immediate responses, but it is recommended to implement monitoring programs. It is recommended to complete immediate mitigative action at ES#3 and ES#4 which is threatening public property (Willowbrook Road).
- Continued maintenance is recommended for all sites.

Stability Index (SI) Value	Classification	Interpretation
$SI \leq 0.20$	In Regime	The channel morphology is within a range of variance for rivers of similar hydrographic characteristics and evidence of instability is isolated or associated with normal river meander processes.
$0.21 \leq SI \leq 0.40$	Transitional/Stressed	Channel morphology is within a range of variance for rivers of similar hydrographic characteristics, but the evidence of instability is frequent.
$SI \geq 0.40$	In Adjustment	Channel morphology is not within the range of variance and evidence of instability is widespread.

Creek	Score	Verbal Ranking
Falcon Creek	0.43	In Adjustment

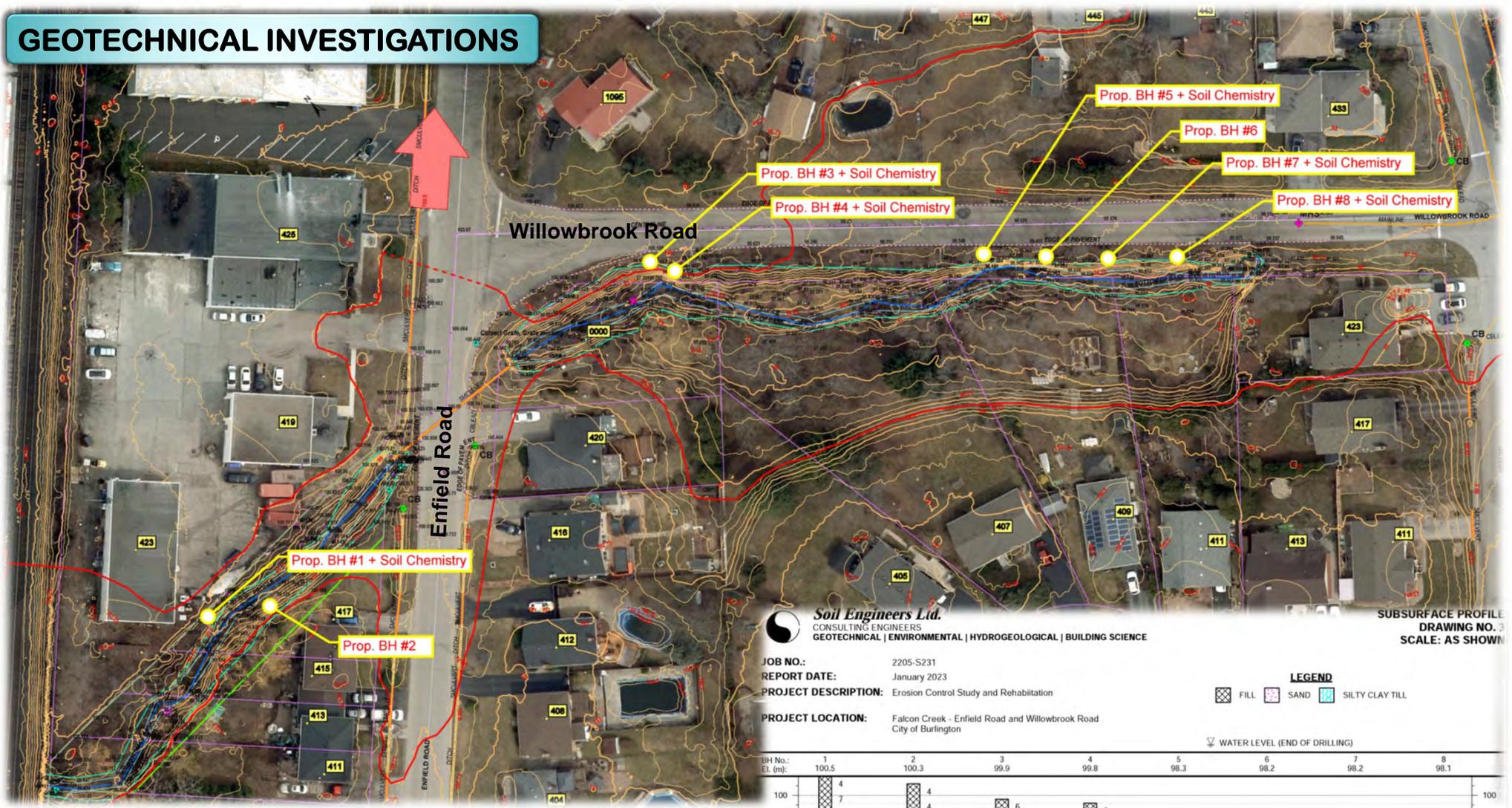
RSAT Score	Ranking
41-50	Excellent
31-40	Good
21-30	Fair
11-20	Poor
0-10	Degraded

River	Score	Verbal Ranking
Falcon Creek	26	Fair



Parameter	Mean	Min	Max
Bankfull Width (m)	5.3	3.20	6.93
Bankfull Mean Depth (m)	0.53	0.25	0.73
Bankfull Max Depth (m)	0.86	0.55	1.12
Bankfull Area (m ²)	3.04	1.09	4.78
Bankfull Flow (m ³ /s)	5.16	1.19	12.26
Wetted Perimeter (m)	5.7	3.48	7.43
Hydraulic Radius (m)	0.49	0.23	0.68
Width-Depth Ratio	10.78	8.68	17.64
Entrenchment Ratio	2.62	1.4	3.27
Bankfull Slope (m/m)	0.016	0.016	0.016
Channel Substrate D50 (mm)*	165	75	255
Channel Substrate D84 (mm)*	277	126	510
Channel Sinuosity	1.08	-	-
Rosgen Classification	C3/C4		

GEOTECHNICAL INVESTIGATIONS

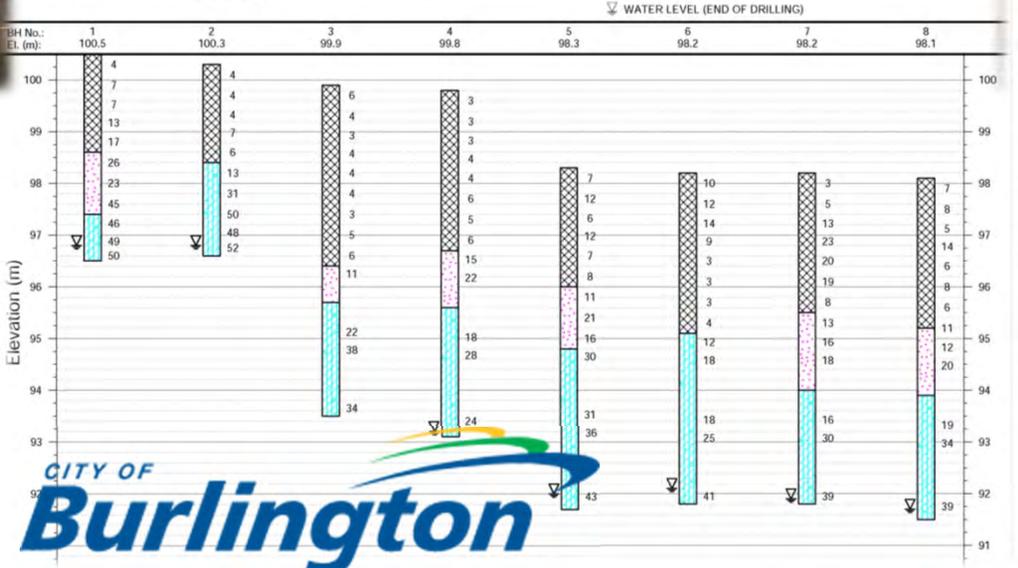


Soil Engineers Ltd.
 CONSULTING ENGINEERS
 GEOTECHNICAL | ENVIRONMENTAL | HYDROGEOLOGICAL | BUILDING SCIENCE

SUBSURFACE PROFILE
 DRAWING NO. 3
 SCALE: AS SHOWN

JOB NO.: 2205-S231
 REPORT DATE: January 2023
 PROJECT DESCRIPTION: Erosion Control Study and Rehabilitation
 PROJECT LOCATION: Falcon Creek - Enfield Road and Willowbrook Road
 City of Burlington

LEGEND
 [Cross-hatch] FILL [Dotted] SAND [Blue] SILTY CLAY TILL



Geotechnical investigations were completed within the study area by Soil Engineers Ltd. to assess the current conditions and to collect soils data for slope stability calculations and to confirm disposal options during construction. The following is a brief summary of the findings:

- Underlying soils consisted of earth fill, clay and sand
- The results of the chemical analysis indicate general conformance with Table 1 Standards with a slight exceedance for Barium (which is believed to be an isolated occurrence) and exceedances regarding sodium.



HYDROTECHNICAL INVENTORY

Hydrologic/Hydraulic Investigations

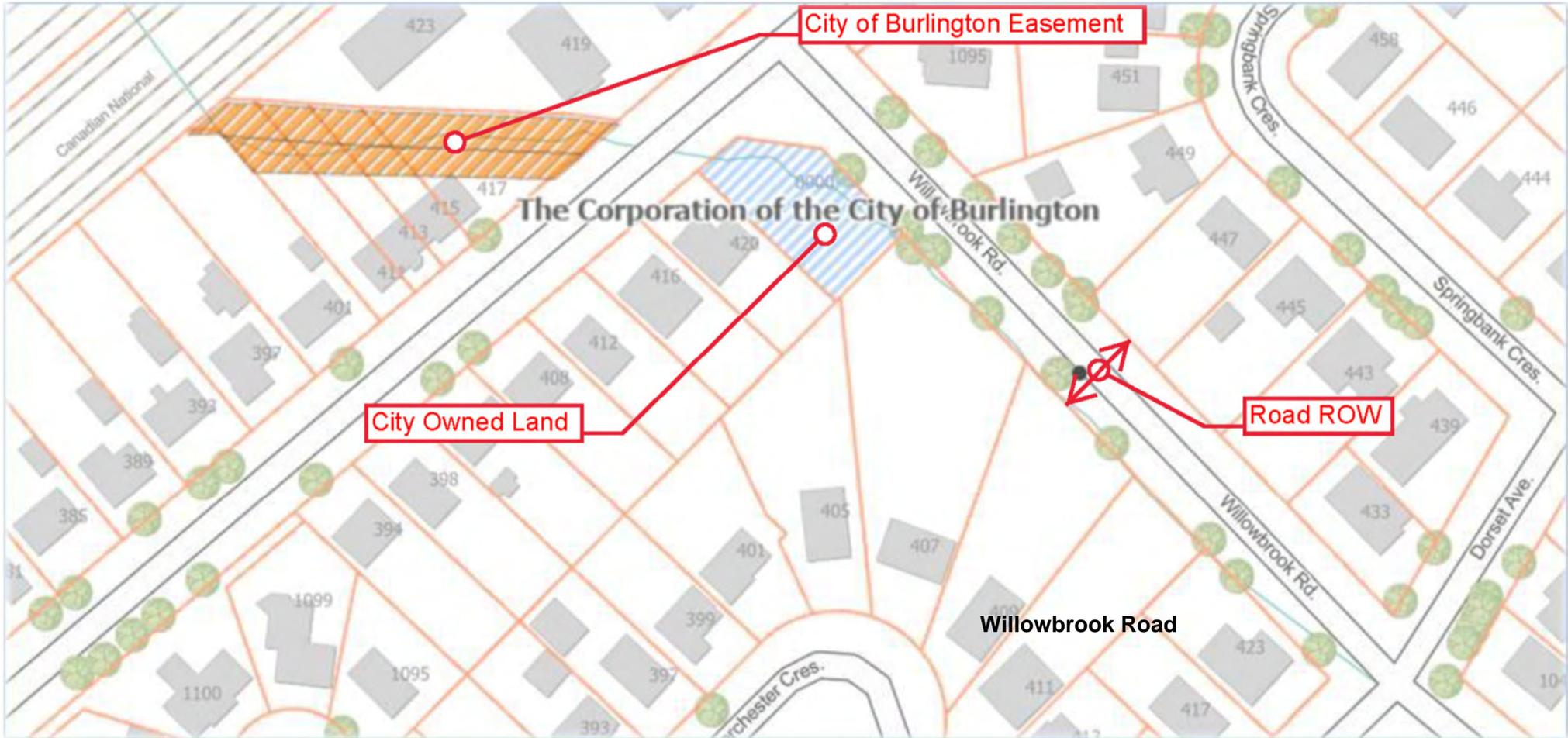
The regulatory peak flow was obtained from Conservation Halton for the current approved hydraulic model. The current approved hydraulic model was updated based on the detailed survey and LiDAR data. The updated regulatory floodline was delineated on the base plan.



LEGEND	
	Survey Features
	Bottom of Bank
	Road Center Line
	Edge of Pavement
	Profile (Creek Segment)
	Top of Bank
	Survey Elevation Points
	Erosion Sites
	Obstruction
	Updated Existing Floodline
	Spill
	Spill Direction
	Existing Floodline
	Creek Infrastructure
	Storm Line
	CULVERT
	DITCH
	MANLINE
	SMCULVERT
	Storm Point
	CB
	MHS
	Easements
	Parcel
	Flood
	House Number
	Footway
	Close

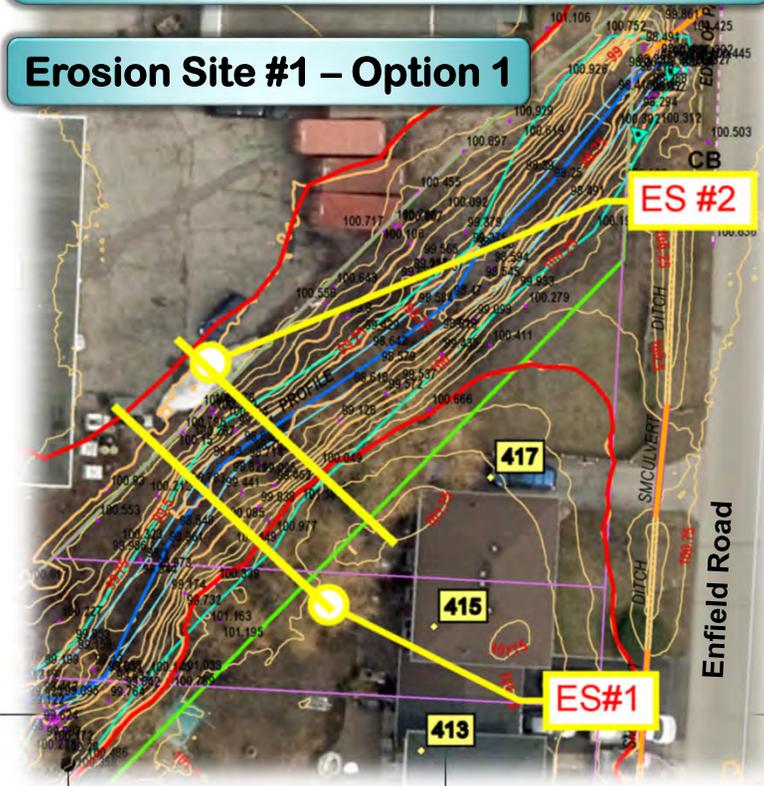
FALCON CREEK EROSION CONTROL MUNICIPAL CLASS EA STUDY

Property Ownership

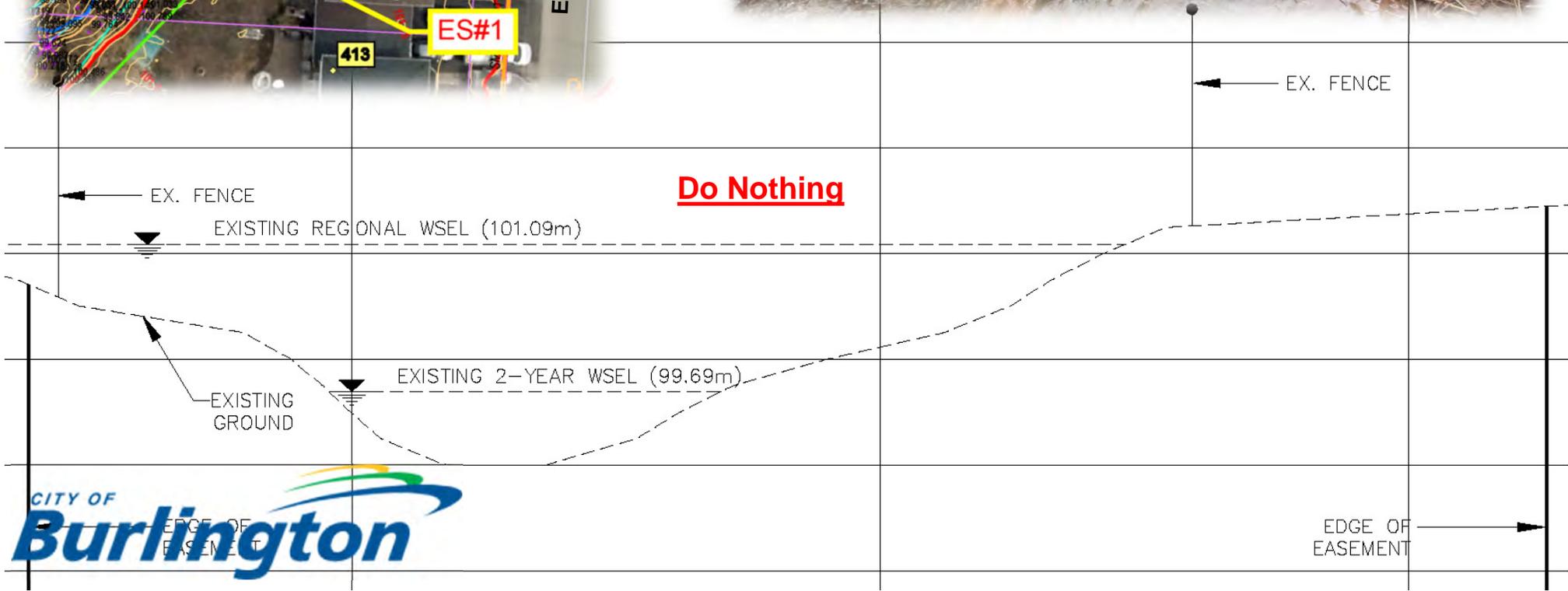


FALCON CREEK EROSION CONTROL MUNICIPAL CLASS EA STUDY

Erosion Site #1 – Option 1

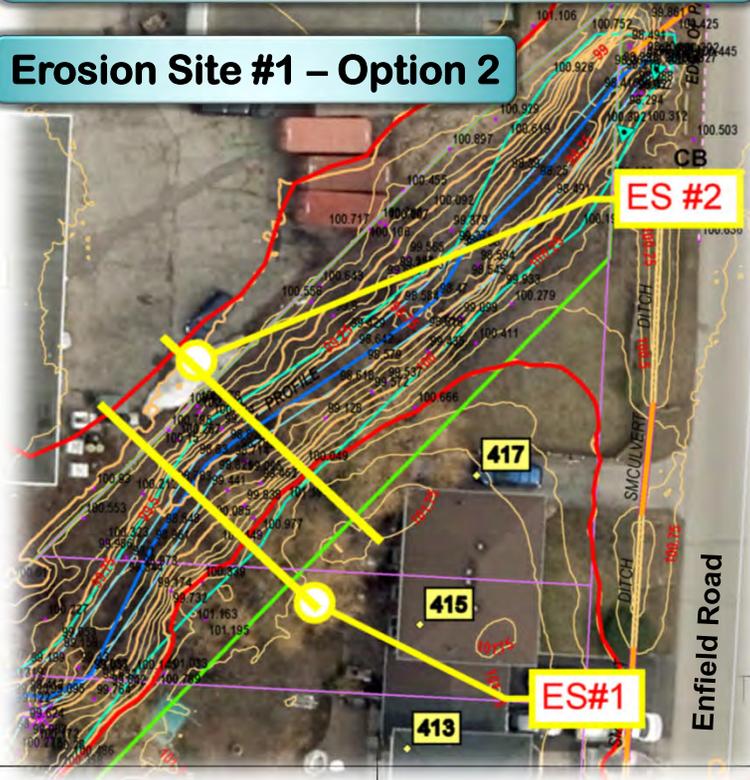


OPTION



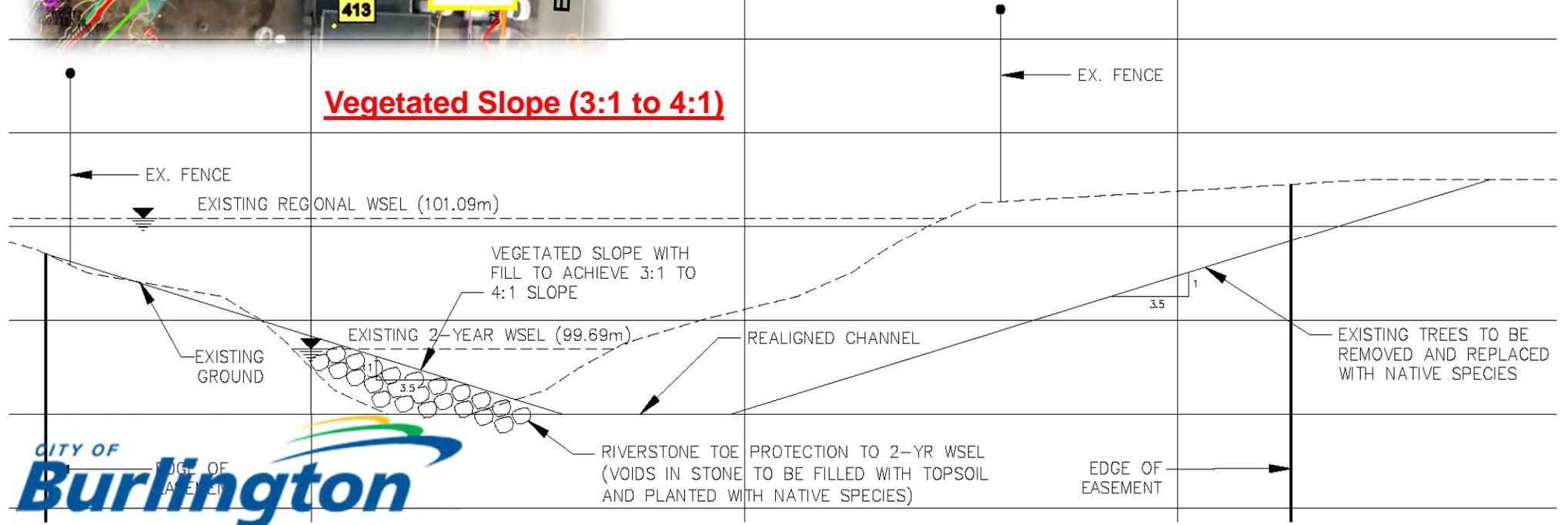
FALCON CREEK EROSION CONTROL MUNICIPAL CLASS EA STUDY

Erosion Site #1 – Option 2



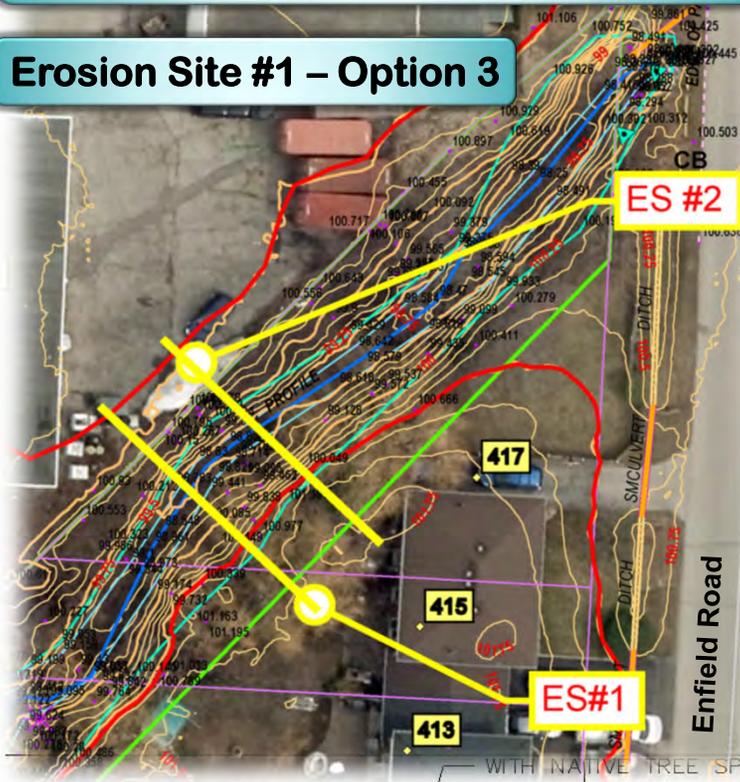
OPTION ② EROSION SITE #1

Vegetated Slope (3:1 to 4:1)



FALCON CREEK EROSION CONTROL MUNICIPAL CLASS EA STUDY

Erosion Site #1 – Option 3



OPTION (3) EROSION SITE #1

