



vallee

*Consulting Engineers,
Architects & Planners*

June 14, 2023

Norfolk County
Clerks and By-Law
50 Colborne Street South
Simcoe, Ontario N3Y 4H3

Norfolk County
Community Development Division
185 Robinson Street
Simcoe, Ontario N3Y 5L6

Email to: Genevieve Scharback genevieve.scharback@norfolkcounty.ca
NC Clerks clerks@norfolkcounty.ca
Tricia Givens tricia.givens@norfolkcounty.ca
Mohammad Alam mohammad.alam@norfolkcounty.ca

**Attention: Genevieve Scharback, County Clerk
Tricia Givens, Director of Planning
Mohammad Alam, Supervisor of Development Planning**

**Reference: HFW Holdings Limited
Application for Zoning and Official Plan Amendments
395-411 Queensway West, Simcoe
Our File 22-013**

Please accept this package as our formal application for the following planning applications:

- Zoning By-Law Amendment
- Official Plan Amendment

In response to Norfolk County's minutes issued in January 24, 2023 relating to the pre-consultation meeting of August 3, 2022, we include the following documents as our complete application package:

1. This cover letter.
2. Payment for application fees of \$22,631.00 for a combined zoning and official plan amendment (major), made payable to Norfolk County. Payment will be hand delivered to 185 Robinson Street upon notification of complete submission in accordance with direction provided from County Staff on June 13th, 2023.
3. Summary notes from pre-submission meeting held on May 31, 2023 with Norfolk County staff.

4. A copy of the Norfolk County minutes issued January 24, 2023 from the August 3, 2022 pre-consultation meeting, signed by Lesley Hutton-Rhora on behalf of G. Douglas Vallee and the proponent. Subsequent email correspondence from Mohammad Alam regarding the submission of a Stage 1 Archaeological Assessment as part of a complete application for Official Plan and Zoning By-Law Amendment has been included.
5. Completed and executed Norfolk County Planning Department Development Application Form.
6. Articles of incorporation for HFW Holdings Limited.
7. Conceptual site plan for the proposed development.
8. Legal survey of the subject lands prepared by Jewitt & Dixon Limited.
9. Planning Justification Report prepared by G. Douglas Vallee Limited and The Angrish Group.
10. Environmental Impact Study prepared by Pinchen Limited.
11. Stage 1 Archaeological Assessment prepared by Earthworks Archaeological Services Inc.
12. Functional Servicing and Stormwater Management Report (FSR) containing the anticipated flows and demands associated with the project as prepared by G. Douglas Vallee Limited. The General Plan of Services is included within the FSR.
13. Correspondence with Norfolk County dating to June 1, 2023 confirming water and sanitary modelling reports by the County's sub-consultant. At our meeting of May 31, 2023 with Norfolk Planning and Development Engineering staff, it was agreed that this would be sufficient in lieu of completed modeling reports for a complete planning application.
14. Traffic Impact Study prepared by Paradigm Transportation Solutions Limited.
15. Phase I & II Environmental Site Assessment prepared by Aims Environmental for 395 Queensway West. As a result of the existing and potential sources of contamination identified by this report, the proponent has engaged a qualified and experienced sub-consultant to prepare a comprehensive Phase I & II Environmental Site Assessment for the entirety of the subject lands, including a full remediation plan in preparation for the issuance of a Record of Site Condition prior to a site plan agreement and building permit application in accordance with the Pre-Consultation meeting minutes.

G. DOUGLAS VALLEE LIMITED
Consulting Engineers, Architects & Planners

The submission has been made electronically through FileMail.

Based on a submission date of Wednesday June 14, 2023, we request that you process this application in accordance with the following schedule:

July 14, 2023: 30 days after submission, confirm that this application is complete.

October 12, 2023: 120 days after submission, decision for approval by Norfolk County Council.

Should you have any questions or comments, please contact me immediately so that we can address your items in a timely manner.

Thank you in advance for your support of this project.

Respectfully submitted,



Lesley Hutton-Rhora
G. DOUGLAS VALLEE LIMITED
Consulting Engineers, Architect and Planners

- c. Herbert Chiu, HFW Holdings Limited
- Gary Brasenell, HFW Holdings Limited
- Denton Chiu, HFW Holdings Limited
- John Vallee, P.Eng, G. Douglas Vallee Limited
- John Iezzi, P.Eng, G. Douglas Vallee Limited

Z:\Projects\2022\22-013 HFW Holdings Hunt St Residential\Agency\OPA & ZBA\DRAFT Submission\1. Cover Letter.docx

G. DOUGLAS VALLEE LIMITED
Consulting Engineers, Architects & Planners



MEETING MINUTES

Project #: 22-013
Project: HFW Simcoe

Date: May 31, 2023
Category: Pre-Submission Meeting with County Staff for Official Plan & Zoning Amendment Application
Organizer: Lesley Hutton-Rhora
Attendees: Mohammad Alam, Stephen Gradish, John Vallee, John Iezzi, Lesley Hutton-Rhora

Agenda:

1. Confirm submission requirements for Official Plan & Zoning Amendment application.
2. Confirm application fees.

Notes:

Required:	Provided:	Comments:
Confirmation of Submission Requirements	Notes from the pre-submission meeting will be included with the application submission.	
Pre-Consultation Minutes	A copy of the final minutes forwarded by County staff on January 24, 2023 for the pre-consultation meeting held on August 3, 2022 will be included with the application submission.	Include development engineering comments & correspondence with Mohammad re. Stage I archaeological assessment.
Development Application Form	A development application form has been completed, signed & commissioned by the applicant.	
Proposed Site Plan / Drawing	The proposed site plan drawing will be included with the application submission as an independent attachment.	
Planning Justification Report	A planning justification report has been prepared by G. Douglas Vallee and The Angrish Group in support of the proposed development.	
Environmental Impact Study	An Environmental Impact Study has been prepared by Pinchen Limited.	
Archaeological Assessment	In accordance with email correspondence with Mohammad Alam on Thursday December 15, 2022, a Stage I Archaeological Assessment has been prepared by Earthworks Archaeological Services Inc. in support of the Official Plan & Zoning Amendment applications. Field work required for the Stage II assessment is presently underway.	

Functional Servicing & Stormwater Management Report	Functional Servicing and Stormwater Management Report (FSR) containing the anticipated flows and demands associated with the project as prepared by G. Douglas Vallee Limited.	
General Plan of Services	A General Plan of Services is referenced within the FSR, and will be included in the submission as an independent attachment.	
Water & Wastewater Modelling	Correspondence with Norfolk County Staff regarding the request for water & wastewater modelling will be included with the application submission.	Quote has been received by County staff. Vallee to arrange for authorization with Proponent. Modelling to be initiated and payment arranged thereafter.
Confirmation of a Legal & Adequate Inlet	Provided in FSR.	Include correspondence with LPRCA regarding configuration of SWM pond and outlet to LPRCA lands.
Traffic Impact Study	A traffic impact study prepared by Paradigm Transportation Solutions Limited will be included with the application submission.	
Environmental Site Assessment	A Phase I & II Environmental Site Assessment prepared by Aims Environmental for 395 Queensway West. As a result of the existing and potential sources of contamination identified by this report, the proponent has engaged a qualified and experienced sub-consultant to prepare a comprehensive Phase I & II Environmental Site Assessment for the entirety of the subject lands, including a full remediation plan in preparation for the issuance of a Record of Site Condition prior to a site plan agreement and building permit application in accordance with the Pre-Consultation meeting minutes.	

Fees:

Zoning & Official Plan (Major) = \$22,631.00

Action Items:

<i>Task</i>	<i>Assigned To</i>	<i>Dependencies</i>	<i>Status</i>	<i>Target</i>
<input type="checkbox"/>				
<input type="checkbox"/>				



Pre-Submission Consultation Meeting Minutes

Date: August 3, 2022

Description of Proposal: To create an 87-dwelling condominium in the form of 33 group townhouses and 45 apartment dwelling within the upper 3-storeys of the mid-rise and ground floor commercial uses.

Property Location: 395, 401, 403, 405, and 411 Queensway West

Roll Number: 40302501100, 40302501000, 40302500900, 40302500800, 40302500700

As a result of the information shared at the pre-consultation meeting dated August 3, 2022, the following applications and qualified professional documents / reports are required as part of the development review process.

Please note that various fees are associated with each application and there are also costs for qualified professionals retained to complete various documents / reports. All requirements identified are minimum and determined as of the date of the pre-consultation meeting with the information available at that time. As the proposal proceeds and more information is made available, additional applications, studies, reports, etc. may be required.

This summary including checklists, comments and requests are applicable for a period of one (1) year from the date of meeting. If an application is not received within that time frame, a subsequent pre-consultation meeting may be required due to changes in policies and technical requirements.

Before you submit your application, please contact the assigned Planner to confirm submission requirements and the applicable fee

A handwritten signature in black ink that reads "Lesley Hutton-Rhora".

*Signed on behalf of G. Douglas Vallee Limited &
HFW Holdings Limited on June 13, 2023*

Attendance List

Proponent	HFW Holdings Limited
Community Development – Planning and Agreement	Tricia Givens, Director, Planning (Chair) Mohammad Alam, Senior Planner Fabian Serra, Planner Nicole Goodbrand, Senior Planner Annette Helmig, Agreement and Development Coordinator
Community Development – Building and Zoning	Scott Northcott, Senior Building Inspector Devon Staley, Building Inspector Roxanne Lambrecht, Zoning Administrator Hayley Stobbe, Zoning Administrator
Environment & Infrastructure Services – Development Engineering	Tim Dickhout, Project Manager, Development Stephen Gradish, Development Technologist Zeel Joshi, Junior Development Technologist
Community Services – Fire	Katie Ballantyne, Community Safety Officer
Community Development – Economic Development	Chris Garwood, Economic Development Supervisor
Paramedic Services	Stuart Burnett, Deputy Chief
Operations – Forestry	Adam Biddle, Supervisor of Forestry
Operations – Parks and Facilities	Todd Shoemaker, Director, Parks
Corporate Support Services – Realty Services	Lydia Harrison, Specialist, Realty Services Kelly Darbshire, Specialist, Realty Services
Corporate Support Services – Accessibility	Sam McFarlane, Manager, Accessibility and Special Projects
Haldimand Norfolk Health Unit	Emily Kichler, Community Health Dietician
Long Point Regional Conservation Authority	Leigh-Anne Mauthe, Supervisor of Planning Services Isabel Johnson, Resource Planner
Community Development – Heritage and Culture	Melissa Collver, Director Heritage and Culture
Community Development – Recreation	Nikki Slote, Director Recreation

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Proposal Summary

The proposal is to create an 87-dwelling condominium in the form of 33 group townhouses and 45 dwelling within the upper 3-storeys of the mid-rise. The proposed concept design would achieve 31uph while providing 12,600 sq feet of commercial space. The proposed midrise building would provide an updated office space for the Canadian Mental Health Association, a current tenant of 401 Queensway West.

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List of Application Requirements

Planning Department

Planning application(s) required to proceed		Required
Official Plan Amendment Application		X
Zoning By-law Amendment Application		X
Site Plan Application		X
Draft Plan of Subdivision Application		
Draft Plan of Condominium Application		X
Part Lot Control Application		
Consent / Severance Application		
Minor Variance Application		
Removal of Holding Application		
Temporary Use By-Law Application		
Other - Click here to enter text.		
Planning requirements for a complete application The items below are to be submitted as part of the identified Planning Application(s). ** electronic/PDF copies of all plans, studies and reports are required**	Required at OPA/ Zoning Stage	Required at Site Plan Stage
Proposed Site Plan / Drawing	X	X
Planning Impact Analysis Report / Justification Report	X	
Environmental Impact Study	X	X
Neighbourhood Plan (TOR must be approved by the County)		
Agricultural Impact Assessment Report		
Archaeological Assessment	X	X
Heritage Impact Assessment		
Market Impact Analysis		
Dust, Noise and/or Vibration Study		
MOE D-Series Guidelines Analysis		
Landscaping Plan		X
Elevation Plan		X
Photometrics (Lighting) Plan		X
Shadow Analysis Report		
Record of Site Condition		X
Contaminated Site Study		

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Minimum Distance Separation Schedule		
Parking Assessment		
Hydrogeological Study		
Restricted Land Use Screening Form		
Topographical Survey Drawing		X
Additional Planning requirements		Required
Development Agreement		X
Parkland Dedication/Cash-in-lieu of Parkland		X

*the list of requirements is based on the information submitted and as presented for this specific pre-consultation meeting. Any changes to a proposal may necessitate changes to Planning Department submission requirements.

*Community Development fees, applications, and helpful resources can be found can be found by visiting <https://www.norfolkcounty.ca/government/planning/>

Planning Comments

Official Plan: The subject lands are designated Commercial in the Official Plan. As per section 7.11.1 the permitted uses include:

- e) Residential uses, provided that the uses do not negatively impact the planned function of the Commercial areas subject to the following provisions:*
- i) in a building of commercial character, residential uses shall only be permitted above the ground floor; and*
 - ii) in a building of residential character, either single detached or multiple dwelling, residential and/or commercial uses shall be permitted, provided the residential character of the building is maintained.*

The proposal includes a mixed-use development which may be permitted subject to 7.11.1 e) i). An official plan amendment may not be required for that portion of lands.

The other portion of land proposes group townhouse development which will require an Official Plan Amendment.

It is point worthy to note that in such case where an official plan amendment will not be required, the zone will remain 'Commercial' and the commercial character of the proposal needs to be maintained. Staff would recommend larger commercial GFA on ground floor compare to what is proposed to maximize the use of commercial zone.

The subject lands are also within 'Queensway Corridor Special Policy Area' which include auto-oriented commercial activities.

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Zoning By-Law: The current Zoning of the subject lands are 'Service Commercial (CS). A zoning by-law amendment will be required to permit both the townhouse development and the mixed-use development. Staff recommends R4 zone for the townhouses and a site-specific Service Commercial for the mixed-use portion of the lands.

Site Plan Control:

The subject property is located within a site plan control area. As per Site Plan Control By-Law 2014-97, the proposed development will require a site plan approval.

Site Statistics: A basic site statistics including zoning information should be included with the site plan.

Drawing Requirements:

- All measurements must be in metric
- All drawings must be to a standard scale to suit project requirements:
- Surveyed property limits (including bearings and dimensions)
- Location and extent of any road widening, easements and road reserves (if any)
- location of existing tree cover (if any)
- Existing topography of the land
- Indicate existing land uses along property lines.

Title Block Information

- Key plan (showing location of subject lands and surroundings)
- North arrow
- Consultant's name and contact information (address, telephone, email)
- Professional stamp, signed and dated
- Date of plan preparation, Revision column (numbered and dated)
- Project name

Site Features

- Label materials on the plan and/or provide legend (i.e. paving, curbing, sidewalks, depressed curbs, retaining walls, acoustic structures, fencing, signage signs, landscape areas, snow storage areas, etc.)
- Location and details of existing and proposed fencing;
- Location of garbage collection areas
- Location of on-site snow storage areas

Utilities

- Location of fire hydrants and transformers (if any)
- Location of hydro & gas meters (if any)
- Location of all proposed signs

Streetscape

- Location of sidewalks (external and internal)

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- Existing and proposed trees, SOD areas
- Location of external lighting facilities

Vehicular Network

- Location of proposed curbing. Provide Ontario Provincial Standard Drawing (OPSD) curb detail
- Location and dimension of designated fire routes (indicate centre-line, road width and centre- line turning radii)
- Location of garbage collection area
- Location of driveways and parking space with dimensions and materials
- “No parking/fire route” and “accessible parking signs”

Accessibility

- Location of accessible spaces complete with signage for each space
- Location of depressed curbs for each accessible space/ group of accessible spaces as appropriate and required
- Accessible routes to accommodate barrier-free paths of travel to main access of the building including tactile warning surface.

Design Consideration:

Queensway West is an arterial road with planned function of service commercial and Shopping Centre Commercial Designation. Staff recommend that the land frontage should be a dynamic place with active frontage and pedestrian friendly environment. Staff highly recommend that the building face is closed to the public road and parking space exposure is minimized as much as possible. Staff recommends the following site design considerations:

- i) Extended building faces close to the public road with enhanced landscaping and pedestrian features such as internal and external sidewalk extensions and plaza; appropriate lighting, street furniture and accessible measures.
- ii) One – two Storey commercial uses with large window treatment along Queensway West;
- iii) Relocating parking space at the back of the building with enhanced landscaping to hide any exposed parking areas;
- iv) Separate access for townhouse and mixed-use development;
- v) Continuous sidewalks at least at one side of the private roads of the townhouse development;
- vi) An amenity feature such as parkette or children’s playground for the residents would be highly recommended.

Endangered and threatened species and their habitat are protected under the provinces Endangered Species Act, 2007 (ESA), O. Reg. 242/08 & O. Reg. 830/21. The Act prohibits development or site alteration within areas of significant habitat for endangered or threatened species without demonstrating that no negative impacts will occur. The Ministry of Environment, Conservation and Parks provides the service of responding to

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species at risk information requests and project screenings. The proponent is responsible for discussing the proposed activity and having their project screened with MECP.

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

Note: It is owner's responsibility to find out any historical contamination of the site or any leeching of contamination from neighboring properties to the subject lands. A Record of Site Condition will be required in case any site contamination is identified prior to a site plan agreement and building permit.

Note: The County has adopted a phased approach which will first address the water servicing priorities based on approved and pending development applications. Allocation of water will only be confirmed upon available capacity at the time of site plan registration.

Assigned Planner:

Mohammad Alam
Principal Planner
Extension 1828
Mohammad.Alam@norfolkcounty.ca

Agreements

A recommended condition of your planning application approval will be to enter into a development agreement with the County that will be registered on title to the subject lands, at the Owner's expense. The additional requirements for a development agreement could include, but are not limited to the following:

- Engineering drawing review
- Engineer's schedule of costs for the works
- Clearance letter and supporting documentation to support condition clearance
- User fees and performance securities
- Current property identification number (PIN printout) (can be obtained by visiting <https://help.onland.ca/en/home/>)
- Owner's commercial general liability insurance to be obtained and kept in force during the terms of the agreement
- Postponement of interest. If there are mortgagees / charges on your property identifier, your legal representative will be required to obtain a postponement from your bank or financial institution to the terms outlined in your development agreement
- Transfers and / or transfer easements along with registered reference plan

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The County does not provide construction, maintenance or delivery of services on private property. These are considered internal as the property is under private ownership and will be maintained by the condominium corporation. It is the owner's and/or condominium corporation's responsibility to engage competent and qualified professionals to construct, maintain and deliver such services. That being said, I have also attached the guidelines for the condominium waste collection services for your information. If the condominium meets the technical guidelines the condominium board may apply to through a separate application to have waste collection services performed by Environmental and Infrastructure Services.

Please note, as part of the subsequent condominium exemption application, the County will also provide information that needs to be included in the condominium declaration as the approval authority.

Annette Helmig
Agreement and Development Coordinator
Extension 8053
Annette.Helmig@norfolkcounty.ca

Development Engineering

Development Engineering comments are pending, and once they are ready, Norfolk County's Planning Department will provide an updated and final version of the Pre-consultation Notes. Future development planning applications will only be accepted once Development Engineering comments are provided. Applications include all required items outlined in the final version of the Pre-consultation Meeting Notes and per any additional discussions with the Planning Department.

Zeel Joshi
Junior Development Technologist
Extension 8122
Zeel.Joshi@norfolkcounty.ca

Stephen Gradish
Development Technologist
Extension 1702
Stephen.Gradish@norfolkcounty.ca

Tim Dickhout
Project Manager, Development
Extension 1700
Tim.Dickhout@norfolkcounty.ca

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Conservation Authority

Long Point Regional Conservation Authority

Conservation Authority requirements to proceed	May be Required	Required
Conservation Authority Permit		X
Slope Stability Analysis / Erosion Analysis		
Coastal Engineers Report		
Environmental Impact Study		X
Subwatershed Plan/Study		
Master Drainage Study		
Stormwater Management Report/Brief		X
Other	X	

Site Characteristics

The subject property is subject to flooding and erosion hazards from Paterson Creek. The property is also adjacent to a Provincially Significant Wetland.

Provincial Policy Statement, 2020, Section 3.1 Natural Hazards

Conservation Authorities have been delegated responsibilities from the Minister of Natural Resources and Forestry to represent the provincial interests regarding natural hazards encompassed by Section 3.1 of the Provincial Policy Statement, 2020 (PPS). The overall intent of Section 3.0 - Protecting Public Health and Safety of the PPS is to reduce the potential public cost or risk to Ontario's residents from natural or human-made hazards. As such, the PPS states "development shall be directed away from areas of natural or human-made hazards where there is an unacceptable risk to public health or safety or of property damage, and not create new or aggravate existing hazards."

The application is subject to the following subsections of section 3.1 of the Provincial Policy Statement:

3.1.1 Development shall generally be directed, in accordance with guidance developed by the Province (as amended from time to time), to areas outside of:

- b) hazardous lands adjacent to river, stream and small inland lake systems which are impacted by flooding hazards and/or erosion hazards; and

I can advise that staff have no objection to the concept of site development. However, as proposed, the stormwater management pond is within the erosion setback of Paterson Creek. Staff could not support a pond within the erosion setbacks. These setbacks need to be consistent with the MNRF Natural Hazards Tech Guides. All development including grading are required to be outside the setbacks.

Ontario Regulation 178/06

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The subject lands are regulated by Long Point Region Conservation Authority under Ontario Regulation 178/06. Permission from this office is required prior to any development within the regulated area.

Development is defined as:

- the construction, reconstruction, erection or placing of a building or structure of any kind,
- any change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or structure or increasing the number of dwelling units in the building or structure,
- site grading, or the temporary or permanent placing, dumping or removal of any material, originating on the site or elsewhere (Conservation Authorities Act, R.S.O. 1990, c. 27, s. 28 (25))

The regulated area extends 120 metres from the Provincially Significant Wetland situated at the creek. LPRCA staff are requesting an Environmental Impact Study due to the proximity to a wetland. The study must address potential hydrological and/or ecological impacts and make recommendations to mitigate and/or eliminate impacts. Please circulate LPRCA on the terms or reference.

LPRCA and Norfolk County's Memorandum of Understanding for Plan Review Services

Based on LPRCA and Norfolk County's Memorandum of Understanding for Plan Review Services, LPRCA staff can provide the following comments with regard to Stormwater Management:

Stormwater Management

LPRCA will review the final stormwater management design using the 2003 MECP Stormwater Management Planning and Design Manual, MTO Drainage Manual, LID Stormwater Management Manual, the sustainable technologies STEP website <https://sustainabletechnologies.ca/>, and the Municipal SWM guidelines.

Based on the site and receiving watercourse, an **enhanced** level of treatment as per the 2003 MECP Stormwater Management Planning and Design Manual is required for the proposed development.

LPRCA requires the following be included and addressed in the design of stormwater management:

- Minimize, or, where possible, prevent increases in contaminant loads.
- Minimize, erosion and changes in water balance, and prepare for the impacts of a changing climate through the effective management of stormwater, including the use of green infrastructure.
- Mitigate risks to human health, safety, property and the environment.
- Maximize the extent and function of vegetative and pervious surfaces.
- Implement stormwater management best practices, including stormwater attenuation and re-use, water conservation and efficiency, and low impact

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development, for end of pipe facilities 24-48hr drawdown times to be targeted in all case.

- Provide adequate and legal outlet for major, minor, and all flow conditions from the site be provided.

In addition to the above requirements, the following must be clearly shown on the submitted design drawings:

- Major flow systems are delineated on the drawing. Overland flow paths and depths from surcharged storm sewer systems and the stormwater treatment facility during a 100-year storm must not increase the flood risk to life, property and the environment.
- Minor overland flow systems and paths are to be delineated and shown on the drawings.
- Erosion and sedimentation control during construction.
- Adequate erosion control on inlets and outlets.

Current Planning Application Fees (2022)

Pre-consultation Fee - \$339

Draft Plan of Subdivision/ Condominium including associated OPA and ZBA- \$1,380.00 + \$100/lot + HST (Max \$15,000.00 +HST)

Combined Official Plan/Zoning By-Law Amendment- \$813.60

Zoning By-Law Amendment- \$514.15*

Consent (severance)- \$514.15*

Variance- \$514.15*

Site Plan Control- \$514.15*

* Accompanied by 1 technical report- \$813.60, Accompanied by 2 technical reports- \$1,615.90

LPRCA fees, applications, and helpful resources can be found can be found by visiting <https://lprca.on.ca/planning-permits/planning-fees/>

Isabel Johnson
Resource Planner
519-842-4242 ext. 229.
ijohnson@lprca.on.ca

*LPRCA fees, applications, and helpful resources can be found can be found by visiting <https://lprca.on.ca/planning-permits/planning-fees/>

Leigh-Anne Mauthe, BES
Supervisor of Planning Services
519-842-4242 or 1-888-231-5408 ext.229
lmauthe@lprca.on.ca

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Bonnie Bravener
Resource Technician
519-842-4242 extension 233
bbravener@lprca.on.ca

County Departmental Comments & Requirements

Corporate Support Services – Realty Services

The County will require a postponement of any charge(s)/mortgage(s) on title to the County's Site Plan Agreement. We recommend that you connect with your lender(s) and/or solicitor as early in the process as possible to avoid any delays.

Realty Services notes that there are two (2) PINs involved in the development lands. These parcels will require a merger in title as they are currently under separate ownership. The Owner/Developer should contact their solicitor with regards to this requirement including investigating the estate/qualifier for PIN 50188-0003 (R), being a Registry parcel.

Kelly Darbshire
Specialist, Realty Services
Extension 8117
Kelly.Darbshire@norfolkcounty.ca

Building

The proposed construction is considered a **Group C and a Group D(offices)and/or Group E for a mercantile occupancy** as defined by the Ontario Building Code (OBC). You will need to retain the services of an Architect and/or a Professional Engineer to complete the design documentation for this application. The row houses will be considered a Group C occupancy and if over 600sqm in building area will require the services of an Architect to complete the design.

Items for Site Plan

Site plan drawings need to have enough detail, to determine compliance with the code references listed.
ADJUST AS NEEDED

1. Indicate location of access route and access route design [OBC 3.2.5.4 to 3.2.5.6]
2. Revised fire water pond design and calculations. [OBC 3.2.5.7]
1. Indicate location of existing and new fire department connections. Dimensions between hydrants and building entrances is required.
[OBC 3.2.5.16]
3. Location and specifications of exterior lighting. Lighting to be included in SB-10 report – energy efficiency
4. Indicate barrier free path of travel from parking area to building entrance. Construction of curb cuts and location of tactile attention indicators is required. [OBC 3.8.1.3, & 3.8.3.2]
5. Location of revised septic system (if required)
6. Provide building elevations and cross section, showing building massing, location of proposed entrances and exits, barrier free controls, exterior lighting locations, and exterior signage.
[Planning Act 41(4).2]

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Items for Building Permit

“-Industrial Commercial Institutional (ICI)” Step by Step Guide Building Permit Package has been attached to the minutes herein, this contains information on drawing requirements, designers, forms, contact information for Building Department etc.

If you have any questions on the building permit process or plans required, please contact permits@norfolkcounty.ca or 519-426-5870 ext. 6016

Jonathan Weir
 Building Official III
 Extension 1832
Jonathan.weir@norfolkcounty.ca

Development Engineering – 395-411 Queensway - Hunt Street Condos

Development Engineering requirements to proceed The below requirements are to be submitted as part of the Formal Development Planning application.	Required at OPA/ Zoning Stage	Required at Site Plan Stage	Potentially Required (See Notes Section)
General Requirements			
Concept Plan	X	X	
Lot Grading Plan		X ¹⁹	
Siltation and Erosion Control Plan		X ¹⁹	
General Plan of Services	X ¹⁰	X ¹⁹	
Plan and Profile Drawings		X ²⁰	
Utility Plan		X ²¹	
Geotechnical Report			X ³⁷
Functional Servicing Report	X ⁹	X	
Water Servicing Requirements– Section 10.0 Norfolk County Design Criteria and ISMP Section 4.0			
Water main Looping		X ²²	
Disconnection of Water Service(s) to Property Line		X ²³	
Disconnection of Water Service(s) to Main		X ²⁴	
Water Modelling (County Consultant)	X ¹⁰	X	
Backflow Preventer (RPZ)		X ²⁵	
Water Allocation	X ⁸	X ⁸	
Sanitary Servicing Requirements – Section 9.0 Norfolk County Design Criteria and ISMP Section 4.0			
Sanitary Drainage Plan		X ²⁹	
Sanitary Design Sheet		X ²⁹	

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Pumping Station Design			X ³⁸
Extension of Sanitary Mainline		X ²⁹	
Disconnection of Sanitary Service(s) to Property Line		X ²³	
Disconnection of Sanitary Service(s) to Main		X ²⁷	
Sanitary Modelling (County Consultant)	X ¹⁰	X	
Property Line Inspection Maintenance Hole		X ²⁸	
Storm Water Servicing Requirements – Section 7.0 and Section 8 Norfolk County Design Criteria and ISMP Section 4.0			
Storm Water Management Design Report (including calculations)	X ¹¹ , 13	X ^{30, 32}	
Storm Water Drainage Plan		X	
Storm Sewer Design Sheet		X ³¹	
Establish/Confirm Legal and Adequate Outlet	X ¹²	X	
Anticipated Flow/Analysis to Receiving Collection System		X	
Transportation Requirements – Section 6.0 Norfolk County Design Criteria, ISMP Section 5.0, Section 6.0 and Appendix J			
Traffic Impact Study	X ¹⁴	X	
Street Signage/Traffic Control Plan		X	
Improvements to Existing Roads & Sidewalk (urbanization, pavement structure, widening sidewalk replacement, upgrades, extension, and accessibility)	X ¹⁵ , 16	X ^{35, 36}	

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General Notes:

1. Securities will be required in the form of a schedule. Any works completed within the Municipal Right-of-Way (R.O.W.) is to be shown as 100% security. Any works completed within private property is to be shown as 10% security. This can be submitted at time of Site Plan.
2. All reports and plans are to be signed and stamped by a Professional Engineer (P.Eng.).
3. All reports are to be completed in reference to Norfolk County's Design Criteria and Integrated Sustainable Master Plan (ISMP).
4. Recommendations from all reports / modelling must be incorporated into the design and is to adhere to Norfolk County's Design Criteria. A copy of this criteria is available upon request.
5. Recommendations from all reports (FSR, SWM, TIB, Modelling, etc.) must be incorporated into the design and be constructed at the developer's expense.
6. All applicable permits and inspections to be issued by Public Works.
7. If Municipal Waste Collection Services are required, the development must adhere to Norfolk County's Technical Guidelines for Waste Collection Services for Condominium Corporations. These guidelines are available upon request. Please note application for waste collection can be made after the development is completed. It must also be noted that in the guidelines it identifies that no reversing of garbage collection vehicles is permitted.
8. Water allocation will not be issued as part of the Official Plan Amendment or Zoning By-law Amendment. Applicant is to confirm capacities at the time of Site Plan application. At the time registration of agreement\approval allocation will be provided for the development, if available

Required at Official Plan Amendment and Zoning By-Law Amendment Stage:

9. The following reports/studies will be required at time of Official Plan Amendment and Zoning By-law Amendment Submission:
 - a. Concept Plan;
 - b. Functional Servicing Report (per Norfolk County Design Criteria Section 3);
 - c. Water Wastewater modelling.
 - d. Storm Water Management Report (as per Norfolk County Design Criteria Section 7 and Section 8.);
 - e. Traffic Impact Study (as per ISMP Appendix J – TIS Guidelines);
10. Water and Wastewater modelling will be required. This is to be completed by Norfolk County's third-party consultant. The cost to complete the modelling and any recommendations from reports are to be implemented into the design at the applicant's expense. The following information will be required to receive a quote and complete the modelling.
 - a. General Plan of Services

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- b. Functional Servicing Report;
 - i. Total Wastewater Design Flows shown in Sanitary Design Sheets;
 - ii. Total Domestic Water and Fire Flows as per Norfolk County Design Criteria Section 10.1.1

Norfolk County recommends that the Functional Servicing Report must include water /sanitary servicing and fire flow calculations for all potential phases of the development.

Once the quote has been received, approval from the applicant will be required before proceeding

- 11. Stormwater Management Report is to be completed as per Norfolk County Design Criteria Section 7 and Section 8.
- 12. Confirmation of Legal and Adequate outlet will be required prior to Official Plan Amendment and Zoning By-Law Amendment approval.
- 13. According to Norfolk County records the subject property in part falls in the LPRCA Erosion Hazard Limits which may affect location of SWM pond or proposed residences.
- 14. As per Norfolk County's Integrated Sustainable Master Plan (ISMP) Appendix J – Traffic Impact Study (TIS) Guidelines, a full Traffic Impact Study will be required.
As there was no submission of Traffic information for this pre con. Once additional information is provided Development Engineering will work with the applicant to determine the scope of this requirement.
- 15. With respect to the 2nd submission of information and questions (received Sept 28th) a question was proposed for on street parallel parking on Queensway and Hunt St. Development Engineering has the following comments:
 - a. On street parallel parking will not be permitted on Queensway. As a current arterial road and major throughfare Norfolk County will not permit stopping in any lane to perform maneuvers associated with Parallel parking.
 - b. Hunt Street - The new concept plan for on street parallel parking on Hunt Street would need to be justified in the Traffic Impact Study. Furthermore the configuration of the parking stalls would need to meet all applicable standards including TAC manual. It is unclear if there is adequate space on the Municipal ROW to provide this parking area and provide a municipal sidewalk. All on street parking, Curb & Gutter and Sidewalk are to be located within the ROW.
 - c. Development Engineering does not recommend that any on street parking be counted towards the total number of required parking spots.
- 16. The subject property is not within MTO Permit Control Areas (Entrances, building locations) however any reconfiguration of the travel portion of the road may be subject to MTO review.

Required at Site Plan Stage Notes:

At the time of pre consultation there were very few details with respect to the design of the future site plan. The following list was created as a preliminary list of items based on

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historical developments like this proposal. Additional requirements may be necessary once a more detailed concept is received.

17. All Site Plan submissions are to comply with Section 16 of the Norfolk County Design Criteria in addition to the comments below.
18. Concept Plan
19. Lot Grading Plan, Siltation and Erosion Control Plan, and General Plan of Services drawing can be shown on one engineering plan as long as it's legible for review.
20. Plan and Profile drawings will be required as per NCDC Section 16.4.4
21. A Utility Plan is required as per Section 4.4.07 of Norfolk County Design Criteria for all utilities to be installed in the Municipal ROW. An Electrical Services Plan as per Section 16.5.6 shall also be included with the Utility Plan
22. While there are no watermains shown on the concept drawing it does make mention of a looped watermain in the pre consultation request letter. If the ultimate proposal is a multi-unit Condominium, then Watermain looping will NOT be permitted. Norfolk County does not allow watermain looping through private property. As per Norfolk County By-law 2013-65, only one domestic water service pipe shall be installed per condominium corporation.
23. All existing water and Sanitary servicing on the Existing property must be disconnected and removed at the time of demolition of existing buildings.
24. Disconnection of all existing water services within the ROW that are not being connected will be required prior to installation of a new water service. Permits are required prior to any work being completed.
25. Depending on eventual design of proposed water service and the proposed usage within the development a Backflow Preventer (RPZ) may be required. Approval from the Manager of Environmental Services must be obtained as per Norfolk County Design criteria. A Testable DCVA Backflow device may be required in a watertight chamber at property line.
26. Norfolk County Environmental Services Department has noted; "Dead end water service in condo needs a hydrant for flushing maintenance of water main." While Fire hydrants are not shown on the concept plans it was assumed private hydrants will be required.
27. Confirmation of size and condition of existing Sanitary laterals within the ROW will be required. Removal of all existing Sanitary laterals that are proposed to be abandoned is required. Permits are required prior to any work being completed.
28. A Sanitary Inspection manhole will be required on Property line.
29. As noted, there is currently no Gravity sewer along Hunt Street. If the proposed Sanitary connection is to be installed along Hunt street then Plan and Profile drawings will be required and a Submission through the Consolidate Linear Infrastructure ECA process for Norfolk County will also be required. Appropriate Design Sheets and Drawings will be required.
30. Stormwater Management Report is to be completed as per Norfolk County Design Criteria.
31. A Storm Drainage area plan will be required as per Norfolk County Design Criteria and must identify any external overland flows tributary to this site.
32. As the site is being completely redeveloped with a new concept towards handling Storm water, Development Engineering is recommending that the Pre Development rate shall be accessed as Open space when designing the SWM pond.

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33. As per Norfolk County's Integrated Sustainable Master Plan (ISMP) – Appendix J: Traffic Impact Study (TIS) Guidelines, a Traffic Impact Study will be required.
34. According to Norfolk County By-law 2016-32 Norfolk County Entrance By-law, the maximum number of driveways to a Commercial property is 2. Seeing that the proposal is showing 3 entrances this must be adequately supported in the Traffic Impact Study or other supporting documents.
35. All existing driveway cuts that are not required in the future are to be replaced with full barrier curb and matching new Sidewalks.
36. Sidewalks will be required as per the latest version of Norfolk County's Sidewalk Installation policy.

Potentially Required Notes:

37. A Geotechnical report must be submitted if Storm water management practices involving infiltration are proposed.
38. According to County records it is unclear if there is adequate depth in local Sanitary sewers to convey the entire site through Gravity. If a Pumping station is required, it shall be designed to meet all applicable standards. Any future Pumping station will be the ownership of the developer and must be installed on Private property. Norfolk County will not be responsible for the ownership OR maintenance of any private pumping stations.

Zoning Administrator: 411 queensway (Vallee Group)

Properties zoned CS

- Multit use mix proposed of residential and commercial
- Phases to change part of property to R4 zone and possibly R5, CS zone does not permit apartments.
- Initial site sketch looks to meet zoning setbacks and parking
- A zoning table for each zone or phase will need to be provided, please include decks or balconies on the site plan to prevent issues in future.
- How will the townhouse be sold? They indicated that the entire site will be treated as one lot
- They indicated that 3 separate condo developments because of the phases, then merged into one at the end only dealing with on site plan approval
- Alterations to be made to this site sketch, comments will be provided on a more accurate site sketch or site plan

Roxanne Lambrecht
Zoning Administrator
Extension 1839
Roxanne.Lambrecht@norfolkcounty.ca

Hayley Stobbe
Zoning Administrator
Extension 1853
hayley.stobbe@norfolkcounty.ca

Fire Department

Norfolk Fire has the following comments in regard to this proposal:

- Ensure adequate water supply is provided

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- Ensure adequate access for fire department apparatus
- Fire access route to be provided through the site- all roads to be designed as fire access routes

Katie Ballantyne
Community Safety Officer
Extension 2423
Katie.ballantyne@norfolkcounty.ca

Appendix A: Summary of Applicable Planning Legislation, Policy and Zoning

Following is a summary of key items related to the proposal as presented; noting these documents are meant to be read in their entirety with relevant policies to be applied in each situation. This is not an exhaustive list and only in response to the information submitted for the pre-consultation. This feedback is subject to change pending full submission of a development application and any changes or additional information provided therein.

Provincial Policy Statement, 2020

<https://www.ontario.ca/page/provincial-policy-statement-2020>

Norfolk County Official Plan

<https://www.norfolkcounty.ca/government/planning/official-plan/>

Section 9.6.1 outlines requirements in relation to requests to amend the Official Plan.

Section 9.6.2 outlines requirements in relation to requests to amend the Zoning By-law.

It is the responsibility of the proponent to review and ensure relevant Official Plan policies are addressed in any future development application.

Norfolk County Zoning By-Law 1-Z-2014

<https://www.norfolkcounty.ca/government/planning/new-zoning-by-law/>

The provisions of the Norfolk County Zoning By-Law shall apply to all lands within the boundaries of Norfolk County. No land, building or structure shall be used, erected or altered in whole or in part except in conformity with the provisions of this By-Law. No land, building or structure shall be used or occupied except for uses that are specifically identified in the By-Law as permitted uses by the relevant zoning category.

It is the responsibility of the proponent to review and ensure relevant Zoning By-law provisions are addressed in any future development application.

Lesley Hutton-Rhora

From: Mohammad Alam <Mohammad.Alam@norfolkcounty.ca>
Sent: Thursday, December 15, 2022 10:33 AM
To: Lesley Hutton-Rhora
Cc: John Vallee; John Iezzi; Scott Puillandre; CHIU; Gary Brasenell
Subject: RE: 22-013 HFW Mixed Use Development - 395, 401, 403, 405 and 411 Queensway West

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning Lesley,

Stage 1 would be fine as part of the submission. If stage 2 is required, we will put that in the Holding and will be required during the Site plan control.

I am following up with the Engineering on pending comments and will get back to you ASAP.

Sincerely,
Mohammad

Mohammad Alam, MPL, MUD, RPP, MCIP

Principal Planner
Planning
Community Development Division
185 Robinson Street, Simcoe, Ontario, Canada, N3Y 5L6
519-426-5870 x. 8060



Working together with our community

From: Lesley Hutton-Rhora <lesleyhuttonrhora@gdvallee.ca>
Sent: Thursday, December 15, 2022 9:45 AM
To: Mohammad Alam <Mohammad.Alam@norfolkcounty.ca>
Cc: John Vallee <Johnvallee@gdvallee.ca>; John Iezzi <johniezzi@gdvallee.ca>; Scott Puillandre <Scottpuillandre@gdvallee.ca>; CHIU <herbertchiu@rogers.com>; Gary Brasenell <gbrasene@gmail.com>
Subject: 22-013 HFW Mixed Use Development - 395, 401, 403, 405 and 411 Queensway West

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Morning Mohammad,

We continue to work with our Client at the proposed development reviewed at the pre-consultation meeting on August 3 for 395, 401, 403, 405 and 411 Queensway West, and are aiming to submit an application for an OPA/ZBA in the coming months.

We are hoping for your assistance and clarification on a few items.

Based on the pre-consultation minutes, we have identified the requirements for a complete OPA/ZBA application in this case as noted below (kindly provide comment on item in red):

- Proposed Site Plan / Drawing
- Planning Impact Analysis / Justification Report
- Environmental Impact Study
- Archaeological Assessment
 - **will County staff accept results of a Stage 1 archeological assessment for the purposes of the OPA/ZBA, with Stage 2 (if deemed required by Stage 1) being a condition of SPA?**
- Traffic Study
 - we are presuming that development engineering will require a traffic study for the OPA/ZBA application

We are eager to receive complete comments from Development Engineering to keep this file moving forward. Are you able to confirm when we could expect these comments?

Thanks and have a great day,

Lesley Hutton-Rhora
G. DOUGLAS VALLEE LIMITED
Consulting Engineers, Architects and Planners
2 Talbot Street North Simcoe Ontario N3Y 3W4
Phone: 519.426.6270 Fax: 519.426.6277
www.gdvallee.ca

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Planning Department Development Application Form

Complete Application

A complete development application consists of the following:

1. A properly completed and signed application form (signature must be original in planners file);
2. Supporting information adequate to illustrate your proposal as indicated in **Section H** of this application form (plans are required in paper copy and digital PDF format);
3. Written authorization from the registered owner of the subject lands where the applicant is not the owner as per Section N; and,
4. Cash, debit or cheque payable to Norfolk County in the amount set out in the user fees By-Law.

The above information is required to ensure that your application is given full consideration. An incomplete or improperly prepared application will not be accepted and may result in delays during the processing of the application. This application must be typed or printed in ink and completed in full.

Pre-Submission Consultation “Pre-consultation”:

A pre-consultation meeting with staff is required for all applications; however, minor applications may be exempted depending on the nature of the proposal, with approval from the Director of Planning or delegate. The purpose of a pre-consultation meeting is to provide the applicant with an opportunity to present the proposed application, discuss potential issues, and for the County and Agency staff to identify the required information and materials to be submitted with the application in order for it to be considered complete. The applicant has the opportunity to make revisions to the application prior to submission, without the additional costs of recirculation fees. It may be necessary to seek the assistance of independent professional help (for example, a planning consultant or engineer) for complex applications. If a pre-consultation meeting has been held to discuss your development, please **include a copy of the Pre-consultation minutes with your application** as part of the submission package. It should be noted that **pre-consultation minutes are valid for one year after the meeting date.**

Development Application Process

Once an application has been deemed complete by a planner, it will be circulated to public agencies and County departments for review and comments. Notice of the application is also provided to adjacent land owners. The comments received assist the planner with the review and recommendation/approval of your application. The time involved in processing an application varies depending upon its complexity and its

acceptability to the other agencies and is subject to statutory *Planning Act* decision timeframes.

An additional fee will be required if a review by the Long Point Region Conservation Authority or by the Grand River Conservation Authority is deemed necessary by planning staff and/or by the Authority. A separate cheque payable to the Long Point Region Conservation Authority or the Grand River Conservation Authority is required in accordance with their fee schedule at the same time your application is submitted.

Additional studies required as part of the complete application shall be at the sole expense of the applicant. It should also be noted that in some instances peer reviews may be necessary to review particular studies and that the cost shall be at the expense of the applicant. The company to complete the peer review shall be selected by the County.

If the application is withdrawn prior to the circulation to commenting agencies, the entire original fee will be refunded. If withdrawn after the circulation to agencies, half the original fee will be refunded. If your drawings are required to be recirculated there will be an additional fee. Also, please note that if your engineering drawings require more than three reviews due to revisions by the owner or failure to revise your engineering drawings as requested, an additional fee will be charged. No refund is available after the public meeting and/or after approval of application.

Notification Sign Requirements

For the purpose of public notification and in order for staff to locate your lands for appropriate applications (zoning, subdivision, condominium or official plan) you will be given a sign to indicate the intent and purpose of your development application. It is your responsibility to:

1. Post one sign per frontage in a conspicuous location on the subject lands;
2. Ensure one sign is posted at the front of the subject lands at least three feet above ground level, not on a tree;
3. Notify the Planner when the sign is in place in order to avoid processing delays; and
4. Maintain the sign until the development application is finalized and thereafter removed.

Contact Us

For additional information or assistance in completing this application, please contact a planner at 519-426-5870 or 519-875-4485 extension 1842 or planning@norfolkcounty.ca. Please submit the completed application and fees to the attention of the Planning Department at 185 Robinson Street, Suite 200, Simcoe, ON N3Y 5L6.

For Office Use Only:

File Number	_____	Public Notice Sign	_____
Related File Number	_____	Application Fee	_____
Pre-consultation Meeting	_____	Conservation Authority Fee	_____
Application Submitted	_____	Well & Septic Info Provided	_____
Complete Application	_____	Planner	_____

Check the type of planning application(s) you are submitting.

- Official Plan Amendment
- Zoning By-Law Amendment
- Temporary Use By-law
- Draft Plan of Subdivision/Vacant Land Condominium
- Condominium Exemption
- Site Plan Application
- Extension of a Temporary Use By-law
- Part Lot Control
- Cash-in-Lieu of Parking
- Renewable Energy Project or Radio Communication Tower

Please summarize the desired end result of this application (for example: a special zoning provision on the subject lands to include additional use(s), changing the zone and/or official plan designation of the subject lands, creating a certain number of lots, or similar)

The intent of the Official Plan and Zoning By-Law amendments is to permit a development consisting of 38 low-rise medium density group townhomes, as well as a six-storey mixed-use building that includes approximately 114 studio, one and two bedroom dwelling units alongside approximately 2,714 square metres of leasable commercial space.

Property Assessment Roll Number: 40302500700, 40302500800, 40302500900

A. Applicant Information

Name of Owner HFW Holdings Limited (c/o Director Herbert H Chiu)

It is the responsibility of the owner or applicant to notify the planner of any changes in ownership within 30 days of such a change.

Address 3 Fernwood Court

Town and Postal Code Richmond Hill, Ontario, L4B 3C2

Phone Number 416-919-9768

Cell Number _____

Email herbertchiu@rogers.com

Name of Applicant HFW Holdings Limited (c/o Director Herbert H Chiu)

Address (same as above)

Town and Postal Code (same as above)

Phone Number (same as above)

Cell Number _____

Email (same as above)

Name of Agent G. Douglas Vallee Limited

Address 2 Talbot Street North

Town and Postal Code Simcoe, Ontario, N3Y 3W4

Phone Number 519-426-6270

Cell Number 519-207-0485

Email lesleyhuttonrhora@gdvallee.ca

Please specify to whom all communications should be sent. Unless otherwise directed, all correspondence and notices in respect of this application will be forwarded to both owner and agent noted above.

Owner Agent Applicant

Names and addresses of any holder of any mortgagees, charges or other encumbrances on the subject lands:

B. Location, Legal Description and Property Information

1. Legal Description (include Geographic Township, Concession Number, Lot Number, Block Number and Urban Area or Hamlet):

WDM CON 14 PT LOT 2 PLAN 182, BLK 9 LOTS 35 36 38 TO 44

WDM CON PT LOT 2

Municipal Civic Address: 395, 401, 403, 405, 411 Queensway West Simcoe

Present Official Plan Designation(s): Commercial

Present Zoning: Service Commercial (CS)

2. Is there a special provision or site specific zone on the subject lands?

Yes No If yes, please specify corresponding number:

14.627 permitting office, all types (provision to remain)

3. Present use of the subject lands:

Wilson Truck and Trailer repair and storage yard; single detached dwelling;

Canadian mental Health Association office building

4. Please describe **all existing** buildings or structures on the subject lands and whether they are to be retained, demolished or removed. If retaining the buildings or structures, please describe the type of buildings or structures, and illustrate the setback, in metric units, from front, rear and side lot lines, ground floor area, gross floor area, lot coverage, number of storeys, width, length, and height on your attached sketch which must be included with your application:

All existing buildings are to be demolished and removed following issuance of future building and demolition permits. The existing uses and structures are intended to remain (in operation) until that time.

5. If an addition to an existing building is being proposed, please explain what it will be used for (for example: bedroom, kitchen, or bathroom). If new fixtures are proposed, please describe.

N/A

6. Please describe **all proposed** buildings or structures/additions on the subject lands. Describe the type of buildings or structures/additions, and illustrate the setback, in metric units, from front, rear and side lot lines, ground floor area, gross floor area, lot coverage, number of storeys, width, length, and height on your attached sketch which must be included with your application:

The development will comprise of 38 low-rise condominium townhouses and one six-storey mixed-use commercial / residential mid-rise building. Layout and dimensions of all buildings / structures are shown on the attached conceptual plans.

7. Are any existing buildings on the subject lands designated under the *Ontario Heritage Act* as being architecturally and/or historically significant? Yes No

If yes, identify and provide details of the building:

N/A

8. If known, the length of time the existing uses have continued on the subject lands:

N/A

9. Existing use of abutting properties:

Veterinary Hospital (West); single detached dwellings (North)

10. Are there any easements or restrictive covenants affecting the subject lands?

Yes No If yes, describe the easement or restrictive covenant and its effect:

NR291629 to permit hydro poles & service to existing single detached dwelling to North of subject lands (26 Hunt Street North).

C. Purpose of Development Application

Note: Please complete all that apply.

1. Please explain what you propose to do on the subject lands/premises which makes this development application necessary:

The proposed development of low-rise group townhouses requires an Official Plan and Zoning By-Law amendment to Urban Residential (R4). The proposed development of the 6-storey mixed-use mid-rise building requires an Official Plan and Zoning By-Law amendment to permit the number of desired dwelling units.

2. Please explain why it is not possible to comply with the provision(s) of the Zoning By-law/and or Official Plan:

The current Service Commercial (CS) zone permits a max. of one dwelling unit within a commercial building (the proposed development includes at least 114). The current Official Plan & Zoning designations also do not permit group townhouses.

3. Does the requested amendment alter all or any part of the boundary of an area of settlement in the municipality or implement a new area of settlement in the municipality? Yes No If yes, describe its effect:

n/a

4. Does the requested amendment remove the subject land from an area of employment? Yes No If yes, describe its effect:

While the proposed amendment will remove employment opportunities from the northern portion of the property, the proposed development will in fact increase the area of commercial space and employment opportunity.

5. Does the requested amendment alter, replace, or delete a policy of the Official Plan?
 Yes No If yes, identify the policy, and also include a proposed text of the policy amendment (if additional space is required, please attach a separate sheet):
Kindly refer to the enclosed planning justification report for details.

6. Description of land intended to be severed in metric units:

Frontage: _____

Depth: _____

Width: _____

Lot Area: _____

Present Use: _____

Proposed Use: _____

Proposed final lot size (if boundary adjustment): _____

If a boundary adjustment, identify the assessment roll number and property owner of the lands to which the parcel will be added: _____

Description of land intended to be retained in metric units:

Frontage: _____

Depth: _____

Width: _____

Lot Area: _____

Present Use: _____

Proposed Use: _____

Buildings on retained land: _____

7. Description of proposed right-of-way/easement:

Frontage: _____

Depth: _____

Width: _____

Area: _____

Proposed use: _____

8. Name of person(s), if known, to whom lands or interest in lands to be transferred, leased or charged (if known):

** The proposed lot fabric adjustments will be addressed in a future application to Norfolk County

9. Site Information

Zoning

Proposed

Note: data shown for provided figures is for Northern vs Southern parcels (following future severance), and assumes that both parcels front onto Hunt Street

Please indicate unit of measurement, for example: m, m² or %

	CS	R4	CS	R4
Lot frontage	16.5m	30m	78.3m	104m
Lot depth	n/a	n/a	140m	140m
Lot width	n/a	n/a	78.3m	104m
Lot area	495 sm	195 sm	11320sm	17472sm
Lot coverage	35%	N/A	29%	n/a
Front yard	3m	6m	7.27m	6m
Rear yard	3m	7.5m	21.35m	3m**
Left Interior side yard	3m	6m	n/a	12.53m
Right Interior side yard	3m	6m	13.71m	18.2m
Exterior side yard (corner lot)	3m	n/a	5.52m	n/a
Landscaped open space				
Entrance access width			7.3m min	7.3m min
Exit access width			7.3m min	7.3m min
Size of fencing or screening				
Type of fencing				
10. Building Size				
Number of storeys	n/a		6	max. 3
Building height	11m	11m	30m	max. 13m
Total ground floor area			2,714sm	4,503sm (approx.)
Total gross floor area			13802sm	7,274sm (approx.)
Total useable floor area			1708sm	n/a

** see PJR for more detail

** plus rooftop terrace access

11. Off Street Parking and Loading Facilities

Number of off street parking spaces	297	89	302	95
Number of visitor parking spaces	38	13	38	13
Number of accessible parking spaces	6	1	8	1
Number of off street loading facilities	0	0	0	0

** total spaces

12. Residential (if applicable)

Number of buildings existing: N/A

Number of buildings proposed: 13 (incl. mixed use building)

Is this a conversion or addition to an existing building? Yes No

If yes, describe: n/a

Type	Number of Units	Floor Area per Unit in m2
Single Detached	<u> 0 </u>	<u> n/a </u>
Semi-Detached	<u> 6 </u>	<u> 199 sm (approx) </u>
Duplex	<u> 0 </u>	<u> n/a </u>
Triplex	<u> 0 </u>	<u> n/a </u>
Four-plex	<u> 0 </u>	<u> n/a </u>
Street Townhouse	<u> 32 (group townhouses) </u>	<u> 190 sm (approx) </u>
Stacked Townhouse	<u> 0 </u>	<u> n/a </u>
Apartment - Bachelor	<u> 42 (approx) </u>	<u> 46-67 sm (approx) </u>
Apartment - One bedroom	<u> 28 (approx) </u>	<u> 71-106 sm (approx) </u>
Apartment - Two bedroom	<u> 44 (approx) </u>	<u> 95-120 sm (approx) </u>
Apartment - Three bedroom	<u> n/a </u>	<u> n/a </u>

Other facilities provided (for example: play facilities, underground parking, games room, or swimming pool): Underground parking provided for exclusive use of residential users mid-rise building

13. Commercial/Industrial Uses (if applicable)

Number of buildings existing: n/a

Number of buildings proposed: 1 (incl. in count above)

Is this a conversion or addition to an existing building? Yes No

If yes, describe:
 n/a

Indicate the gross floor area by the type of use (for example: office, retail, or storage):

 Type of commercial uses for ground floor is to be determined.

Seating Capacity (for assembly halls or similar): n/a

Total number of fixed seats: n/a

Describe the type of business(es) proposed: Please refer to PJR

Total number of staff proposed initially: To be determined by future use

Total number of staff proposed in five years: To be determined by future use

Maximum number of staff on the largest shift: To be determined by future use

Is open storage required: Yes No

Is a residential use proposed as part of, or accessory to commercial/industrial use?

Yes No If yes please describe:

Approx. 114 residential condominium apartment units are proposed as part of a
mixed use commercial/residential mid-rise building

14. Institutional (if applicable)

Describe the type of use proposed: n/a

Seating capacity (if applicable): n/a

Number of beds (if applicable): n/a

Total number of staff proposed initially: n/a

Total number of staff proposed in five years: n/a

Maximum number of staff on the largest shift: n/a

Indicate the gross floor area by the type of use (for example: office, retail, or storage):

n/a

15. Describe Recreational or Other Use(s) (if applicable)

Pedestrian network and linkages proposed throughout and adjacent to the
proposed site.

D. Previous Use of the Property

1. Has there been an industrial or commercial use on the subject lands or adjacent lands? Yes No Unknown

If yes, specify the uses (for example: gas station or petroleum storage):

Current uses are commercial & industrial (see Section B)

2. Is there reason to believe the subject lands may have been contaminated by former uses on the site or adjacent sites? Yes No Unknown

3. Provide the information you used to determine the answers to the above questions:
A Phase I & II ESA was been completed for 395 Queensway West in 2020, which

identified existing contamination and potential sources of contamination. A subsequent

Phase I & II ESA for the entirety of the lands and a remediation plan for RSC is underway.

4. If you answered yes to any of the above questions in Section D, a previous use inventory showing all known former uses of the subject lands, or if appropriate, the adjacent lands, is needed. Is the previous use inventory attached? Yes No

E. Provincial Policy

** please refer to Phase I & II ESA prepared by Aims Environmental for 395 Queensway West.

1. Is the requested amendment consistent with the provincial policy statements issued under subsection 3(1) of the *Planning Act*, R.S.O. 1990, c. P. 13? Yes No

If no, please explain:

2. It is owner's responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals, including the Endangered Species Act, 2007. Have the subject lands been screened to ensure that development or site alteration will not have any impact on the habitat for endangered or threatened species further to the provincial policy statement subsection 2.1.7? Yes No

If no, please explain:

3. Have the subject lands been screened to ensure that development or site alteration will not have any impact on source water protection? Yes No

If no, please explain:

Norfolk County has advised that the screening process with the County's Risk Management Official will commence upon submission of the application.

Note: If in an area of source water Wellhead Protection Area (WHPA) A, B or C please attach relevant information and approved mitigation measures from the Risk Manager Official.

4. Are any of the following uses or features on the subject lands or within 500 metres of the subject lands, unless otherwise specified? Please check boxes, if applicable.

Livestock facility or stockyard (submit MDS Calculation with application)

On the subject lands or within 500 meters – distance _____

Wooded area

On the subject lands or within 500 meters – distance _____

Municipal Landfill

On the subject lands or within 500 meters – distance _____

Sewage treatment plant or waste stabilization plant

On the subject lands or within 500 meters – distance _____

Provincially significant wetland (class 1, 2 or 3) or other environmental feature

On the subject lands or within 500 meters – distance adjacent

Floodplain

On the subject lands or within 500 meters – distance _____

Rehabilitated mine site

On the subject lands or within 500 meters – distance _____

Non-operating mine site within one kilometre

On the subject lands or within 500 meters – distance _____

Active mine site within one kilometre

On the subject lands or within 500 meters – distance _____

Industrial or commercial use (specify the use(s))

On the subject lands or within 500 meters – distance _____

Active railway line

On the subject lands or within 500 meters – distance _____

Seasonal wetness of lands

On the subject lands or within 500 meters – distance _____

Erosion

On the subject lands or within 500 meters – distance _____

Abandoned gas wells

On the subject lands or within 500 meters – distance _____

F. Servicing and Access

1. Indicate what services are available or proposed:

Water Supply

- Municipal piped water Communal wells
 Individual wells Other (describe below)
-

Sewage Treatment

- Municipal sewers Communal system
 Septic tank and tile bed in good working order Other (describe below)
-

Storm Drainage

- Storm sewers Open ditches
 Other (describe below)
-

2. Existing or proposed access to subject lands:

- Municipal road Provincial highway
 Unopened road Other (describe below)

Name of road/street: Hunt Street North & Queensway West

G. Other Information

1. Does the application involve a local business? Yes No

If yes, how many people are employed on the subject lands?

Unknown

2. Is there any other information that you think may be useful in the review of this application? If so, explain below or attach on a separate page.

Please refer to enclosed Planning Justification Report

H. Supporting Material to be submitted by Applicant

In order for your application to be considered complete, **folded** hard copies (number of paper copies as directed by the planner) and an **electronic version (PDF) of the properly named site plan drawings, additional plans, studies and reports** will be required, including but not limited to the following details:

1. Concept/Layout Plan
2. All measurements in metric
3. Key map
4. Scale, legend and north arrow
5. Legal description and municipal address
6. Development name
7. Drawing title, number, original date and revision dates
8. Owner's name, address and telephone number
9. Engineer's name, address and telephone number
10. Professional engineer's stamp
11. Existing and proposed easements and right of ways
12. Zoning compliance table – required versus proposed
13. Parking space totals – required and proposed
14. All entrances to parking areas marked with directional arrows
15. Loading spaces, facilities and routes (for commercial developments)
16. All dimensions of the subject lands
17. Dimensions and setbacks of all buildings and structures
18. Location and setbacks of septic system and well from all existing and proposed lot lines, and all existing and proposed structures
19. Gross, ground and useable floor area
20. Lot coverage
21. Floor area ratio
22. Building entrances, building type, height, grades and extent of overhangs
23. Names, dimensions and location of adjacent streets including daylighting triangles
24. Driveways, curbs, drop curbs, pavement markings, widths, radii and traffic directional signs
25. All exterior stairways and ramps with dimensions and setbacks
26. Retaining walls including materials proposed
27. Fire access and routes
28. Location, dimensions and number of parking spaces (including visitor and accessible) and drive aisles
29. Location of mechanical room, and other building services (e.g. A/C, HRV)
30. Refuse disposal and storage areas including any related screening (if indoors, need notation on site plan)
31. Winter snow storage location

32. Landscape areas with dimensions
33. Natural features, watercourses and trees
34. Fire hydrants and utilities location
35. Fencing, screening and buffering – size, type and location
36. All hard surface materials
37. Light standards and wall mounted lights (plus a note on the site plan that all outdoor lighting is to be dark sky compliant)
38. Business signs (make sure they are not in sight lines)
39. Sidewalks and walkways with dimensions
40. Pedestrian access routes into site and around site
41. Bicycle parking
42. Architectural elevations of all building sides
43. All other requirements as per the pre-consultation meeting

In addition, the following additional plans, studies and reports, including but not limited to, **may** also be required as part of the complete application submission:

- Zoning Deficiency Form
- On-Site Sewage Disposal System Evaluation Form (to verify location and condition)
- Architectural Plan
- Buildings Elevation Plan
- Cut and Fill Plan
- Erosion and Sediment Control Plan
- Grading and Drainage Control Plan (around perimeter and within site) (existing and proposed)
- Landscape Plan
- Photometric (Lighting) Plan
- Plan and Profile Drawings
- Site Servicing Plan
- Storm water Management Plan
- Street Sign and Traffic Plan
- Street Tree Planting Plan
- Tree Preservation Plan
- Archaeological Assessment ** Stage 1 is attached
- Environmental Impact Study ** Stage 1 is attached

- Functional Servicing Report
- Geotechnical Study / Hydrogeological Review
- Minimum Distance Separation Schedule
- Noise or Vibration Study
- Record of Site Condition
- Storm water Management Report
- Traffic Impact Study – please contact the Planner to verify the scope required

Site Plan applications will require the following supporting materials:

1. Two (2) complete sets of the site plan drawings folded to 8½ x 11 and an electronic version in PDF format
2. Letter requesting that the Holding be removed (if applicable)
3. A cost estimate prepared by the applicant's engineer
4. An estimate for Parkland dedication by a certified land appraiser
5. Property Identification Number (PIN) printout

Standard condominium exemptions will require the following supporting materials:

- Plan of standard condominium (2 paper copies and 1 electronic copy)
- Draft condominium declaration
- Property Identification Number (PIN) printout

Your development approval might also be dependent on Ministry of Environment and Climate Change, Ministry of Transportation or other relevant federal or provincial legislation, municipal by-laws or other agency approvals.

All final plans must include the owner's signature as well as the engineer's signature and seal.

I. Development Agreements

A development agreement may be required prior to approval for site plan, subdivision and condominium applications. Should this be necessary for your development, you will be contacted by the agreement administrator with further details of the requirements including but not limited to insurance coverage, professional liability for your engineer, additional fees and securities.

J. Transfers, Easements and Postponement of Interest

The owner acknowledges and agrees that if required it is their solicitor's responsibility on behalf of the owner for the registration of all transfer(s) of land to the County, and/or transfer(s) of easement in favour of the County and/or utilities. Also, the owner further acknowledges and agrees that it is their solicitor's responsibility on behalf of the owner for the registration of postponements of any charges in favour of the County.

K. Permission to Enter Subject Lands

Permission is hereby granted to Norfolk County officers, employees or agents, to enter the premises subject to this application for the purposes of making inspections associated with this application, during normal and reasonable working hours.

L. Freedom of Information

For the purposes of the *Municipal Freedom of Information and Protection of Privacy Act*, I authorize and consent to the use by or the disclosure to any person or public body any information that is collected under the authority of the *Planning Act, R.S.O. 1990, c. P. 13* for the purposes of processing this application.

HFW Holdings Limited

per:

Herbert H Chiu, director

Owner/Applicant Signature

May 17, 2023

Date

M. Owner's Authorization

If the applicant/agent is not the registered owner of the lands that is the subject of this application, the owner(s) must complete the authorization set out below.

I/We HFW Holdings Limited (c/o Director Herbert Chiu) am/are the registered owner(s) of the lands that is the subject of this application.

I/We authorize G. Douglas Vallee Limited to make this application on my/our behalf and to provide any of my/our personal information necessary for the processing of this application. Moreover, this shall be your good and sufficient authorization for so doing.

HFW Holdings Limited

per:

Herbert H Chiu, director

Owner

May 17, 2023

Date

Owner

Date

N. Declaration

I, Herbert H Chiu, director of HFW Holdings Limited of the City of Richmond Hill of the Regional Municipality of York

solemnly declare that:

all of the above statements and the statements contained in all of the exhibits transmitted herewith are true and I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of *The Canada Evidence Act*.

Declared before me at:

the City of Markham


Herbert H Chiu
Owner/Applicant Signature

In the Regional Municipality of York

This 17th day of May

A.D., 2023


A Commissioner, etc.
Metcalfe, Blainey and Burns
Suite 202, 18 Crown Steel Dr.
Markham, ON L3R 9X8
Tel: (905) 475-7676

KIN-BUN NG
Barrister, Solicitor & Notary Public
Ontario

10. The names and addresses of the incorporators are:
Noms et adresses des fondateurs :

First name, middle names and surname or corporate name Prénom, autres prénoms et nom de famille ou dénomination sociale	Full address for service or if a corporation, the address of the registered or head office giving street & No. or R.R., No., municipality, province, country and postal code Domicile élu au complet ou, dans le cas d'une société, adresse du siège social ou adresse de l'établissement principal, y compris la rue et le numéro ou le numéro de la R.R., la municipalité, la province, le pays et le code postal
Herbert H Chiu	3 Fernwood Court Richmond Hill ON L4B 3C2
Fidelia W Louie	3 Fernwood Court Richmond Hill ON L4B 3C2
Tiffany W Chiu	3 Fernwood Court Richmond Hill ON L4B 3C2

These articles are signed in duplicate.
Les présents statuts sont signés en double exemplaire.

Full name(s) and signature(s) of incorporator(s). In the case of a corporation set out the name of the corporation and the name and office of the person signing on behalf of the corporation
Nom(s) au complet et signature(s) du ou des fondateurs. Si le fondateur est une société, indiquer la dénomination sociale et le nom et le titre de la personne signant au nom de la société

Herbert H Chiu

Name of incorporator (or corporation name & signatories name and office)
Nom du fondateur (ou dénomination sociale et nom et titre du signataire)

Fidelia W Louie

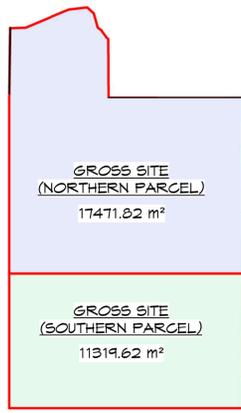
Name of incorporator (or corporation name & signatories name and office)
Nom du fondateur (ou dénomination sociale et nom et titre du signataire)

Tiffany W Chiu

Name of incorporator (or corporation name & signatories name and office)
Nom du fondateur (ou dénomination sociale et nom et titre du signataire)

Name of incorporator (or corporation name & signatories name and office)
Nom du fondateur (ou dénomination sociale et nom et titre du signataire)

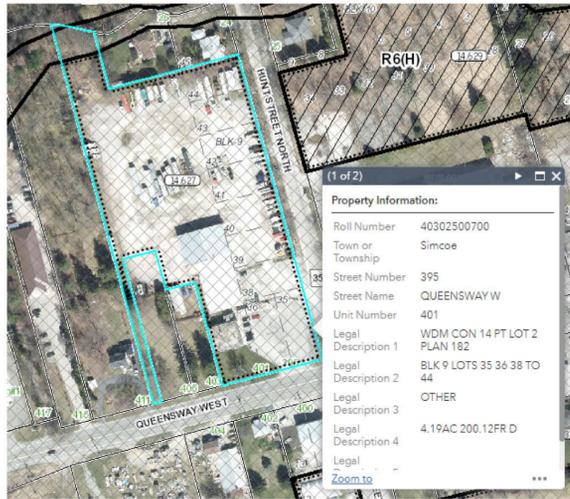
Signature / signature



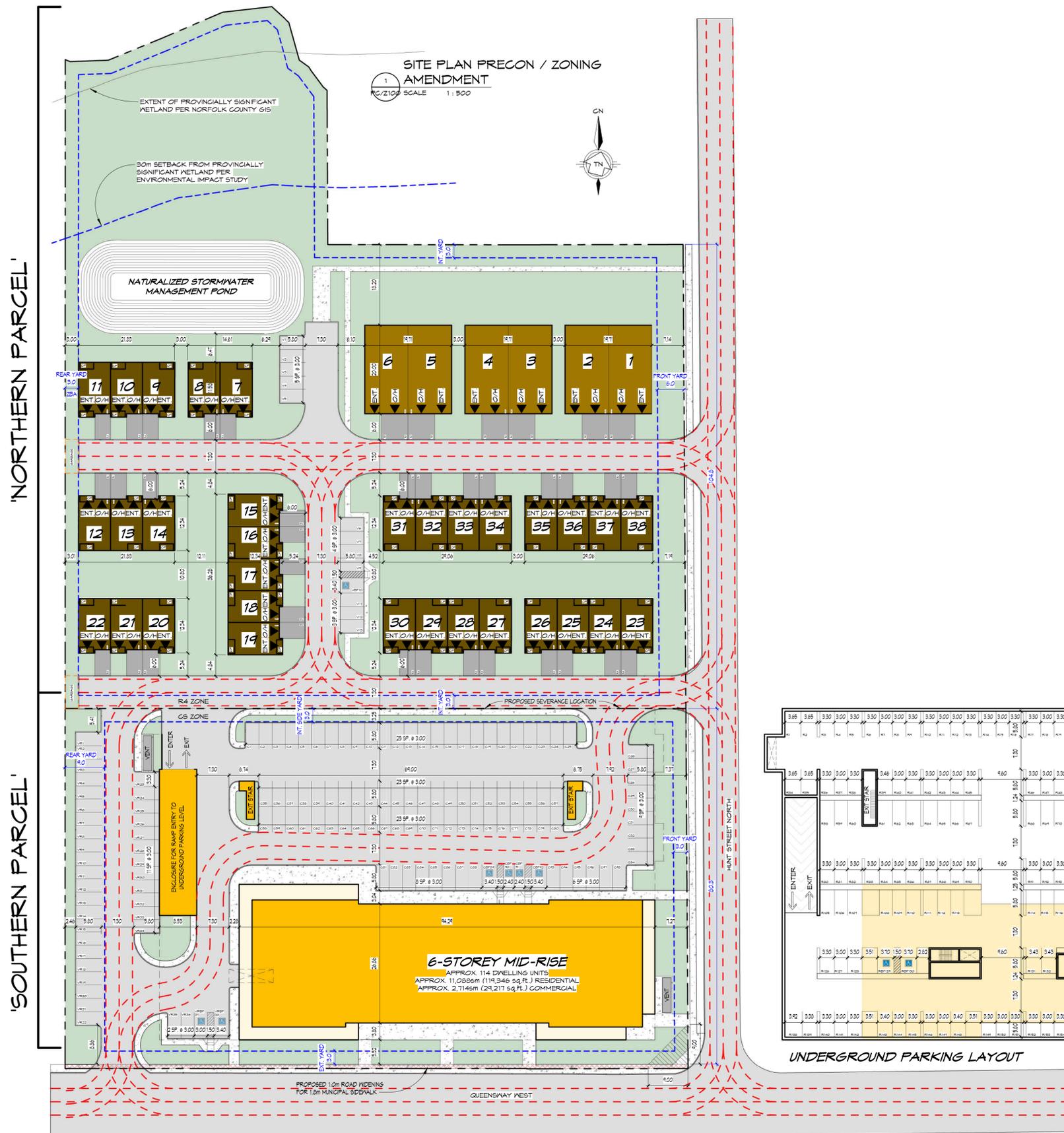
2 GROSS SITE - PC/Z
SCALE 1:2000



KEY MAP
SCALE 1:100



SITE MAP
SCALE 1:100

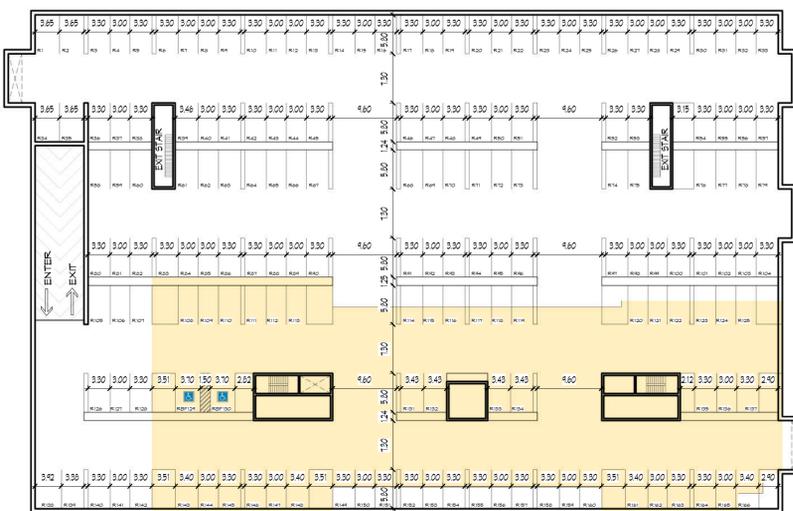


SITE PLAN PRE-CON / ZONING AMENDMENT
SCALE 1:500



SITE PLAN LEGEND

- ▲ ENT MAIN ENTRANCE / EXIT DOOR
 - ▲ BF ENTRANCE / EXIT DOOR (BARRIER FREE OPERATOR)
 - ▲ O/H ENTRANCE / EXIT DOOR (OVERHEAD DOOR / V OPERATOR)
 - PROPERTY LINE
 - SETBACKS
 - FIRE ROUTE (6m WIDE / 12m CENTER RADIUS)
 - CE COVERED ENTRANCE
 - P PATIO (ON GRADE)
 - GP COVERED PATIO (ON GRADE)
 - B BALCONY
 - CD COVERED DECK / UNENCLOSED PORCH
 - D DECK / UNENCLOSED PORCH
 - PAINTED GRAPHICS ON ASPHALT / CONC. (COORD. W/ THE CITY / TOWN HAVING JURISDICTION GUIDELINES)
 - WHEELCHAIR SIGN ON ASPHALT / CONC. (WHITE & BLUE COLOUR)
 - V# VEHICULAR STALL MARKINGS (YELLOW COLOUR)
 - SP SPARE
 - B/C1 - ONE REQ'D DWELLING PARKING
 - B/C2 - TWO REQ'D DWELLING PARKING (LETTER REPRESENTS UNIT TYPE)
 - DIAGONAL MARKINGS
 - NEA CONIFEROUS TREE
 - NEA DECIDUOUS TREE (~4500mm TREE RADIUS @ FULL GROWTH)
 - SNOW STORAGE (SS) (ALL ADDITIONAL SNOW TO BE TAKEN AWAY BY OWNER)
- HATCH IDENTIFICATION LEGEND**
- CONC. SIDEWALK / PAD / CROSEWALK / SIDEWALK / LANEWAY / STAIRS / ETC.
 - AREA OF ASPHALT
 - LANDSCAPING
 - COMMERCIAL
 - A 1-STORY MIXED-USE MID-RISE
 - B 3-STORY RESIDENTIAL DWELLING (VEHICULAR - X1 GARAGE, X1 DRIVEWAY) (APPROX. 1500mm W x 10000mm D)
 - C 1-STORY RESIDENTIAL DWELLING (VEHICULAR - X1 GARAGE, X1 DRIVEWAY) (APPROX. 9000mm W x 24000mm D)



UNDERGROUND PARKING LAYOUT



G. DOUGLAS VALLEE LIMITED
2 TALBOT STREET NORTH
SIMCOE ONTARIO N3Y 3W4
(519) 426-6270

Project Title
HUNT ST. N. RESIDENTIAL
HUNT STREET NORTH,
SIMCOE, ON N3Y 2M9

PROJECT No.
22-013
Drawing Title
SITE PLAN PRE-CON / ZONING AMENDMENT
Drawing No.

PC/Z100

SITE STATISTIC & ZONING REQ.'S

ZA - ZONING AMENDMENTS (RED TEXT)

PROPERTY LEGAL DESCRIPTION:			
945, 401, 402, 405, 411 QUEENSWAY WEST IN THE TOWN OF NORTH SIMCOE, IN THE DISTRICT OF NORFOLK COUNTY			
ZONING:			
IN ACCORDANCE TO THE TOWN OF SIMCOE, ZONING BY-LAW 1-Z-2014 NORFOLK COUNTY - JANUARY-2021-CONSOLIDATION			
PROVISION LAND USE EXISTING (SOUTHERN PORTION)			
6.3	EX - SERVICE COMMERCIAL ZONE (CS)		
6.3.1	PERMITTED USES		
Permitted uses a) a CS zone, no land, building or structure shall be used except in accordance with the following uses: a) ambulance service b) animal hospital, provided the entire operation is carried on within an enclosed building c) any non-residential use permitted in the Neighbourhood Institutional Zone (NI), subject to the provisions of that zone d) auction centre e) automobile gas station f) automobile service and repair station g) automobile washing establishment h) automotive parts shop i) bar or night club j) clinic or doctors' offices k) commercial greenhouse, tree and plant nursery l) community centre m) contractor shop n) contractor supply and service shop o) convenience store p) day care nursery q) dry cleaning distribution station r) dry cleaning establishment s) dwelling, single detached or dwelling unit in a non-residential building - maximum one (1) (B-2-2020) t) equipment rental establishment u) farm implements sales and service establishment v) financial institution w) fire hall x) florist shop y) fruit and vegetable outlet z) funeral home aa) garden supply centre bb) home occupation cc) hotel dd) laundromat ee) lumber yard and building supply establishment ff) manufacturing and retail sale of monuments gg) merchandise service shop hh) miniature golf, golf driving range and baseball pitch ii) outdoor storage accessory to permitted uses jj) parking lot or structure kk) personal service shop ll) place of assembly mm) place of sports and recreation nn) place of worship oo) police station pp) private club qq) restaurant rr) restaurant, fast-food ss) restaurant, take-out tt) sheet metal, plumbing, heating, electrical or woodworking shop or any similar activity uu) swimming pool sales and service establishment vv) training and rehabilitation centre ww) vehicle sales or rental establishment xx) video store yy) wholesale outlets zz) office, all types (special provision 14.6.2f)			
ADD THE FOLLOWING ADDITIONAL PERMITTED USES: aaa) dwelling units in a commercial building, max. 6000 bbb) boutique ccc) college or trade school ddd) delicatessen and specialty food stores eee) farmer's market fff) office accessory to a shopping centre operation ggg) retail store			
PROVISION	SETBACKS (m - METERS):	REQUIRED (m)	PROVIDED (m)
6.3.2a)	MIN. LOT AREA: i) INTERIOR LOT ii) CORNER LOT	450m ² 448m ²	- 11,320m ²
6.3.2b)	MIN. LOT FRONTAGE: i) INTERIOR LOT ii) CORNER LOT	15 16.5	- 10.3
6.3.2c)	MIN. FRONT YARD:	3	7.27
6.3.2d)	MIN. EXTERIOR SIDE YARD:	3	5.52
6.3.2e)	MIN. INTERIOR SIDE YARD:	3	15.11
6.3.2f)	MIN. REAR YARD:	4	21.35
6.3.2g)	MIN. USABLE FLOOR AREA: FOR A DWELLING UNIT IN A NON-RESIDENTIAL BLDG.	40m ²	MIN. 40m ²
6.3.2h)	MAX. BLDG. HEIGHT	11	30m or SIX (6) STOREYS
6.3.2i)	MAX. LOT COVERAGE	35%	24%
6.3.2j)	MAX. USABLE FLOOR AREA: OF A FRUIT AND VEGETABLE OUTLET	200m ²	N/A
6.3.2k)	OUTDOOR STORAGE	PROHIBITED IN A FRONT YARD WITHIN 3M OF ANY LOT LINE ADJOINING A RESIDENTIAL ZONE	N/A
6.3.3	Outdoor Display of Goods Outdoor display of vehicles on paved areas shall be permitted in the front yard subject to Subsection 6.3.5. Outdoor display of other non-vehicular items shall be permitted within a front yard provided such display is located on a grassed or landscaped area without surrounding fences and subject to Subsection 6.3.5.		
6.3.4	Landscaped Strip All buildings, parking lots and parking spaces and display areas shall be setback 3 metres from the front lot line. This area shall be landscaped which may include patio pavers.		
6.3.5	Zone Provision for Convenience Store The usable floor area of a convenience store shall not exceed 200 square metres.		
6.3.6	Zone Provisions for Dwellings Notwithstanding the provisions in Subsection 6.3.2, all single detached dwellings shall conform to the Urban Residential Type 3 (R3) Zone provisions in Subsection 9.3. [B-2-2020] [21-Z-2020]		

COORD. IV ZONING BY-LAW FOR ALL OTHER ZONING REQ.'S

PARKING REQ.D MIXED USE RESIDENTIAL (CS)			
PROVISION	NUMBER OF PARKING SPACES	REQUIRED	PROVIDED
4.9b)	APARTMENT DWELLING [B-2-2011]: 1.5 SPACES / DWELLING UNIT 1.5 SPACES x 72 DWELLING UNITS =	108 SPACE(S)	108 SPACE(S)
	APARTMENT DWELLING [B-2-2011]: 1.25 SPACES / DWELLING UNIT 1.25 SPACES x 42 DWELLING UNITS =	53 SPACE(S)	50 SPACE(S)

PARKING REQ.D MIXED USE RESIDENTIAL - VISITOR:			
4.9f)	VISITOR PARKING: 1 SPACE / 3 DWELLING UNITS 1 SPACE x (114 / 3) =	38 SPACE(S)	38 SPACE(S)

PARKING REQ.D MIXED USE RESIDENTIAL TOTAL:			
TOTAL		149 SPACE(S)	204 SPACE(S)

PARKING REQ.D MIXED USE RESIDENTIAL - BARRIER FREE (PART OF REQ.D PARKING)			
4.3.3	BARRIER FREE PARKING REQ.D: 25-50 PARKING SPACES =		
	TYPE 'A' (3.4m WIDE) PLUS 1.5m AISLE	1 SPACE(S)	3 SPACE(S)
	TYPE 'B' (2.4m WIDE) PLUS 1.5m AISLE	1 SPACE(S)	1 SPACE(S)

PARKING REQ.D MIXED USE NON-RESIDENTIAL (CS)			
PROVISION	NUMBER OF PARKING SPACES	REQUIRED	PROVIDED
4.9c)	OTHER NON-RESIDENTIAL USES: 1 SPACE / 50m ² USABLE FLOOR AREA 1 SPACE x (MAX. 24,300m ² / 50m ²) =	50 SPACE(S)	50 SPACE(S)

NOTE - THROUGH THE ZBA, A SITE SPECIFIC PROVISION IS SOUGHT THAT ALL COMMERCIAL SPACES - REGARDLESS OF TENANCY - WILL BE SUBJECT TO A BLANKET REQUIREMENT OF 1 PARKING SPACE FOR EVERY 35m² OF USABLE FLOOR AREA

PARKING REQ.D MIXED USE NON-RESIDENTIAL TOTAL:			
TOTAL		50 SPACE(S)	50 SPACE(S)

PARKING REQ.D MIXED USE NON-RESIDENTIAL BARRIER FREE (PART OF REQ.D PARKING)			
4.3.3	BARRIER FREE PARKING REQ.D: 75-100 PARKING SPACES =		
	TYPE 'A' (3.4m WIDE) PLUS 1.5m AISLE	2 SPACE(S)	2 SPACE(S)
	TYPE 'B' (2.4m WIDE) PLUS 1.5m AISLE	2 SPACE(S)	2 SPACE(S)

4.0 OFF STREET PARKING PARKING SPACE DIMENSIONS			
PROVISION	REQUIREMENTS	REQUIRED	PROVIDED
4.1	PARKING SPACE DIMENSIONS		
4.1.3a)	WIDTH OF PARKING SPACE FOR VEHICLES PARKED SIDE BY SIDE	3 MIN.	3
	FOR VEHICLES PARKED WITH WALL OR FENCE ADJ.	3.3 MIN.	3.3
4.1.3b)	DEPTH OF PARKING SPACE FOR 90 DEGREE PARKING	5.0 MIN.	5.0
	FOR PARALLEL PARKING	7 MIN.	7
4.1.4	PARKING AISLE REQ.'S		
4.1.4b)	TWO-WAY TRAFFIC	7.3 MIN.	7.3 MIN.

4.2 LOCATION OF PARKING ON A LOT			
4.2.4	4.2.4 Other Provisions a) For tri-plex dwellings, duplex dwellings, four-plex dwellings, street townhouses, stacked townhouses, and boarding or lodging houses, required parking spaces shall be prohibited within the required front yard or required exterior side yard, except where a dwelling unit has a private garage in which case the driveway leading to the private garage may be used as a parking space subject to the size requirements herein; b) For group townhouses and apartment dwellings, no parking lot shall be located closer than 3 metres from any dwelling on the lot or of any interior lot line abutting another residential zone; c) For group townhouses and apartment dwellings, no parking lot or parking space shall be located between a dwelling and the street line, except for individual or tandem parking spaces leading directly to each townhouse dwelling unit; d) For commercial or industrial properties, no parking lot shall be located closer than 4.5 metres from any interior lot line abutting a residential zone; e) For accessory residential dwelling units, notwithstanding the foregoing, one (1) parking space dedicated for the use of the accessory residential dwelling unit, may be permitted in the front yard provided a minimum of 50 percent of the required front yard shall be maintained as landscaped open space notwithstanding such dedicated parking space.		

PARKING REQ.D - LOADINGS SPACES			
4.7	LOADING SPACES: 3m WIDTH x 10m DEPTH	N/A	1 PROVIDED

LANDSCAPED AREA			
2.01	"LANDSCAPE AREA" shall mean an area of land comprised of trees, shrubs, flowers, grass or other horticultural elements. Landscaping may include pervious paths, patios, walkways, or elements designed to enhance the visual amenity of a property but does not include open storage display areas, parking or loading areas, or areas covered by driveways. [B-2-2018]		

4.2.5 Parking and Landscape Area [7-2-2018]			
4.2.5	Within Urban Residential Type 1 to 4 Zones (R1 to R4), the following shall apply: a) A minimum of 50 percent of the front yard shall be maintained as landscape area. b) In the case of a corner lot, a minimum of 50 percent of each of the front yard and exterior side yard shall be maintained as landscape area.		

2.110 "USABLE FLOOR AREA" shall mean the total area of all floors of a building, outdoor patio or cafe, or dwelling unit including:			
a)	a hallway, aisle, stairway and corridor within a suite or unit;		
b)	an internal wall and partition within a suite or unit;		
c)	a storage room and storage area within a suite or unit;		
d)	a boat/slip in the case of a boathouse;		
e)	a habitable room or area in the basement of a dwelling.		
But excluding:			
a)	an area occupied by a common area in a multi-tenant building including but not limited to a public stairwell, public or shared corridor and lobby;		
b)	a mechanical shaft;		
c)	an entry vestibule not within a dwelling unit;		
d)	a garage attached to a building;		
e)	an unfinished basement in a dwelling used for storage or laundry.		
The usable floor area for a dwelling is measured from the outside face of exterior walls or to the centre-line of party or common walls. The usable floor area for all other buildings shall be measured from the inside face of exterior walls, interior common walls and firewalls.			

PROVISION LAND USE PROPOSED (NORTHERN PORTION)			
5.0	ZONING AMENDMENT:		
5.4	RESIDENTIAL ZONES		
5.4.1	URBAN RESIDENTIAL TYPE 4 ZONE (R4)		
PERMITTED USES In an R4 zone, no land, building or structure shall be used except in accordance with the following uses: a) semi-detached house b) group townhouse c) street townhouse d) semi-detached, duplex, tri-plex and four-plex dwellings provided they are located on the same lot with, and in accordance with the zone provisions of, group townhouse			

PROVISION	SETBACKS (m - METERS):	REQUIRED IN STREET TOWNHOUSE OR R4	REQUIRED IN GROUP TOWNHOUSE	PROVIDED (m)
5.4.2a)	MIN. LOT AREA: i) ATTACHED GARAGE ii) CORNER LOT iii) DETACHED GARAGE	156m ² 264m ² 162m ²	195m ² 195m ² 215m ²	17,472m ² - -
5.4.2b)	MIN. LOT FRONTAGE: i) INTERIOR LOT ii) CORNER LOT iii) CORNER LOT ACCESSED BY A REAR LANE	6.5 11 6.5	30 30 -	104.0 - -
5.4.2c)	MIN. FRONT YARD: i) ATTACHED GARAGE ii) DETACHED GARAGE OR REAR YARD PARKING	6 1.5	6 1.5	MIN. 6
5.4.2d)	MIN. EXTERIOR SIDE YARD: i) IV A 6m FRONT YARD ii) IV A 1.5m FRONT YARD	6 1.5	6 1.5	- -
5.4.2e)	MIN. INTERIOR SIDE YARD	1.2	3	MIN. 3
5.4.2f)	MIN. REAR YARD: i) ATTACHED GARAGE ii) DETACHED GARAGE ACCESSED VIA A REAR LANE INCLUDING HALF OF THE LANE PROPOSED SITE SPECIFIC PROVISION WHERE THE SIDE ELEVATION OF A BLOCK TOWNHOUSE OR SEMI-DETACHED HOUSE FACES THE REAR YARD	7.5 13	7.5 7.5	- -
5.4.2g)	MIN. SEPARATION BETWEEN TOWNHOUSE DWELLINGS	2	2	3
5.4.2h)	MAX. BLDG. HEIGHT	11 [B-2-2011]	11 [B-2-2011]	MAX. 13
5.4.3	Setback from Mutual Side Lot Line Notwithstanding the required side yard, on a mutual side lot line separating two (2) attached townhouse units, no interior side yard is required where the walls are joined, where the walls are not joined, a 1.2 metre side yard shall be required.	1.2	1.2	MIN. 1.2
5.4.4	Maximum Units in a Townhouse Dwelling. No more than eight (8) dwelling units shall be located in a townhouse dwelling.	8 UNITS	8 UNITS	5 UNITS

COORD. IV ZONING BY-LAW FOR ALL OTHER ZONING REQ.'S

PARKING REQ.D RESIDENTIAL (R4)			
PROVISION	NUMBER OF PARKING SPACES	REQUIRED	PROVIDED
4.9a)	SINGLE DETACHED, SEMI-DETACHED, DUPLEX, TRI-PLEX, FOUR-PLEX, TOWNHOUSE DWELLINGS & VACATION HOME [B-2-2011]: 2 SPACES / DWELLING UNIT 2 SPACES x 30 DWELLING UNITS =	76	76 SPACE(S)
	2 SPACES x 30 DWELLING UNITS =	76	82 SPACE(S)

PARKING REQ.D RESIDENTIAL - VISITOR:			
4.9f)	VISITOR PARKING: 1 SPACE / 3 DWELLING UNITS 1 SPACE x (30 / 3) =	10 SPACE(S)	10 SPACE(S)

PARKING REQ.D RESIDENTIAL - TOTAL:			
TOTAL		84 SPACE(S)	95 SPACE(S)

PARKING REQ.D RESIDENTIAL - BARRIER FREE (PART OF REQ.D PARKING)			
4.3.3	BARRIER FREE PARKING REQ.D: 1-25 PARKING SPACES =		
	TYPE 'A' (3.4m WIDE) PLUS 1.5m AISLE	1 SPACE(S)	1 SPACE(S)
	TYPE 'B' (2.4m WIDE) PLUS 1.5m AISLE	0 SPACE(S)	0 SPACE(S)

4.0 OFF STREET PARKING PARKING SPACE DIMENSIONS			
4.1	PARKING SPACE DIMENSIONS		
4.1.3a)	WIDTH OF PARKING SPACE FOR VEHICLES PARKED SIDE BY SIDE	3 MIN.	3
	FOR VEHICLES PARKED WITH WALL OR FENCE ADJ.	3.3 MIN.	3.3
4.1.3b)	DEPTH OF PARKING SPACE FOR 90 DEGREE PARKING	5.0 MIN.	5.0
	FOR PARALLEL PARKING	7 MIN.	7
4.1.4	PARKING AISLE REQ.'S		
4.1.4b)	TWO-WAY TRAFFIC	7.3 MIN.	7.3 MIN.

4.2 LOCATION OF PARKING ON A LOT			
4.2.3	4.2.3 Residential Parking Area For Urban Residential Type 1 to 4 Zones (R1 to R4), the following shall apply: a) within a front yard or exterior side yard, motor vehicles shall only be parked on a driveway, in a parking space or private garage [7-2-2018]; b) not more than one (1) required parking space may be located within the required front yard or required exterior side yard [7-2-2018]; c) vehicles shall not be parked within any landscape area [7-2-2018].		

4.2.4 Other Provisions			
4.2.4	4.2.4 Other Provisions a) For tri-plex dwellings, duplex dwellings, four-plex dwellings, street townhouses, stacked townhouses, and boarding or lodging houses, required parking spaces shall be prohibited within the required front yard or required exterior side yard, except where a dwelling unit has a private garage in which case the driveway leading to the private garage may be used as a parking space subject to the size requirements herein; b) For group townhouses and apartment dwellings, no parking lot shall be located closer than 3 metres from any dwelling on the lot or of any interior lot line abutting another residential zone; c) For group townhouses and apartment dwellings, no parking lot or parking space shall be located between a dwelling and the street line, except for individual or tandem parking spaces leading directly to each townhouse dwelling unit; d) For commercial or industrial properties, no parking lot shall be located closer than 4.5 metres from any interior lot line abutting a residential zone; e) For accessory residential dwelling units, notwithstanding the foregoing, one (1) parking space dedicated for the use of the accessory residential dwelling unit, may be permitted in the front yard provided a minimum of 50 percent of the required front yard shall be maintained as landscaped open space notwithstanding such dedicated parking space.		

LANDSCAPED AREA	
2.01	"LANDSCAPE AREA" shall mean an area of land comprised of trees, shrubs, flowers, grass or other horticultural elements. Landscaping may include pervious paths, patios, walkways, or elements designed to enhance the visual amenity of a property but does not include open storage display areas, parking or loading areas, or areas covered by driveways. [B-2-2018]
4.2.5	4.2.5 Parking and Landscape Area [7-2-2018] Within Urban Residential Type 1 to 4 Zones (R1 to R4), the following shall apply: a) A minimum of 50 percent of the front yard shall be maintained as landscape area. b) In the case of a corner lot, a minimum of 50 percent of each of the front yard and exterior side yard shall be maintained as landscape area.



HFW Holdings Limited

Planning Justification Report
Official Plan & Zoning Amendment

Project #22-013

May 30, 2023



vallee

*Consulting Engineers,
Architects & Planners*

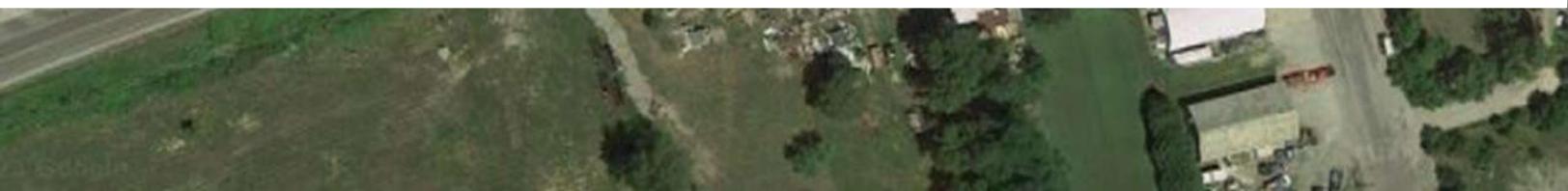


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Referenced Documents

- Legal Survey (Jewitt & Dixon Ltd.)
- Environmental Impact Study (Pinchin Ltd.)
- Stage 1 Archaeological Assessment (Earthworks Archaeological Services Inc.)
- Functional Servicing & Stormwater Management Report (G. Douglas Vallee Ltd.)
- General Plan of Services (G. Douglas Vallee Ltd.)
- Traffic Impact Study (Paradigm Transportation Solutions Ltd.)

Introduction

G. Douglas Vallee Limited has been retained by HFW Holdings Limited to prepare a Planning Justification Report in support of an application for Official Plan Amendment and Zoning By-Law amendment for a property located on the north west corner of Queensway West and Hunt Street North in Simcoe, Ontario.

The intent of the Official Plan and Zoning By-Law amendments is to permit a development consisting of 38 low-rise medium density group townhomes, as well as a six-storey mixed use building that includes approximately 114 dwelling units (studio, one and two-bedroom) alongside approximately 2,714 square metres of commercial space. The development provides a variety of housing options within a vibrant community to attract new residents while retaining existing residents within Norfolk County. With the introduction of complementary commercial space, the development enhances and supports residents with much needed services in an accessible form.

The proposed mid-rise building will be similar in height to existing developments located adjacent to the Queensway corridor, including those along Cedar Street and Mill Pond Court. The conceptual site and building designs have been developed to be sympathetic to the surrounding context, by employing strategies of terracing and gradual transition to adjacent residential uses.

The Official Plan and Zoning By-Law amendments proposed by this application assume delineation between two parcels that are intended to be created through a subsequent re-organization of the existing lot fabric, herein described as the 'Northern Parcel' and the 'Southern Parcel'. The proponents' intent is to coordinate subsequent site plan and building permit applications to ensure a cohesive and complementary community feel across both parcels.

Site Description

The subject lands are 2.89 hectares in area, located within the urban area of Simcoe and within the existing built boundary, adjacent to the intersection of Queensway West and Hunt Street North in Simcoe, Ontario. Presently encompassing separate parcels known municipally as 395, 401, 403, 405 and 411 Queensway West, the full legal description of the cumulative lands is “*all of Lot 35, 36, 38, 39, 40, 41, 42, 43 & 44 on Block 9, Registered Plan 182 in the Town of Simcoe and Part of Lot 2, Concession 14 in the Geographic Township of Windham, Norfolk County*”.

The cumulative lands presently house multiple uses as tenants of the proponent, including a single detached dwelling, Wilson Truck & Trailer service and repair shop, as well as a two-storey office building utilized by the Brant Haldimand Norfolk branch of the Canadian Mental Health Association. The majority of the lands presently known as 395 and 401 Queensway West encompass asphalt and gravel areas uses exclusively for parking and storage of vehicles and tractor trailers.

The north westerly perimeter of the subject lands borders a nearby Provincially Significant Wetland known as Patterson Creek. The northern portion of the lands presently known as 411 Queensway West include a wooded area populated by a former resident with primarily non-native trees.



Figure 1 Aerial view of subject lands

Proposed Development & Amendments

The purpose and intent of this planning justification report is to provide background information and support to Norfolk County staff and agencies, in consideration of the applications for Official Plan and Zoning By-Law amendments, to permit a mix of residential and commercial uses on the subject lands.

As shown in Appendix A and Figure 3, the proposed development includes the introduction of a variety of residential and commercial uses, including:

- 6-Storey Mixed Use Mid-Rise Building
 - o Approx. 114 studio, one and two-bedroom apartment units on floors 2 through 6
 - o Underground parkade featuring 166 parking spaces for exclusive use of the residential apartments
 - o Approx. 2,714 sq m of commercial space on the ground floor
 - o Surface parking areas featuring 136 parking spaces for visitor and commercial parking
- Low-Rise Dwellings
 - o 38 three-storey group townhouse dwelling units with outdoor rooftop amenity space
 - o 6 two-storey semi-detached dwelling units

As shown in the Concept Plan included in Appendix A and in Figure 4, the proposal entails the re-organization of the existing parcels into two parts herein referred to as the 'Southern Parcel' and the 'Northern Parcel'. The delineation of the proposed parcels is intended to provide opportunity for independent ownership of the mixed-use building and surrounding grounds, separate from the low-rise townhomes. The proponent has engaged with experienced and qualified legal representation to structure suitable plans of condominium for each parcel accordingly, alongside access and servicing easements as required to facilitate the sharing of access lanes, fire routes, and stormwater management.



Figure 3 Artist's concept of proposed development

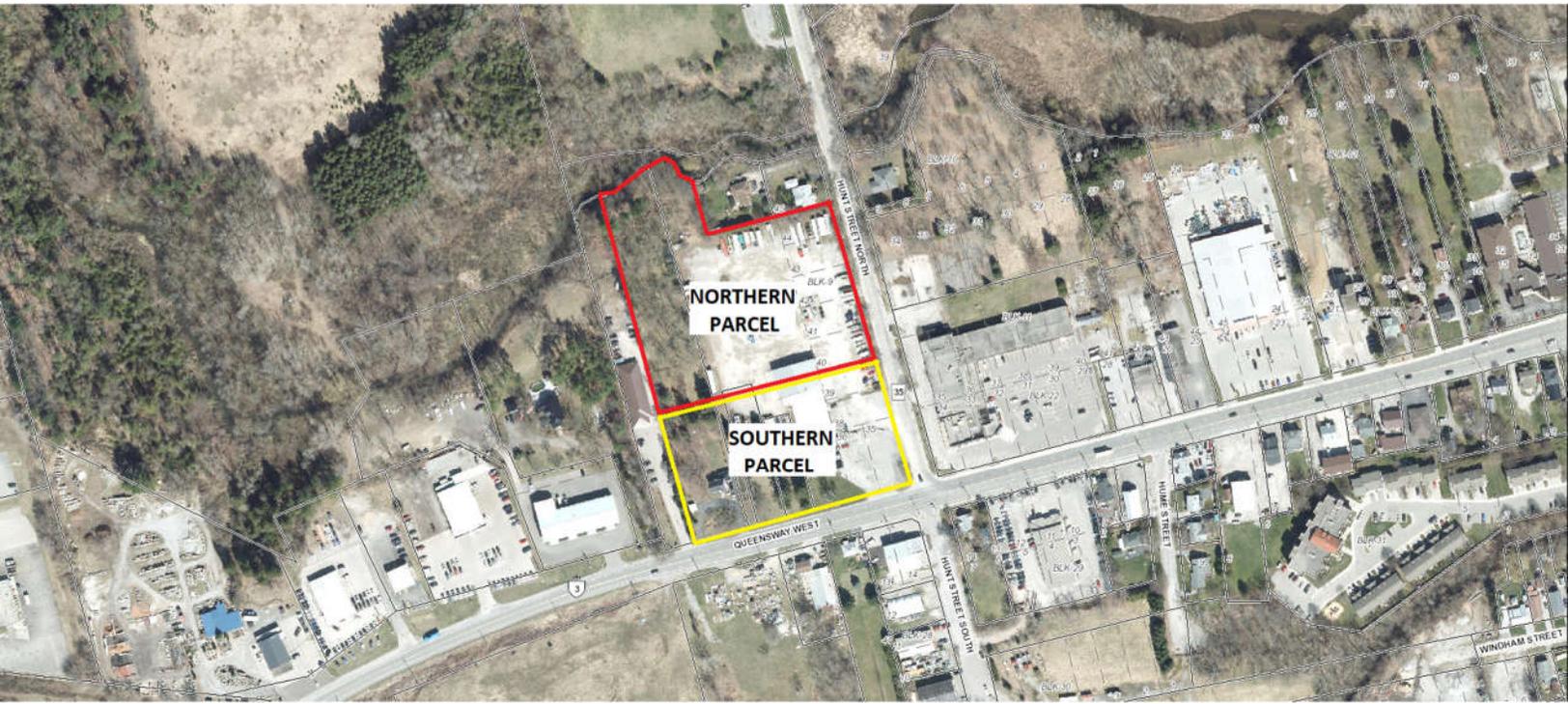


Figure 4 Delineation of proposed parcels subject to future application for severance

Official Plan Amendments

The subject lands are presently designated Commercial, with a small portion of the north westerly corner of the lands designated as Provincially Significant Wetland, in accordance with the Norfolk County Official Plan. The lands fall within the Queensway Corridor Special Policy Area outlined in Section 6.5.1.5 of the Official Plan.

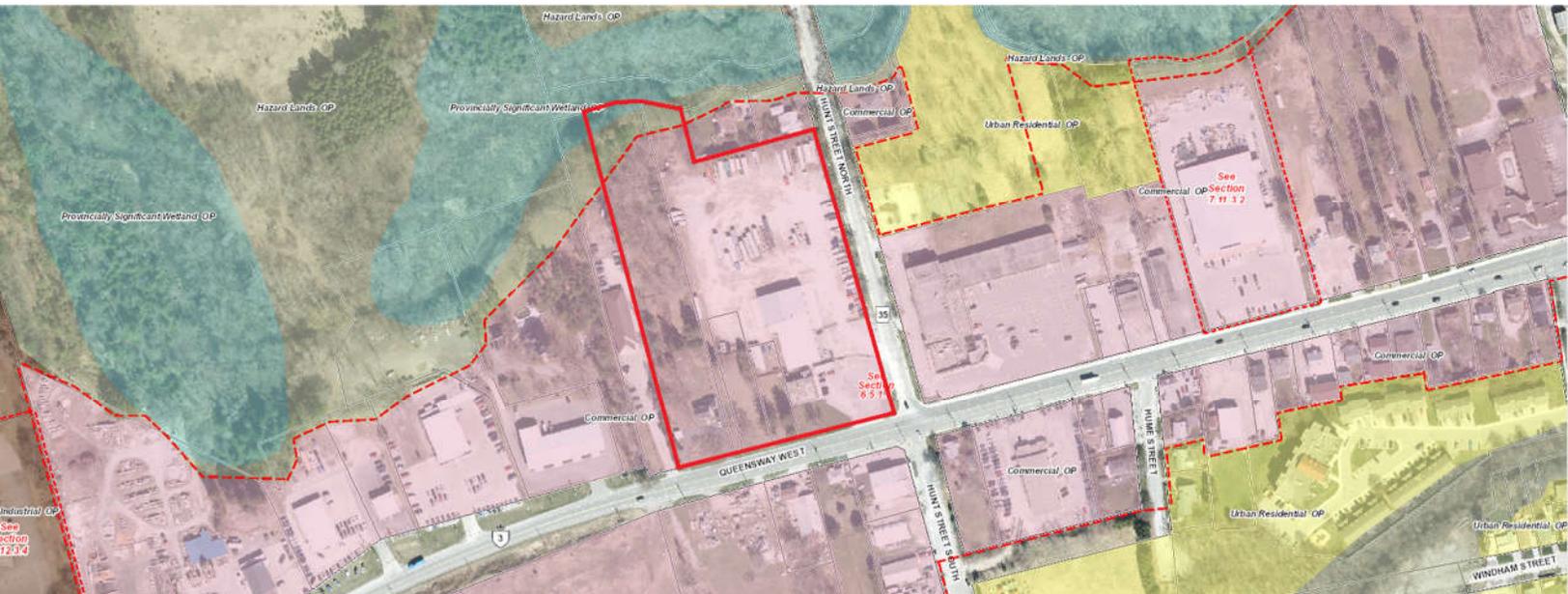


Figure 4 Existing Official Plan designation

The following amendments are sought as part of the application for Official Plan Amendment for both the southern and northern proposed parcels:

SOUTHERN PARCEL

Section	Description
7.11	COMMERCIAL DESIGNATION – to remain
7.11.1	<p>Proposed Special Provisions</p> <p>Expand site specific permitted uses within the existing Commercial designation to include retail stores, business and personal services, specialty food stores, public and private institutions, college or trade schools, drug stores and professional offices of all kinds.</p> <p>Define that a building shall be deemed of ‘commercial character’ provided the entirety of the ground floor is dedicated to commercial uses, save and except space dedicated exclusively as a lobby entrance or for access to upper floor levels. Additionally, define that the planned function of the commercial areas is not negatively impacted by residential uses given that the design of the entrances and interior circulation spaces are kept isolated and distinct from commercial spaces, and that sufficient dedicated off-street parking is provided for both residential and commercial uses.</p>

NORTHERN PARCEL

Section	Description
7.7	Change to URBAN RESIDENTIAL DESIGNATION (no special provisions)

Zoning Amendments

The subject lands are presently zoned Service Commercial (CS).



Figure 5 Existing zoning

The following amendments are sought as part of the application for Zoning By-Law Amendment:

SOUTHERN PARCEL

Section	Description	Required Provision	Proposed Provision
6.3	SERVICE COMMERCIAL ZONE (CS) – to remain		
6.3.1	Additional Permitted Uses to be added <ul style="list-style-type: none"> dwelling units in a commercial building (multiple) boutique college or trade school delicatessen and specialty food stores office accessory to a shopping centre operation retail store 		
6.3.2 h)	Proposed site-specific special provision Maximum Building Height	11m	30m or Six (6) stories
4.9 b)	Proposed site-specific special provision Apartment Dwelling (studio)	1.5 spaces per dwelling unit	1.25 spaces per studio dwelling unit

4.9 uu)	<p>Proposed site-specific special provision All Non-Residential Uses <i>Blanket provision to apply to all commercial uses in spite of final tenanc(ies)</i></p>	-	1 space per 35m ² useable floor area
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NORTHERN PARCEL

Section	Description	Required Provision	Proposed Provision
2.88	<p>Definition of “Lot” (<i>existing provision</i>): “LOT” shall mean a parcel of land which can be legally conveyed. Where two (2) adjoining lots are in common ownership and a main building straddles the lots, the two (2) lots are deemed to be one (1) lot for the purposes of establishing interior side yards.</p> <p>Proposed site-specific special provision In lieu of Section 2.88, the definition of a “lot” shall not apply to the individual condominium units. The “lot” shall be defined as the parcel of land consisting of the entire condominium corporation block.</p> <p>Rationale: The Norfolk County Zoning By-law provisions regarding the definition of a “lot” are unclear in their application to a condominium development. The inclusion of this provision will clearly define the “lot” and corresponding yard provisions. It will enhance the ability to interpret and apply the zoning by-law at the Site Plan approvals stage.</p>	-	-
3.11.2	<p>Frontage on a Street (<i>existing provision</i>): For the purposes of this Subsection, a private condominium road servicing a condominium development shall be deemed to be an open, constructed and year-round improved street.</p> <p>Proposed site-specific special provision In lieu of Section 3.11.2, the private condominium road shall not be deemed an improved street.</p> <p>Rationale: With reference to Section 2.88 above, the inclusion of this provision will clearly define the required yard and corresponding setback provisions for the entire condominium block. This will enhance the ability to interpret and apply the appropriate zoning by-law provisions for individual condominium units, which will assist staff and residents when considering potential future additions such as decks.</p>	-	-

5.4	Change to URBAN RESIDENTIAL TYPE 4 ZONE (R4)		
5.4.2 f)	Proposed site-specific special provision Minimum Rear Yard (attached garage) <i>Where the side elevation of a block townhouse or semi-detached house faces the rear yard</i>	7.5m	Min. 3m
5.4.2 h)	Proposed site-specific special provision Maximum Building Height	11m	Max. 13m

Supporting Studies

Required studies identified through the pre-consultation process with Norfolk County staff have been completed and are enclosed in support of the proposed development. These studies are summarized as follows:

Proposed Site Plan (prepared by G. Douglas Vallee Ltd.)

Planning Justification Report (prepared by G. Douglas Vallee Ltd.)

Environmental Impact Study (prepared by Pinchin Ltd.)

Stage 1 Archaeological Assessment (prepared by Earthworks Archaeological Services Inc.)

Functional Servicing & Stormwater Management Report (prepared by G. Douglas Vallee Ltd.)

General Plan of Services (prepared by G. Douglas Vallee Ltd.)

Traffic Impact Study (Paradigm Transportation Solutions Ltd.)

This application was submitted to include the information and material required under Section 22 (4) 'Official Plan', Section 34 (10.1) 'Zoning', and Section 51 (19) of the Planning Act as part of a complete application.

Policy Context

Planning Act

The Planning Act provides the legislative framework for land use planning in Ontario. The applicable sections of the Planning Act that apply to this application are as follows:

- Section 2 Lists matters of provincial interest, including:
 - (h) the orderly development of safe and healthy communities;
 - (j) the adequate provision of a full range of housing, including affordable housing;
 - (k) the adequate provision of employment opportunities;
 - (o) the protection of public health and safety;
 - (p) the appropriate location of growth and development;
 - (q) the promotion of development that is designed to be sustainable, to support public transit and to be oriented to pedestrians;
 - (r) the promotion of built form that,
 - (i) is well-designed,
 - (ii) encourages a sense of place, and
 - (iii) provides for public spaces that are of high quality, safe, accessible, attractive and vibrant
- Section 3 Requires that, in exercising any authority that affects a planning matter, planning authorities “shall be consistent with the policy statements” issued under the Act and “shall conform with the provincial plans that are in effect on that date, or shall not conflict with them, as the case may be”.
- Section 21 (1) Allows for amendments to the Official Plan.
- Section 34 Allows for amendments to the Zoning By-Law.

The proposed Official Plan and Zoning Amendment applications align with the framework and interests of the Planning Act by providing a range of housing and employment opportunities within an existing site already in close proximity to local amenities and transportation networks. By enhancing pedestrian access through and adjacent to the site and the introduction of neighbourhood infrastructure, the proposed development supports the protection of public health & safety oriented to pedestrians. The proposed built forms have been developed to complement the surrounding context using terracing strategies, and incorporate spaces accessible to the public that are ‘of high quality, safe, accessible, attractive and vibrant’.

Provincial Policy Statement

The Provincial Policy Statement, 2020 (PPS) provides policy direction for appropriate land use planning and development patterns to ‘achieve healthy, livable, and resilient communities that will protect resources of provincial interest, public health and safety, and the quality of the natural and built environment and will facilitate economic growth’.

The PPS recognizes the diversity of Ontario, and that local context is important. Under the ‘Geographic Scale of Policies’, the PPS states:

“Policies are outcome-oriented, and some policies provide flexibility in their implementation provided that provincial interests are upheld.

While the Provincial Policy Statement is to be read as a whole, not all policies will be applicable to every site, feature or area. The Provincial Policy Statement applies at a range of geographic scales.

Some of the policies refer to specific areas or features and can only be applied where these features or areas exist. Other policies refer to planning objectives that need to be considered in the context of the municipality or planning area as a whole and are not necessarily applicable to a specific site or development proposal.”

The subject lands are within a Settlement Area as defined by the PPS. The proposed development is consistent with the messaging of the PPS, which encourages planning authorities to consider infilling, redevelopment and intensification in a compact form in areas that support active transportation and can take advantage of existing infrastructure.

Full details describing the applicable Provincial policies and how the application is consistent with the PPS are included in Appendix B.

Norfolk County Official Plan

The Norfolk County Official Plan outlines a strategic vision for the County based on six key pillars:

- A stronger, more diversified economy;
- Protecting and improving the natural habitat;
- Maintaining and enhancing the rural and small-town character;
- Maintaining a high quality of life,
- Upgrading and expanding crucial infrastructure;
- A well governed, well planned and sustainable County.

The proposed Official Plan and Zoning By-law amendments meet the goals and objectives identified under these pillars as demonstrated in Appendix C.

The proposed development is intended to serve as a community hub, providing an innovative form of development that will include a variety of much needed residential units in a compact form. It seeks to revitalize lands that are presently underutilized into a vibrant community of complementary residential and commercial uses. It is also located within the Queensway Corridor Special Policy Area, which recognizes the potential for ‘highway commercial’ uses that aim to offer services that complement – or are otherwise impractical for – the Downtown Area. With ample opportunities for surface parking, the proposed development supports the auto-oriented nature of the intended commercial activities within the area.

As a modern and varied development concept, the proposed development will serve to attract new residents to Norfolk County while encouraging existing residents to remain, thereby supporting the long-term economic vitality of the community and local businesses.

The proponent has fostered a positive rapport with the Canadian Mental Health Association, and will seek to maintain their tenancy within the proposed building. Complementary health, wellness and service-based uses will also be targeted by the proponent for the remaining commercial spaces.

Land Use

The existing Official Plan designation of Commercial OP is to remain for the southern parcel, however the application seeks to provide site-specific provisions to accommodate a high-density residential component within a building of commercial character. Residential dwelling units will be located exclusively above the ground floor, with a dedicated and separate lobby entrance and elevator access. The underground parkade will be used for exclusive use of the residential inhabitants, and is isolated from all commercial uses. The proposed mid-rise building has been designed to leverage opportunities for terracing of building mass. Upper floors have been stepped back from lower floors accordingly, and the building has been sited to provide maximum buffer to the proposed low-rise dwellings to the north.

The application for Official Plan amendment seeks to change the designation of the northern parcel from Commercial OP to Urban Residential OP to permit medium density residential uses in the form of block townhouse dwellings. As noted in Appendix C, the net density of the proposed development within the Northern Parcel equates to 22 uph, which is consistent with the Urban Residential land use policies within the Official Plan. The density, height and overall character of the dwellings proposed for the Northern Parcel have been designed to provide a progressive transition from the existing single-detached dwellings to the north.

Residential Intensification

The proposed development represents an opportunity for intensification of an infill site. By including a diverse range of housing styles, the proposed concept supports the County's goals related to high and medium density residential development.

Section 5.3.1 of the Official Plan discusses Residential Intensification. This section states that residential intensification includes:

“Redevelopment which includes either the replacement of existing residential uses with compatible new residential developments at a high density or the replacement of non-residential uses with compatible residential or mixed-use development with a residential component.”

“The County shall target that a minimum 25 percent of its annual residential growth be accommodated through infill, intensification and redevelopment within the existing built-up areas in the Urban Areas...”

“The County shall consider applications for infill development, intensification and redevelopment of sites and building through intensification...”

The proposed development is consistent with the objectives of the Official Plan related to residential intensification, by replacing a non-residential use with a compatible mixed-use developing with residential component.

Redevelopment of Underutilized Lands

The subject lands represent an underutilized site with the potential to be repurposed into a vibrant and connected community of complementary residential and commercial uses.

Remediation of Brownfield Condition

As a result of the change in land use, the existing contamination and sources of potential contamination associated with the current industrial use will be remediated in accordance with the Environmental Protection Act and the Official Plan.

Record(s) of Site Condition will be prepared in support of the proposed sensitive land use prior to a site plan agreement and building permit application in accordance with the pre-consultation minutes provided by Norfolk County.

Natural Heritage

The proposed development respects and preserves the integrity and function of the adjacent Provincially Significant Wetland. The proponent has engaged a qualified and experienced sub-consultant for the preparation of an Environmental Impact Study which speaks to the preservation of natural heritage features. The proponent is committed to implementing recommendations that will respect the habitat(s) of any identified endangered or threatened species in accordance with Provincial and Federal legislation. The proponent has also actively engaged with the Long Point Regional Conservation Authority as part of the preliminary site investigation to ensure that the development respects applicable environmental hazards and to ensure compliance with technical guidelines and directives.

The proponent has engaged a qualified and experienced consultant for the remediation and correction of existing identified sources of pollution and contaminated soil.

Source Water Protection

The proposed development is located adjacent to municipal wells located south of the intersection of Cedar Street and Queensway West. While Schedule D-4 of the Official Plan does not include any source water protection concerns, the current GIS mapping provided by Norfolk County demonstrates that the subject lands fall within WHPAs B and C in relation to those wells. The proponent acknowledges that wellhead and source water protection may be considered as part of the applications for Official Plan and Zoning By-law amendment.

The proposed development will serve to eliminate existing threats to drinking water associated with the existing industrial use. The proponent has engaged a qualified and experienced sub-consultant to complete a Phase I and II Environmental Assessment of the subject lands, and to consult on the remediation of the brownfield condition.

Following the remediation of the existing contamination, the proponent will seek to demonstrate, to the satisfaction of the County's Risk Management Official, that the proposed development does not pose any risks to drinking water.

Maintaining Healthy Communities

The proposed development seeks to provide a variety of housing forms that will be offered at a range of price points to meet the needs of a diverse demographic. Concurrently, it seeks to enhance the streetscape along a key corridor to the community of Simcoe by introducing modern and aesthetically pleasing architectural design.

In accordance with the goals of the Official Plan related to accessibility, the mid-rise building and surrounding site amenities will provide a barrier free path of travel to and throughout all commercial spaces and common areas within the residential spaces. A minimum of 15% of the residential units within the mid-rise will also provide barrier free access in accordance with the Ontario Building Code. As a result, the proposed development will offer suitable housing options for seniors and those with disabilities while supporting and enhancing their access to local amenities and services.

Pedestrian linkages are proposed through and around the site to enhance walkable connectivity and outdoor leisure. The subject lands are adjacent to existing outdoor amenities, like the Don Shay Memorial Dog Park and the Sutton Conservation Area.

Transportation

Located at the intersection of an existing connecting link (Queensway West) and an arterial road (Hunt Street North), the proposed development has direct access to existing transportation networks. An existing Ride Norfolk transit route is directly adjacent to the subject lands, providing accessible and service animal friendly access to surrounding communities for future residents.

With enhanced connections to pedestrian sidewalks, the proposed development will also serve to support greater walkable connectivity to and around the subject lands.

In support of the proposed development, the proponent has engaged a qualified and experienced sub-consultant for the preparation of a Traffic Impact Study, which concluded that there are no concerns related to the anticipated levels of traffic from the proposed development through to 2035.

Networks and Infrastructure

The subject lands are adjacent to existing municipal services that are anticipated to be capable of accommodating the needs of the proposed development. The existing infrastructure will be reviewed by Norfolk County's consultant (RV Anderson Associates) in consideration of the connections proposed to service this development and in light of the Functional Servicing Report prepared by G. Douglas Vallee Limited. The proposed infrastructure will be designed and constructed in accordance with Norfolk County's requirements and will be subject to Norfolk County's approval through the site plan process.

Official Plan Amendments

Section 9.6.1 of the Official Plan sets out the process and requirements for amendments to the plan:

Policy	Compliance	
a) Applications to amend the plan shall include a planning rationale report including the proposed use	These items are all addressed in this report.	✓
b) Any specific Official Plan amendment procedures outlined in the policies of this Plan shall apply.	The application process will follow the policies of the NCOP	✓
c) The County shall consider the following criteria when reviewing applications to amend this plan: i) The manner in which the proposed amendment conforms to the PPS	This is addressed in this report.	✓
ii) The manner in which the proposed amendment conforms to the Strategic Plan prepared in support of this application.	Norfolk County does not currently have a strategic plan in place.	✓
iii) The manner in which the proposed amendment conforms to the Goals, Objectives and policies of this plan.	This is addressed in Appendix C.	✓
iv) The impacts of the proposed amendment on the provision of and demand for municipal services, infrastructure and facilities.	This is addressed by the Functional Servicing Report.	✓
v) The adequacy of the proposed servicing solution with respect to the servicing policies of this plan.	This is addressed by the Functional Servicing Report.	✓
vi) The impact of the proposed amendment on surrounding land use, the transportation system, municipal services and community amenities and services	This is addressed through the comments in this report on compatibility, the Traffic Impact Study and the Functional Servicing Report.	✓
vii) The impact of the proposed amendment on the community structure and nature of the Urban Areas.	This is addressed in the Urban Design Report.	✓
viii) The impact of the proposed amendment on cultural heritage resources and or Natural Heritage Features.	This is addressed in the Urban Design Report.	✓
ix) The impact on agricultural uses and land	The site is not on agricultural land.	✓
x) The impact of the proposed amendment on the financial sustainability of the County	The development will generate significant development charges and will increase the tax base for Norfolk County.	✓
xi) Any other information determined by the County, in consultation with the appropriate agencies, to be relevant and applicable.	All items identified in the pre-consultation meeting have been addressed in this document.	✓

In summary, the proposed Official Plan and Zoning By-Law amendments meet the goals, objectives and policies as outlined in the Official Plan. The development concept represents an appropriate land use considering the size of the property, proximity to existing residential and commercial uses, availability of servicing, and the provision of buffering and landscaping. Accordingly, the proposed applications meet the intent and purpose of the Official Plan and represent good planning.

A decision of the Council to approve the proposed Official Plan amendments as proposed is appropriate.

Norfolk County Zoning By-Law

The subject lands are presently zoned Service Commercial (CS). An existing special provision (14.627) also applies, which states that in addition to the uses permitted in the CS Zone, office, all types, within the existing buildings shall be permitted.

While the existing zoning designation is suitable and appropriate for the proposed southern parcel, the application seeks to change the zoning of the northern parcel from Service Commercial (CS) to Urban Residential (R4). Additionally, special provisions as outlined previously herein seek to provide site-specific modifications to the typical provisions of both the Service Commercial (CS) and Urban Residential (R4) zones to permit the proposed development.

Servicing

The servicing and stormwater approaches are addressed in the enclosed Functional Servicing and Stormwater Management Report (FSR). That report demonstrates that the site can be serviced with sanitary sewers, watermains, storm sewers and stormwater management.



Figure 6 Existing municipal services

Conclusion

The proposed Official Plan & Zoning By-Law amendments are consistent with the policies of the Provincial Policy Statement and the Norfolk County Official Plan. The proposed development will provide a variety of compact and efficient housing forms that will cater to a diverse range of price points, ages and abilities. It will also provide valuable and diverse commercial space to support and enhance the economic vitality of Simcoe.

Through redevelopment of an existing underutilized infill site, the proposed development leverages the opportunities of the subject lands while respecting the commercial nature of the Queensway Corridor Special Policy Area. By replacing existing industrial uses with residential and commercial uses, existing and potential sources of contamination will be eliminated and remediated consistent with the objectives outlined in the Official Plan related to the preservation of natural heritage features and source water protection.

The **Functional Servicing Report** confirms that the site can be fully serviced with sanitary sewers, watermains and stormwater management. As is required for all developments in Norfolk County, sanitary and watermain network modelling is required to confirm system capacities.

The **Traffic Impact Study** confirms that the existing road network can support the anticipated traffic from this proposed development.

The analysis of this application is supportive. The proposed application is consistent with Provincial and County planning policies. Accordingly, it is our opinion that the applications:

- model good planning;
- facilitate a development with the most appropriate land use; and
- ensure efficiency and compatibility with the surrounding land uses.

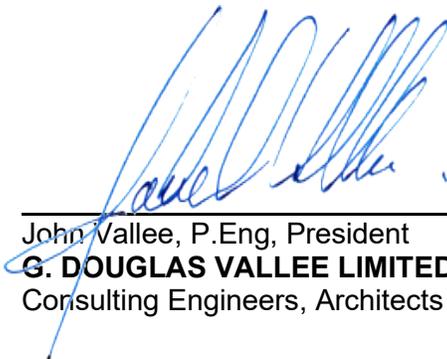
As such, it is requested that Norfolk County approve the applications to amend the Official Plan and Zoning By-law to permit the development as presented.

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I hereby certify that this plan/report was prepared by a Registered Professional Planner, within the meaning of the Ontario Professional Planners Institute Act, 1994.

May 30, 2023
Date



Ruchika Angrish
Registered Professional Planner



FINAL

Environmental Impact Study

395-411 Queensway West, Simcoe, Ontario

Prepared for:

HFW Holdings Ltd.

3 Fernwood Court
Richmond Hill, ON, L4B 3C2

Attn: Gary Brasenell, Land Developer

June 12, 2023

Pinchin File: 314481



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1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by HFW Holdings Ltd. (Client) to complete an Environmental Impact Study (EIS) to assess the natural heritage features on the subject property located at 395-411 Queensway West, Simcoe, Ontario (Site). The location of the Site with general surrounding area is shown on Figure 1 in **Appendix A**. A Pre-consultation completed with the Norfolk County and the Long Point Region Conservation Authority (LPRCA) identified the need for a Scoped EIS for the Official Plan and Zoning By-law Amendment (OPA/ZBA) and Site Plan Application (SPA) for the proposed mixed-use development. Subsequently, a scoping exercise was completed with LPRCA's planning staff for the scope of this EIS.

The Site is a 2.86-hectare parcel of land currently developed with a commercial truck and trailer business. Natural heritage features include woodlands, a watercourse namely Patterson Creek, and a Provincially Significant Wetland (PSW) namely LR-13 Wetland Complex at the rear of the Site, regulated by the LPRCA. The Client proposes to develop the Site into a mixed-use, multi-unit condominium development with associated amenities. The Site and its immediate surrounding environment of 120 metre (m), as the identified Study Area for this Scoped EIS, can be seen on Figure 2 in **Appendix A**. The Scoped EIS will be required as part of the approval requirements by the County and LPRCA for the proposed mixed-use development.

This EIS report was prepared to: identify key natural heritage features present on or immediately adjacent to the Site and characterize their ecological functions; evaluate the environmental effects of the development proposal that might reasonably be expected to have an impact on the natural features; and provide recommendations of mitigation measures to avoid or minimize the potential impacts. The Scoped EIS report was prepared in general accordance with the Norfolk County Official Plan (2022) and LPRCA's Policies for the Administration of Ontario Regulation 178/06 (2017).

2.0 POLICY CONTEXT

The following provincial, regional, and municipal legislation and policies were reviewed prior to an assessment of the vegetation patches of the Site and adjacent area was undertaken:

- Provincial Policy Statement (2020);
- Norfolk County Official Plan (2022); and
- Ontario Regulation 178/06 (2017)

The sections below provide a summary of the above legislation and policies applicable to natural environment for the development planning of the Site.



2.1 Provincial Policy Statement

The Provincial Policy Statement (PPS) 2020 sets a policy foundation for regulating development and land use. It sets out guidelines for development while protecting resources of interest to the province, public health and safety and the quality of the natural environment (Ministry of Municipal Affairs and Housing, 2020). The PPS does support development and improved land use for planning, management, and growth, but it does so in ways to enhance communities through efficient land use and environmental management and protection.

2.2 Norfolk County Official Plan

Schedule B-15 of the Norfolk County Official Plan designates the Site as “Hazard Lands”, “Provincially Significant Wetland”, and “Queensway Corridor Special Policy Area” as seen in **Appendix B**. The Queensway Corridor is to be an area of auto-oriented commercial activities providing highway commercial uses for the residents of Simcoe and the surrounding areas. Hazard Lands are lands that have inherent environmental hazards such as flood susceptibility, erosion susceptibility, instability and other physical conditions which are severe enough, if developed on, to pose a risk to occupants of loss of life, property damage and social disruption. Development is not permitted in these areas unless it is proven that the use will not pose additional risk to life or property and the requirements of the appropriate conservation authority are met.

Additionally, schedule C-4 designates the following natural heritage features on the Site: “Provincially Significant Wetland”, “Significant Woodland”, and “Adjacent Land”. Development and site alteration shall not be permitted in a Provincially Significant Feature unless in accordance with provincial and federal requirements. Development is not permitted within 120 m of a Provincially Significant Wetland, or 10 m of the dripline of a Significant Woodland unless an EIS demonstrates that there will be no negative impacts on the natural features and their sustaining ecological and hydrological functions (Norfolk County, 2022). As a result of the natural heritage features present on the Site, a Scoped EIS was completed to assess the vegetation patches on the Site, with the results presented in Section 4.0 below.

2.3 Ontario Regulation 178/06

Pursuant to the *Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*, any development in or on areas defined in the regulation area (e.g., river or stream valleys, hazardous land, wetlands) requires permission from the Long Point Region Conservation Authority under Ontario Regulation 178/06 (Government of Ontario, 2013). LPRCA may grant permission for development in or on these areas if the control of flooding, erosion, dynamic beaches, pollution, or the conservation of land will not be affected by the development.

The Regulation also states that it is prohibited to straighten, change, divert or interfere in any way the existing channel of a river, creek, stream, or watercourse or change or interfere in any way with the wetland without the permission from the LPRCA.

Patterson Creek and the PSW (i.e. LR-13 Wetland Complex) encroaching at the rear of the Site and extending further north across the creek are regulated by LPRCA.

3.0 STUDY METHODOLOGY

3.1 Background Review and Agency Consultation

A desktop background review of available information sources relating to the Study Area was conducted prior to a site reconnaissance. Included in the review were natural heritage features present on the Site and in the surrounding area, historical species occurrences available from the Ministry of Northern Development, Mines, Natural Resources and Forestry's (NDMNR) Natural Heritage Information Centre (NHIC), existing wildlife data records, Species of Conservation Concern lists and other relevant information. Information and documents available from the Client including site history and Site Plan were also reviewed for this Site. Applicable policies and guidelines including the Norfolk County Official Plans and LPRCA's Policies for the Administration of Ontario Regulation 178/06 were reviewed. These documents reference the NDMNR's Natural Heritage Reference Manual (NDMNR, 2010) and the PPS which were both reviewed for this report.

As mentioned above, a Pre-consultation and a subsequent EIS scoping were completed with relevant planning staff from the Norfolk County and LPRCA prior to the completion of this EIS report. The EIS report is completed for the OPA/ZBA application stage, with an update to it planned for the SPA application stage with additional vegetation surveys, breeding bird surveys, and snake surveys approved by LPRCA planning staff during the scoping exercise.

Natural heritage resources with the potential to be present on the Study Area were identified through the following information sources:

- An assessment of habitat through aerial photographs and online mapping:
 - Land Information Ontario (NDMNR, 2023a); and
 - Google Earth.
- Review of historical occurrence records for Species of Conservation Concern within or adjacent to the Study Area:
 - Natural Heritage Information Centre (NDMNR, 2023b);
 - Ontario Regulation 230/08 Species at Risk in Ontario List (COSSARO, 2022);
 - Atlas of the Breeding Birds of Ontario (BSC, 2022);
 - Atlas of the Mammals of Ontario (Dobbyn, 1994);



- Ontario Reptile and Amphibian Atlas (TEA, 2022);
- Ontario Butterfly Atlas (TEA, 2022); and
- Provincial and federal assessments, recovery strategies, and management plans.

3.2 Field Assessment

Pinchin conducted field studies to characterize the natural heritage features present on the Site and in the surrounding landscape. A summary of methodologies for the field work completed by Pinchin is provided below for reference.

3.2.1 Vegetation Surveys

Vegetation communities within the Study Area were assessed and described using the provincial Ecological Land Classification system. The *Ecological Land Classification for Southern Ontario: First Approximation and its Application* (Lee et al., 1998) was referenced to classify the habitats to ecosite. Ecosites classified within the Study Area were then applied to Ecological Land Classification (ELC) polygons mapped using aerial imagery.

The vegetation communities were sampled in fall for their structure, species composition and habitat characteristics. This information was supplemented by floristic surveys at the time of the visit. Species names generally follow the nomenclature of Flora Ontario (Newmaster and Ragupathy, 2012) and the NHIC.

3.2.2 Wetland Assessment

Wetland assessment in the Study Area followed the criteria outlined in the *Ontario Wetland Evaluation System* (OWES) 3rd Edition (MNRF, 2013). The OWES framework evaluation criteria therein provide an appropriate benchmark to work from. Soil classification, the “50% rule” and the presence of wetland species and wetland indicator species form a useful basis for evaluation of the upland-wetland transition on the Site. According to the OWES, the “50% rule” is defined as that if 50% or more of the relative vegetation cover in a given area consists of wetland plants (including wetland tolerant species and wetland indicator species), then the area should be considered a “wetland”. Wetland indicator species are plant species that cannot live in upland areas, as compared with wetland species which include wetland indicator species and plant species that can tolerate both wetland and upland habitats.

Additionally, the Coefficient of Wetness (CW) was used in our assessment. This CW is an indicator varying from -5 (obligate wetland) to 5 (obligate upland) that describes the tolerances to wetness of an individual plant species. The OWES also has guidelines on feature size and complexing criteria. The OWES defines a wetland as greater than 2 ha but features greater than 0.5 ha can be included with justifications.



Although OWES further allows features smaller than 0.5 ha to be evaluated, it is only for a feature having a specialized habitat. For wetland complexing, biological and hydrological features, functions and values are considered in the evaluation on and off the feature or site.

3.2.3 *Woodland Assessment*

Assessment of the Site followed the woodland assessment criteria outlined in the NDMNRF guidelines and discussed in the Norfolk County Official Plan (MNR, 2005). To be identified as Significant Woodlands one or more of the following criteria must be met:

- a) Contain threatened, endangered, or species of concern;
- b) In size, be equal to or greater than:
 - a. 20 hectares, if located within a municipality with 16-30% woodland cover
- c) Contain interior woodland habitat at least 100 metres in from the woodland boundaries
- d) Contain old growth forest (greater than 100 years)
- e) Overlap or contain one or more of the other significant natural heritage features
- f) Located between two others significant features, each within 120 m of the woodland and be greater than:
 - a. 4 hectares, if located within a municipality with 16-30% woodland cover
- g) Located within 50 m of a watercourse and greater than
 - a. 2 hectares, if located within a municipality with 16-30% woodland cover
- h) Abut or be crossed by a watercourse or water body and be 2 or more hectares in area.

Each of these woodland assessment criteria will be discussed in Section 4.0 below. The woodland edge will be staked by a qualified Ontario Land Surveyor and shown on the relevant topographic survey, if available.

3.2.4 *Species at Risk*

The Endangered Species Act (ESA) 2007 provides protection from harm, harassment, or captures to species listed as extirpated, endangered, or threatened on the Species at Risk Ontario List. Additional protection is provided to the habitat of endangered or threatened species on the Species at Risk Ontario List.

Species habitat includes anywhere the species depends on for reproduction, rearing, hibernation, migration, or feeding; or prescribed habitat as defined in Ontario Regulation 242/08 of the General Regulation.



The likelihood of occurrence for Species at Risk was assessed qualitatively based on the ability of the habitat to meet one or more life requisites for each Species at Risk identified during the desktop assessment. If habitat suitable for Species at Risk was identified, additional survey effort was applied in that area. If incidental Species at Risk were observed, they were recorded throughout the field assessment within and adjacent to the Site.

3.2.5 *Incidental Wildlife Observations*

Wildlife was surveyed as part of general wildlife surveys during the Site visits. These surveys involved general coverage recording all species observations and signs, including tracks / trails, scat, burrows, dens, browse, and vocalizations. The wildlife surveys occurred during the coincident surveys for vegetation communities and vascular plants. Significant wildlife habitat was assessed according to the MNRF Natural Heritage Reference Manual (MNRF 2010) and the MNRF Significant Wildlife Habitat Technical Guide (MNRF 2000).

4.0 EXISTING CONDITIONS

4.1 **Landform, Physiography, and Geology**

The Site is bounded by Queensway West and commercial areas to the south, Hunt Street North and commercial areas to the east, Patterson Creek and the LR-13 Wetland Complex to the north, and commercial areas to the west. The Study Area is situated within Ecodistrict 7E-2 (St. Thomas Ecodistrict). This ecodistrict extends from Sarnia to West Flamborough and is dominated by agricultural land. The landcover within this ecodistrict is 82% agricultural, 15% deciduous forest, 2% other natural, and 1% other.

The substrate within the ecodistrict is 71% Gray Brown Luvisol, 26% Gleysol, and 3% other. Soil cores taken on the Site found the soils to be loamy sand and sand. Soil cores taken from the PSW north of the Site and within the Study areas indicated primarily clay loam with mottles and gley within the top 30 cm. Gley occurs when the oxygen in the soil becomes depleted (due to water saturation) resulting in the iron being completely reduced taking on a blue-grey colouration. This reduced iron is also mobile and can re-oxidize, producing reddish, yellow, or orange spotting, which is known as mottling. Both are indicators of wetland presence due to the water table being close to the surface.

The Ontario Geological Survey classifies the bedrock underlying the Study Area as consisting of Middle Devonian limestone, dolostone, and shale of the Detroit River Group and Onodaga Formation (Ontario Geological Survey, 1991). The topography on the Site is fairly uniform throughout with a steep drop-off to 215 masl north of the Site adjacent to the PSW.

A detailed review and analysis on the vegetation communities associated with the vegetation patches on the Site are provided in Section 4.2 below.

4.2 Vegetation Surveys

4.2.1 Vegetation Communities

Vegetation surveys were conducted in the fall season on October 20, 2022. The weather was cloudy during the survey with a temperature of 5° Celsius. In total, 38 vascular plant species were observed on the Site within the Study Area, as shown on **Appendix C**. A total of six vegetation communities were identified on the Site. These vegetation communities were observed during the Site investigations and can be visualized on Figure 3 in **Appendix A**. Selected Site photographs of the vegetation communities are included in **Appendix D**.

Business Sector (CVC_1): This community is found on the eastern portion of the Site. It is bordered by Hunt Street North to the east, Queensway West to the south, meadow and deciduous forest to the west, and a deciduous forest and single-family residence to the north.

Single Family Residential (CVR_3): This community is found in two locations within the Study Area. One residence is found in the southwest corner of the Site and the other is found northeast of the Site, within the Study Area. These communities include single family residences and associated amenities such as parking, sheds, and manicured lawns. Trees within this community include Sugar Maple (*Acer saccharum*), Manitoba Maple (*Acer negundo*), Douglas Fir (*Pseudotsuga menziesii*), and Eastern Cottonwood (*Populus deltoides*).

Dry – Fresh Graminoid Meadow (MEGM3): This vegetation community is found in the southern portion of the Site. It is bounded by Queensway West to the south, a single-family residence to the west, and a business sector to the north and east. The community is dominated by manicured graminoid lawn with sparse trees of Norway Spruce (*Picea abies*).

Dry – Fresh Sugar Maple Deciduous Forest (FODM5-1): This vegetation community is found in the northwestern portion of the Site. It is bounded by a single-family residence to the north, deciduous forest and business sector to the south, and swamp to the north and west. The community is dominated by Sugar Maple with White Pine (*Pinus strobus*), Black Walnut (*Juglans nigra*), Black Locust (*Robinia pseudoacacia*), American Elm (*Ulmus americana*), and Eastern Cottonwood. The community contains several dead standing and fallen trees. The understory is dominated by Tartarian Honeysuckle (*Lonicera tatarica*) and the ground layer is dominated by Periwinkle (*Vinca minor*). A soil core taken within the community determined the soil to be primarily loamy sand and sand with lots of pebbles.

Dry – Fresh Upland Deciduous Forest (FODM4): This vegetation community is found in the western portion of the Site. It is bounded by a business sector to the east and west, single family residential area to the south, and Dry – Fresh Sugar Maple Deciduous Forest to the north. A chain-link fence separated this community from the business sector to the east. The community is dominated by Black Walnut, Black Locust, and Manitoba Maple.



The ground layer is dominated by Periwinkle and Common Motherwort (*Leonurus cardiaca*). The vegetation community is fragmented by a network of walking paths that are found throughout likely for recreational purposes by local residence.

Ash Mineral Deciduous Swamp (SWDM2): This vegetation community is found in the northwestern portion of the Site and extends north of the Site, within the Study Area. This swamp is considered to be a PSW and is part of the LR-13 Wetland Complex. The community is bordered by Patterson Creek to the north, and Dry – Fresh Sugar Maple Deciduous Forest to the south. The dominant tree species within the community include Green Ash (*Fraxinus pennsylvanica*), Manitoba Maple, American Elm (*Ulmus americana*) and Eastern Cottonwood. Other wetland indicator species found within this community include Skunk Cabbage (*Symplocarpus foetidus*) and Spotted Jewelweed (*Impatiens capensis*). A soil core taken on the north side of Patterson Creek, within the Study Area, found the soil to be clay loam with gley observed at a depth of 6 cm and mottles observed at 25 cm. Additionally, within this community there is a large change in elevation between the swamp on the Site and the watercourse and wetland to the north which is much lower. The change in elevation is steep and the soil and species on the Site were much drier than those to the north.

4.3 Wetland Assessment

The Ash Mineral Deciduous Swamp on the Site is part of the LR-13 Wetland Complex, a PSW. This PSW extends north of the Site along Patterson Creek which is part of the Lynn River – Black Creek subwatershed. Within this subwatershed, the wetland cover is categorized as “D – Poor” by LPRCA (LPRCA, 2018). Wetland indicators of mottles and gley were observed in the wetland community. Gley occurs when the oxygen in the soil becomes depleted (due to water saturation) resulting in the iron being completely reduced taking on a blue-grey colouration. This reduced iron is also mobile and can reoxidize, producing reddish, yellow, or orange spotting, which is known as mottling. Both of these are indicators of wetland presence due to the water table being close to the surface. Additionally, the wetland is dominated by over 50% wetland indicator species such as Green Ash, American Elm, Skunk Cabbage, and Spotted Jewelweed. There are no wetland patches on the Site that are not part of this identified PSW.

As a result of this analysis, the wetland evaluated under OWES is part of PSW complex. A 30 m buffer should be applied to the wetland edge from the proposed development. Further recommended mitigation measures are discussed in section 7.0 below.

4.4 Woodland Assessment

Following the criteria outlined in the NDMNRF guidelines and discussed in the Norfolk County Official Plan (MNR, 2005), the Dry – Fresh Sugar Maple Deciduous Forest, Dry – Fresh Upland Deciduous Forest, and Ash Mineral Deciduous Swamp were assessed to determine their significance.

The details of this woodland assessment are described in the table below. To be identified as Significant Woodlands one or more of the following criteria must be met:

- Contain threatened, endangered, or other species of concern
- In size, be equal to or greater than: 20 hectares, if located within a municipality with 16-30% woodland cover
- Contains interior woodland habitat at least 100 meters in from the woodland boundaries
- Contains old growth forest (greater than 100 years)
- Overlap or contain one or more of the other significant natural heritage features
- Located between two others significant features, each within 120 m of the woodland and be greater than:4 hectares, if located within a municipality with 16-30% woodland cover
- Located within 50 m of a watercourse and greater than 2 hectares, if located within a municipality with 16-30% woodland cover, or abut or be crossed by a watercourse or water body and be 2 or more hectares in area.

At this time the Ash Mineral Deciduous Swamp and Dry – Fresh Sugar Maple Deciduous Forest would qualify as a significant woodland under the regulatory guidelines. These communities are mapped as significant woodlands under the Schedule C of the NCOP found in **Appendix B**. These woodlands are contiguous to the larger woodland north of the Site. This larger woodland is over 20 ha in size, contains a provincially significant wetland, and is located within 50 m of a watercourse.

Nonetheless, based on field assessment on Site Pinchin believes that the Dry – Fresh Upland Deciduous Forest should not be included in this significant woodland as highly fragmented and disturbed by surrounding anthropogenic uses which separate it from the significant woodland to the north. This woodland community is less than 1 ha in size and more disturbed than the woodlands north of the Site, with a parked storage trailer, an old decaying truck cab, old tires, refuse and other debris. This woodland is very narrow and is bordered by industrial areas which do not allow for interior forest habitat for sensitive species. Furthermore, this woodland community is fragmented by a network of walking trails throughout, as shown on Photo 4 in **Appendix D**, and contains several invasive species throughout, such as Periwinkle and Tatarian Honeysuckle. Hence, the Dry – Fresh Upland Deciduous Forest on the Site should not be considered part of the larger significant woodland to the north. Further recommendations and mitigation measures are discussed in section 7.0 below.



4.5 Incidental Wildlife Observations

A number of incidental wildlife was noted during field surveys. The following incidental wildlife were observed during the field surveys for vegetation: Blue Jay (*Cyanocitta cristata*), Eastern Phoebe (*Sayornis phoebe*), White-throated Sparrow (*Zonotrichia albicollis*), Golden-crowned Kinglet (*Regulus satrapa*), Black-capped Chickadee (*Poecile atricapillus*), Hermit Thrush (*Catharus guttatus*), Red-headed Woodpecker (*Melanerpes erythrocephalus*), Carolina Wren (*Thryothorus ludovicianus*), Northern Cardinal (*Cardinalis cardinalis*), Canada Goose (*Branta canadensis*), Turkey Vulture (*Cathartes aura*), Dark-eyed Junco (*Junco hyemalis*), White-tailed Deer (*Odocoileus virginianus*), and Gray Squirrel (*Sciurus carolinensis*).

The Red-headed Woodpecker is considered to be an endangered species in Ontario. Breeding bird surveys will be completed in summer 2023 to determine if this species and other Species at Risk birds are nesting on the Site. All other species observed on the Site are common in this suburban area and well adapted to a variety of habitats.

4.6 Species at Risk Screening

A total of 40 Species at Risk (SAR) were identified as having potential occurrence on the Site, resulting from the background review of the NHIC records and other available sources for the Study Area. These 40 species, their listing status, the last observed date, and the sources used to identify their presence in the Study Area are all summarized in **Appendix E**. Based on the background and field assessments, 16 SAR were determined to have suitable habitat on the Site. Of these 16 species only one, the Red-headed Woodpecker (*Melanerpes erythrocephalus*) was heard on the Site. Breeding bird surveys will be conducted in summer 2023 to assess their nesting potentials on the Site.

One SAR plant, Broad Beech Fern (*Phegopteris hexagonoptera*), has potential suitable habitat in the forest communities on the Site. Broad Beech Fern grows in rich soils of deciduous forest; however, none were observed on the Site. One SAR reptile, Blanding's Turtle (*Emydoidea blandingii*), was determined to have suitable habitat on the Site. The Blanding's Turtle is found in shallow water marshes, bogs, ponds, or swamps. The swamps on the Site could provide suitable habitat for this species; however, none were observed. One insect, Transverse Lady Beetle (*Coccinella transversoguttata*), was determined to have potential habitat in the meadows and deciduous forests on the Site. This beetle lives in a wide range of habitats, including agricultural areas, suburban gardens, parks, coniferous forests, deciduous forests, prairie grasslands, meadows, and riparian areas. Despite suitable habitat being present, no such insects were observed on the Site.

Five SAR mammals have potential suitable habitat throughout the Site, Gray Fox (*Urocyon cinereoargenteus*), Little Brown Bat (*Myotis lucifuga*), Tricolored Bat (*Pipistrellus subflavus*), Northern Long-eared Myotis (*Myotis septentrionalis*), and Eastern Small-footed Myotis (*Myotis leibii*).



The Gray Fox is found in hardwood forests with a mix of fields and woodlands, swamps, and thickets. The forest and swamp communities within the Study Area could provide suitable habitat however, no individuals of their dens were observed on the Site. The structures and forested communities on the Sites could also provide suitable habitat for the four SAR bat species listed above. During the day, they often will roost in attics, abandoned buildings, barns and dead trees/snags where they can raise their young. Several dead trees were observed on the Site; however, they are isolated to the Ash Mineral Deciduous Swamp and Dry – Fresh Sugar Maple Deciduous Forest. These communities will be largely protected on the Site due to their status as significant woodland and PSW. At this time it is not anticipated that targeted bat surveys will be required on the Site as the bat habitat will be protected from development.

Eight SAR birds have suitable habitat throughout the Site. The structures on the Site could provide suitable habitat for Barn Swallow (*Hirundo rustica*), Chimney Swift (*Chaetura pelagica*), and Common Nighthawk (*Chordeiles minor*). These species nest on and in manmade structures; however, none of them were observed on the Site. The forest and swamps could provide suitable habitat for Hooded Warbler (*Wilsonia citrina*), Acadian Flycatcher (*Empidonax virescens*), Wood Thrush (*Hylocichla mustelina*), and Eastern Wood-pewee (*Contopus virens*). These species are found in mature deciduous forest and swamps; however, none were observed on the Site.

The one SAR species that was heard on the Site was the Red-headed Woodpecker. The Red-headed Woodpecker is found in deciduous forests with little understory, wooded swamps, and forest edges. They require dead and dying trees and a territory of at least 4 ha. The forest and swamp communities on the Site provide suitable habitat for this species due to the large size and abundance of dead trees. During vegetation surveys on October 20, 2022, a Red-headed Woodpecker was heard on the Site. Breeding bird surveys will be completed in summer 2023 as part of the updated EIS before any vegetation removal on the Site to assess this avian SAR's potentials on the Site such as nesting activities.

4.7 Natural Heritage System and Ecological Connectivity

To protect the diversity and connectivity of natural features and long-term ecological function of the study area, an ecological function assessment needs to be completed. This ecological function assessment assesses the Site by its ecological functions by providing avenues in which plants and animals can propagate, move, and replenish from other natural areas. The Site is bounded by Queensway West and commercial areas to the south, Hunt Street North and commercial areas to the east, Patterson Creek and the LR-13 Wetland Complex PSW to the north, and commercial areas to the west.



The Site consists of deciduous forest, deciduous swamp, and mixed meadow communities surrounded by single-family residential and business sectors. The Site is surrounded by developed areas to the east, west and south. The wetland on the Site is part of the PSW that borders Patterson Creek. This PSW provides important habitat refuge for plants and animals within this urban landscape. Additionally, the woodlands on the Site are part of a larger woodland (>20 ha) that extends north of the Site. This forest community provides shelter from the busy roads and commercial areas within the vicinity and act as a corridor for wildlife passage along Patterson Creek.

However, due to the high-quality wetland and forest communities within the vicinity of the Site such as those to the north, it is less likely that species would use the habitat on the Site. This is due to the fact that the forest and wetland communities make up a small narrow strip of less than 1 ha in size on the Site. The woodland strip on the Site does not provide any interior forest habitat for sensitive species, is fragmented by walking paths, and is bordered by commercial and residential areas on three sides. For these reasons, it is much more likely that wildlife would use the wetland and forest north of the Site and along the creek as they provide more suitable habitat with less disturbance.

Overall, there is low to moderate linkage or connectivity provided by the Site due to its degree of disturbance by surrounding development. The Site is only connected to greenspaces to the north where sufficient habitat already exists for wildlife passage.

5.0 PROPOSED DEVELOPMENT

Pinchin understands that the proposed development is to construct a mixed-use, multi-unit condominium development. The 2.86 ha development site is currently occupied by a variety of buildings, including a single detached dwelling and storage/maintenance buildings and gravel yard for Wilson Truck and Trailer. The lands are bound by Hunt Street to the east, Queensway West to the south, Patterson Creek and the Sutton Conservation Area to the north, and the Queensway Veterinary Hospital to the west. All existing buildings on the Site will be demolished to accommodate the proposed mixed-use development. The development will consist of a 6-storey, 114-unit residential mid-rise building, and a 38-unit condominium development (Vallee, 2023). Associated access roads off of Hunt Street North will also be developed in addition to a Stormwater Management Pond and other associated amenities. The Stormwater Management Pond will encroach into the edge of the significant woodland community on the Site. Impacts from this proposed development will be mitigated through restoration planting on the Site as discussed in section 7.0 below. A Site Plan showing the proposed development infrastructures and associated amenities can be seen in **Appendix F**.

6.0 IMPACT ASSESSMENT

There are potential direct and indirect impacts to the natural heritage features on and adjacent to the Site from the development proposal, as described in Sections 6.1 and 6.2 below.

6.1 Direct Impacts

Should the development be taking place to the area outlined above and in the proposed Site Plan, the direct impacts from the development proposals on natural heritage features (i.e., woodlands, swamp, and meadow) would include the following:

- Stripping of vegetation and topsoil on the majority of the Site;
- Removal of trees on the Site; and
- Displacement of wildlife on the Site

The proposed development should have all direct impacts contained to the footprint of the Site. Due to the nature of the proposed development construction, the majority of the Site will be cleared of vegetation for construction of the Site. The Site potentially provides seasonal habitat to birds and other wildlife that may use it seasonally for foraging and feeding. They will be displaced from the proposed construction and immediate surrounding areas as a result of construction and site alteration. The impacts to wildlife can be avoided by properly timing vegetation and topsoil removal around peak activity and breeding seasons.

It is anticipated that the development of the Stormwater Management Pond on the Site will partially encroach into the significant woodland on the Site. The minor encroachment into the significant woodland is approximately 0.02 ha, as shown on Figure 4 in **Appendix A**. Negative impacts to the woodland will be mitigated through 1). the removal of garbage and invasive species; and 2). the planting of native species within the Fresh Sugar Maple Deciduous Forest and Ash Mineral Deciduous Swamp on Site, with recommended restoration and enhancement measures detailed in Section 8.0. The total restoration area on-site will be 0.25 ha, exceeding the 0.02 ha encroachment area. The proposed Restoration Area is depicted on Figure 4 in **Appendix A**. A detailed Restoration Plan with planting species, location, sizes, quantities, etc. for restoration area will be provided in the detailed design stage for review by relevant agencies. At this point, the ecological offsetting and planting through a Restoration Plan is recommended in order to restore and offset the impacts from the clearing of the trees on the Site. It is not anticipated that the PSW will be directly impacted from the proposed development and woodland encroachment. Vegetation removal for the woodland encroachment should not occur within 30 m of the PSW on the Site.

6.2 Indirect Impacts

The potential indirect impacts on natural heritage features (i.e., woodlands, swamp, and meadow) from the development proposal may include the following:

- Effects on plants and wildlife by construction noise, dust, and vibration; and
- Alteration of water quality and flow regime in the adjacent natural and drainage features



Few indirect impacts are expected for this Site given that the surrounding areas are urbanized. The Site is bounded by roadways to the south and east, a commercial area to the west and a woodland to the north. Within the woodland north of the Site is Patterson Creek. Runoff should be controlled to prevent negative effects to the water quality of this watercourse. Sediment and erosion control measures should be installed on the Site to limit any potential impacts off-site due to sediment-laden water from entering to other natural and drainage features. Erosion and Sediment Control (ESC) Measures have developed as part of the Functional Servicing & Stormwater Management Report.

The proposed outfall channel from the stormwater management pond will ensure long term protection from erosion using naturalized elements, such as plunge pools, step stones, and vegetated buffers. The proposed design, including ESC controls, will be provided at the site plan application stage. Other erosion and sediment controls to protect adjacent lands during construction will include a minimum of silt fences, mud mats, and filter cloths over catch basins onsite (Vallee, 2023).

It is possible that additional noise and vibration from the construction will impact local wildlife populations in the area; however, the area is already urbanized, and the local wildlife are likely adapted to the noises of the city. It is likely that during construction periods, wildlife including birds and mammals that occasionally use the woodlands, wetland, and meadow as habitats will be disrupted and will migrate to other areas, such as the larger woodland and wetland to the north.

Hydrologic impacts have been assessed in a separate Functional Servicing & Stormwater Management Report detailing stormwater management strategies for the surface water quantity and quality controls on the Site and within the Study Area. Stormwater quality will be controlled through multiple methods such as low-impact development (LID) treatment and oil frit separators (OGS) (Vallee, 2023).

Recommendations and mitigation measures for the potential impacts of development on the Site are detailed in Section 7.0 below.

7.0 RECOMMENDATIONS AND MITIGATION MEASURES

This Scoped EIS report detailed the review of the applicable regulation and policies on natural heritage features and assessment of the vegetation communities including woodlands, meadow, and wetland contained within. Based upon the above impact assessment, there are identified direct impacts and indirect impacts mainly on general plants and wildlife within the vegetation communities.

Recommendations for timing windows or other specifications for implementation for the potential negative impacts are included in the Scoped EIS. Furthermore, mitigation measures relating to onsite works (such as fencing) must be implemented prior to the commencement of construction. The proposed development will be mitigated to avoid potential impacts to natural features outside of the Site such as the adjacent watercourse.



Additional surveys on vegetation, birds and reptiles will be completed as agreed upon by the LPRCA in spring-summer 2023 before any vegetation removal on the Site to determine species and habitat significance on the Site upon consultation with LPRCA. The natural heritage features within the moderate habitat as they are disturbed from the surrounding urbanization and busy roads.

Due to the direct impacts of the proposed development on the significant woodland, restorative planting through a Restoration Plan is recommended to be developed in order to restore and offset the impacts from the clearing of the trees on the Site. It is recommended that the Restoration Plan consider restoration and enhancement to make up for the impacts of removing the trees and vegetation on the Site. The following recommendations are provided for the construction and alteration of the Site.

Tree and vegetation removal:

- The extent of potential tree and vegetation removal within the vegetation patches and on the Site is restricted to the construction footprint within the Site as necessary. A 30 m vegetated buffer should be established around the PSW on the Site from the proposed development.
- To minimize or avoid impacts to breeding birds and bats, the removal of vegetation within the Site will be outside of the associated breeding between April 1 and September 30.
- If tree removal needs to occur within the above timing constraint window, a qualified Biologist should be deployed to conduct bird nest survey prior to any tree and vegetation removal, as well as ongoing monitoring should they be confirmed to be present.

Erosion and sediment control:

- An Erosion and Sediment Control Plan as part of the Functional Servicing & Stormwater Management Report will be developed with protection measures of the surrounding natural features for the construction on the Site.
- Prior to construction and site alteration, adequate erosion, and sediment control (ESC) measures should be installed on the Site.
- If required, repairs and maintenance of the installed ESC measures are conducted regularly until construction completion.

Wildlife and Species at Risk encounter protocol:

- If wildlife is encountered during construction, work should cease immediately and allow the animal to naturally move out of the construction zone. If the animal does not leave the area for a prolonged period of time, please consult with a qualified biologist for possible response or mitigation measures.

- If an animal is injured or deceased or if a Species at Risk is found on the Site, the Ministry of Environment, Conservation and Parks will be contacted for guidance and handling.

Restoration and enhancement measures:

- As the proposed Stormwater Management Pond will encroach into the Significant Woodland on the Site, a detailed Restoration Plan will be developed to ensure that there is no negative effect on the woodland.
- Restoration will include the removal on invasive and non-native species within the Restoration Area identified on Figure 4 in **Appendix A**. Invasive species identified for removal include Garlic Mustard (*Alliaria petiolata*), Black Locust (*Robinia pseudoacacia*), Autumn Olive (*Elaeagnus umbrellata*), Periwinkle (*Vinca minor*), White Mulberry (*Morus alba*), Goutweed (*Aegopodium podagraria*) and Tartarian Honeysuckle (*Lonicera tatarica*). The removal of these invasive species will improve the overall quality of the woodland habitat on and around the Site and help prevent the spread of invasive species. Additionally, garbage dumped within the Restoration Area, including an old car, will be removed to improve the overall habitat quality.
- Furthermore, a variety of native tree and shrub species will be planted within Restoration Area in accordance with the Restoration Plan. These native plants will be planted throughout the Site and off-site restoration areas with particular emphasis on areas where invasive species have been removed and around the edges of the Stormwater Management Pond in order to improve the conditions of the significant woodlands.

8.0 CONCLUSION

There are environmental opportunities and constraints identified on the Site as outlined in this Scoped EIS report. The assessed impacts, including direct and indirect impacts, are mainly on general plants and wildlife. Effective stormwater and environmental management measures will be developed to support the development of the Site. Additional ecological surveys will be completed in spring-summer 2023 before and vegetation removal on the Site to determine species and habitat significance on the Site. With the implementation of the environmental and engineering plans sought out in the Scoped EIS, Restoration Plan, and Functional Servicing & Stormwater Management Report prior and post construction on the Site, the proposed development would preserve the ecological functions of the adjacent natural features and enhance surrounding natural landscape by the planting of native trees and shrubs post construction.

With the above recommendations considered and diligently implemented on the Site, no adverse negative impacts to the ecological integrity of the adjacent natural heritage features will result from the proposed residential development with associated amenities.



9.0 CLOSURE

The enclosed Environmental Impact Study report has been prepared to assess the natural heritage features including the terrestrial and wetland conditions on the Site within the Study Area. The information contained herein as a result of the Scoped EIS regarding the proposed residential development is solely provided to the Client and approval agencies as a reference only.

In the event that clarifications or further information is required by the Client and approval agencies, please do not hesitate to contact the primary Pinchin contact indicated in the contact page of this document.

10.0 REFERENCES

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11.0 LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project. Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

APPENDIX A
FIGURES

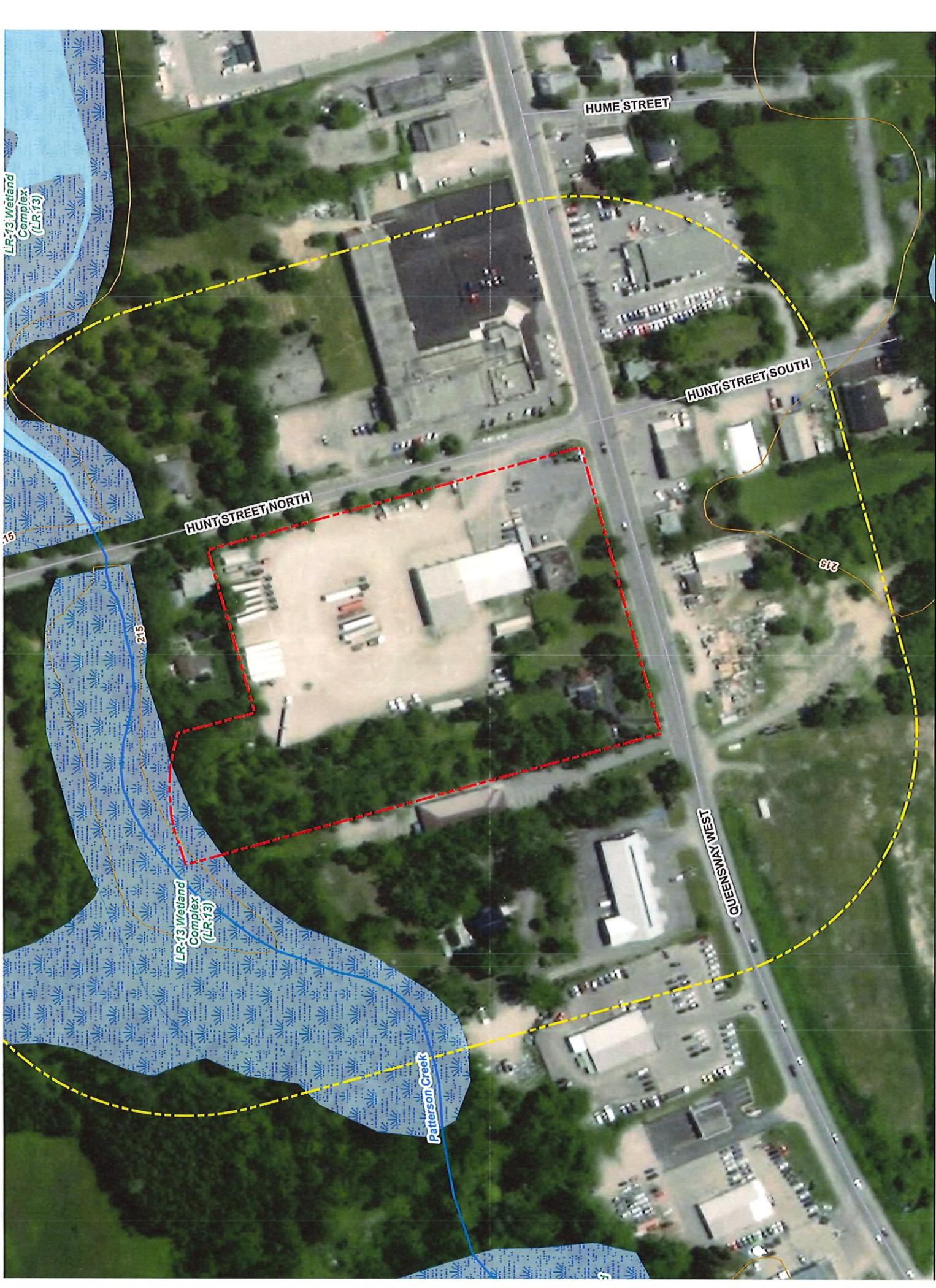


NOTES
 1. All features and measurements

LEGEND
 Site Boundary

PROJECT NO. 314481.000

Environmental Impact Study





HUNT STREET NORTH

HUNT STREET SOUTH

QUEENSWAY WEST

Patterson Creek

2

1

2

3

4

5

6

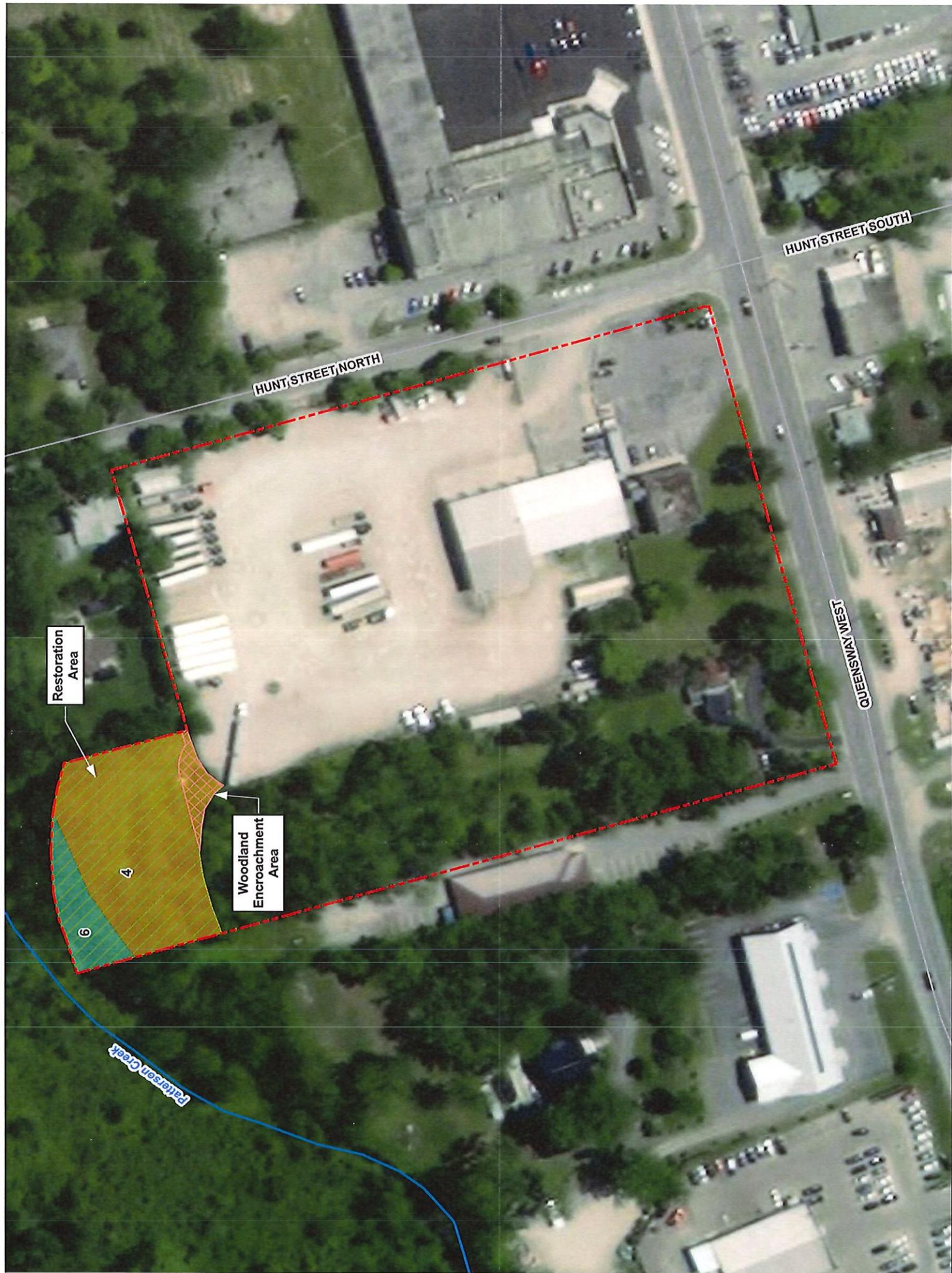
NOTES

1. All features and measurements are based on the most recent aerial imagery.

LEGEND

Ecological Land Classification
 Site Boundary

PROJECT NO. 314481.000



Restoration Area

Woodland Encroachment Area

HUNT STREET NORTH

HUNT STREET SOUTH

QUEENSWAY WEST

Patterson Creek

4

6

NOTES
1. All features and measurements are as shown on this plan.

LEGEND
 Site Boundary
 Woodland Encroachment Area (0.02 ha)

PROJECT NO. 314481.000

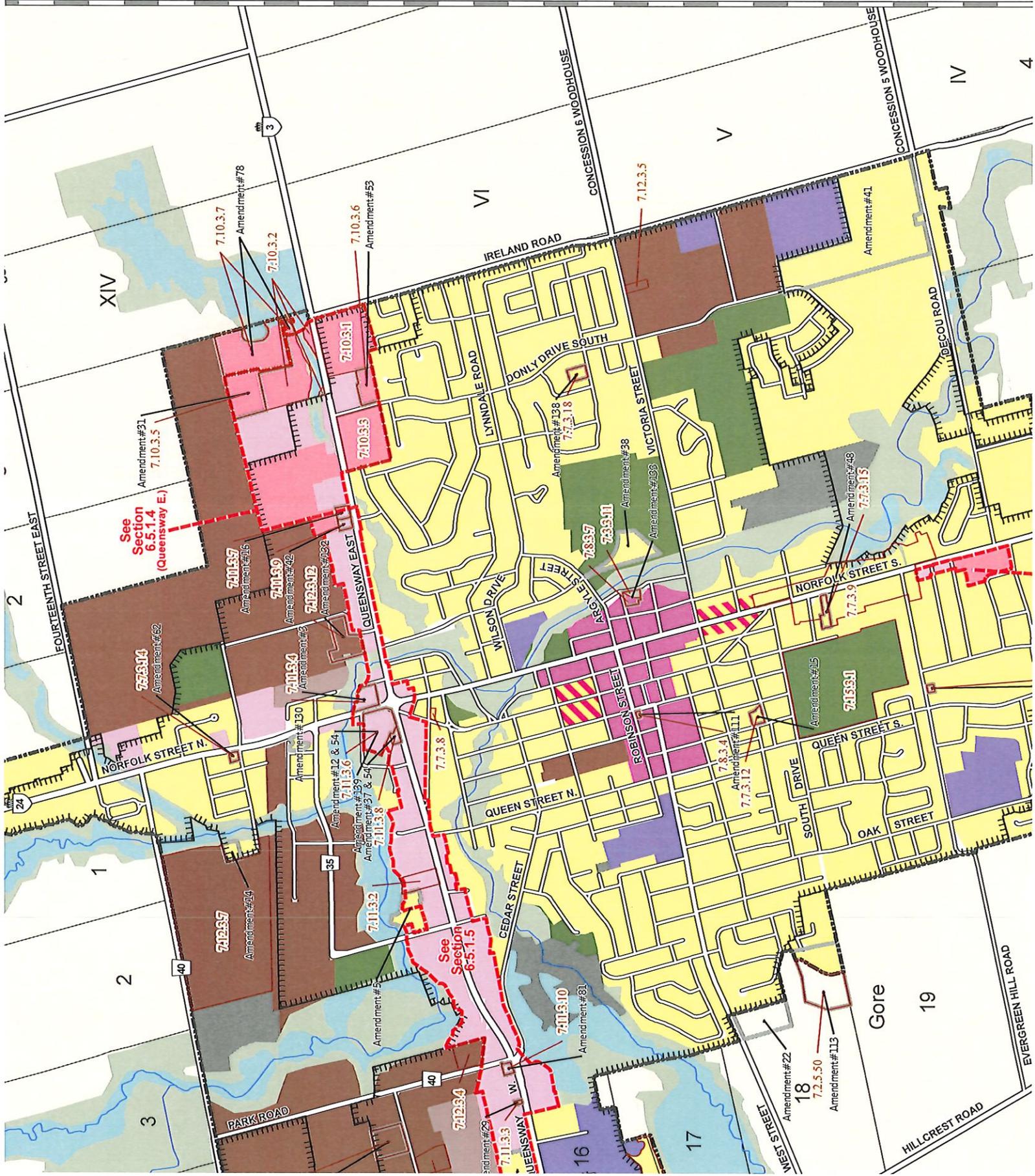
Environmental Impact Study

APPENDIX B
SUPPLEMENTARY INFORMATION



Marine Use in

N



See Section 6.5.1.4 (Queensway E.)

See Section 6-5.1.5

Amendment #22
18
7.2.5.50
Amendment #113

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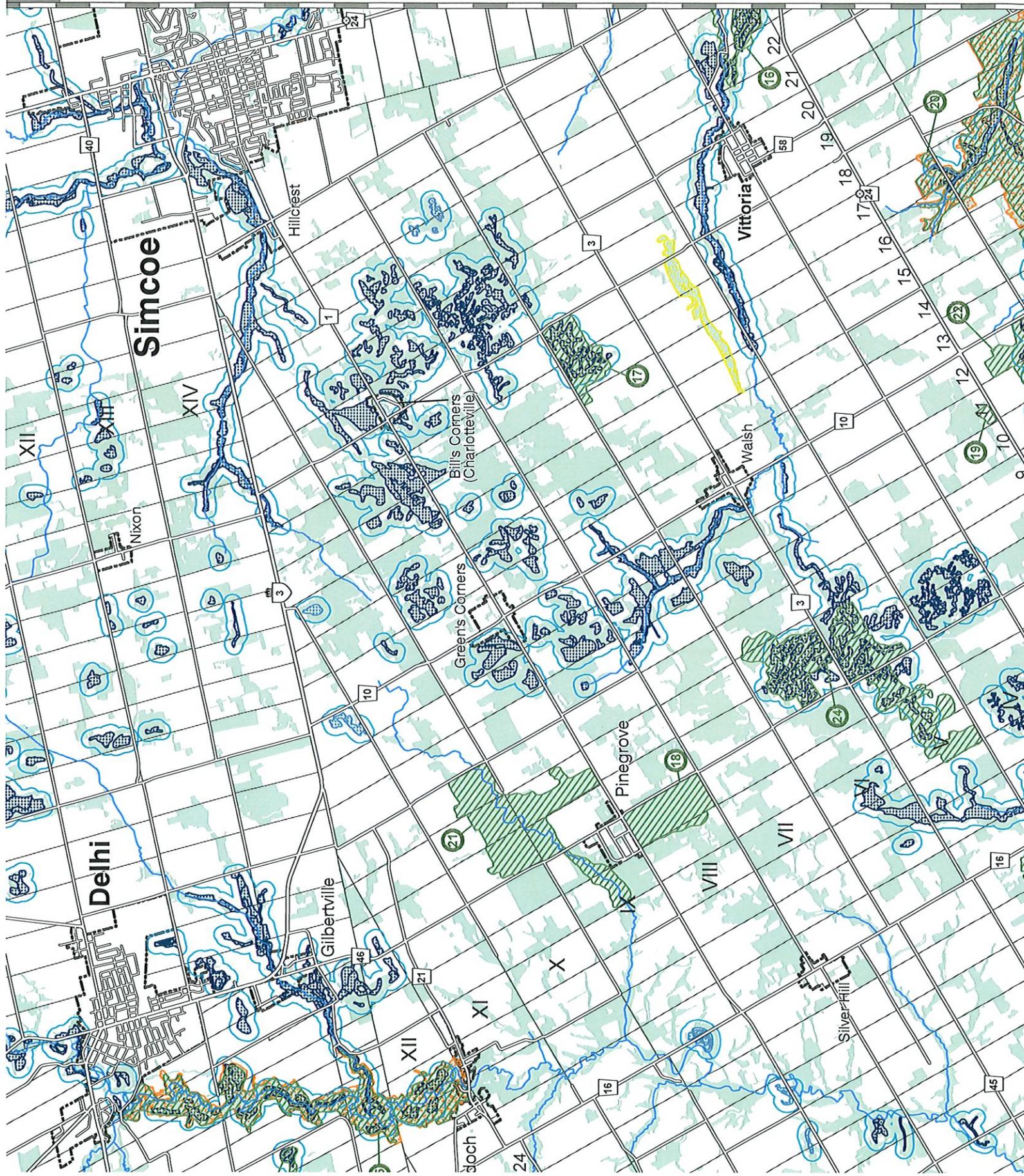
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Long Point

Long Point



APPENDIX C
VEGETATION INVENTORY

Scientific Name	Common Name	S-Rank	Coefficient Conservatism	Coefficient Wetness
<i>Rubus occidentalis</i>	Black Raspberry	S5	2	5
<i>Juglans nigra</i>	Black Walnut	S4?	5	3
<i>Tilia americana</i>	American Basswood	S5	4	3
<i>Acer platanoides</i>	Norway Maple	SNA		5
<i>Solidago canadensis</i>	Canada Goldenrod	S5	1	3
<i>Symphyotrichum ericoides</i>	White Heath Aster	S5	4	3
<i>Phleum pratense</i>	Common Timothy	SNA		3
<i>Poa pratensis</i>	Kentucky Bluegrass	S5	0	3
<i>Rhus typhina</i>	Staghorn Sumac	S5	1	3
<i>Symphyotrichum novae-angliae</i>	New England Aster	S5	2	-3
<i>Verbascum thapsus</i>	Common Mullein	SNA		5
<i>Daucus carota</i>	Wild Carrot	SNA		5
<i>Erigeron philadelphicus</i>	Philadelphia Fleabane	S5	1	-3
<i>Thalictrum pubescens</i>	Tall Meadow-rue	S5	5	-3
<i>Alliaria petiolata</i>	Garlic Mustard	SNA		0
<i>Betula alleghaniensis</i>	Yellow Birch	S5	6	0
<i>Chelidonium majus</i>	Greater Celandine	SNA		5
<i>Robinia pseudoacacia</i>	Black Locust	SNA		3
<i>Pinus strobus</i>	Eastern White Pine	S5	4	3
<i>Prunus serotina</i>	Black Cherry	S5	3	3
<i>Quercus rubra</i>	Northern Red Oak	S5	6	3
<i>Elaeagnus umbellata</i>	Autumn Olive	SNA		3
<i>Lonicera tatarica</i>	Tartarian Honeysuckle	SNA		3
<i>Fraxinus pennsylvanica</i>	Green Ash	S4	3	-3
<i>Ulmus americana</i>	American Elm	S5	3	-3
<i>Acer saccharum</i>	Sugar Maple	S5	4	3
<i>Populus deltoides</i>	Eastern Cottonwood	S5	4	0
<i>Vinca minor</i>	Periwinkle	SNA		5
<i>Tsuga canadensis</i>	Eastern Hemlock	S5	7	3
<i>Acer negundo</i>	Manitoba Maple	S5	0	0
<i>Leonurus cardiaca</i>	Common Motherwort	SNA		5
<i>Aegopodium podagraria</i>	Goutweed	SNA		0
<i>Lonicera maackii</i>	Amur Honeysuckle	SNA		5
<i>Pseudotsuga menziesii</i>	Douglas Fir			
<i>Morus alba</i>	White Mulberry	SNA		0
<i>Picea abies</i>	Norway Spruce	SNA		5
<i>Taraxacum officinale</i>	Common Dandelion	SNA		3
<i>Symplocarpus foetidus</i>	Skunk Cabbage	S5	7	-5
<i>Impatiens capensis</i>	Spotted Jewelweed	S5	4	-3

APPENDIX D
SELECTED SITE PHOTOS

SELECTED SITE PHOTOGRAPHS

(All photos taken on October 20, 2022)



Photo 1. View of the Business Sector on the Site



Photo 2. View of the Ash Mineral Deciduous Swamp and Patterson Creek



Photo 3. View of the Dry – Fresh Graminoid Meadow



Photo 4. View of the Dry – Fresh Upland Deciduous Forest and mown walking paths throughout

APPENDIX E
SPECIES AT RISK SCREENING TABLE

Table 1. Species at Risk Screening for the Study Area

Type	Common Name	Scientific Name	Sarak	SARO Status	COSEWIC Status	Last Obs Date	Background Information Source				Notes on Preferred Habitat ¹	Suitable Habitat on Site	Confirmed observation on Site
							NIKE Guid 23/11/52/3	Atlas of the Ontario Breeding Bird (Dobson 1994)	Ontario Biodiversity Atlas (The Corporation of Ontario, 2018)	The Vertebrate Fauna of Ontario (Colborn & Baskler 2000)			
PLANTS	Smooth Yellow Fake Fouglove	<i>Aureolaria fava</i>	•	THR						Found in dry, open to semi-open upland oak forests, typically with White Oak present, on well-drained soils.	No, suitable habitat is not found on the Site.	No	
	Fern-leaved Yellow Fake Fouglove	<i>Aureolaria pedicularia</i>	•	THR						Found in open savanna and woodland habitats, along with Black Oak, its preferred host tree.	No, suitable habitat is not found on the Site.	No	
	Broad Beech Fern	<i>Phegopteris hexagonoptera</i>	•	SC	SC					Grows in rich soils in deciduous forests, often in areas dominated by maple and beech trees. It requires moist soil and usually grows in full shade.	Yes, suitable habitat is found on the Site. However, none were observed.	No	
	Transverse lady Beetle	<i>Coccinella transversoguttata</i>	•	SC						Lives in a wide range of habitats, including agricultural areas, suburban pastures, deciduous forests, prairie grasslands, meadows and riparian areas.	Yes, suitable habitat is found throughout the Site. However, none were observed.	No	
	Monarch	<i>Danaus plexippus</i>	•	SC	SC	2021				Caterpillars feed on milkweed plants and are confined to meadows and open areas where milkweed grows. Adults forage on a variety of wildflowers and milkweed.	No, suitable habitat is not found on the Site.	No	
INSECTS	Snapping Turtle	<i>Chelydra serpentina</i>	•	SC	SC	2018				Prefer shallow, slow-moving waters with abundant vegetation, but can also live in deeper water habitats. During the nesting season (June-July), they can be seen on grass or sandy areas on bank.	No, suitable habitat is not found on the Site.	No	
	Eastern Massasauga	<i>Sistrurus catenatus</i>	•	THR	THR	1961				use upland, old field in summer; marsh, shrub swamp or bog, rivers and streams that provide edge or low vegetative growth; in fall and winter; hibernate underground in mammal burrows, under rotting stumps, in rock crevices	No, suitable habitat is not found on the Site.	No	
	Northern ribbon snake*	<i>Thamnophis sauritus septentrionalis</i>	•	SC	SC	1986				sunny grassy areas with low dense vegetation near bodies of shallow permanent quiet water; wet meadows, grassy meadows or sphagnum bogs; borders of prairie fields or streams; hibernates in groups	No, suitable habitat is not found on the Site.	No	
	Map Turtle*	<i>Graptemys geographica</i>	•	SC	SC	1988				large bodies of water with soft bottoms, and aquatic vegetation; banks on logs or rocks or on beaches and grassy edges, will bask in groups; uses soft or clean dry sand for nest sites; may nest at some distance from water; aquatic corridors (e.g. stream) are required for movement.	No, suitable habitat is not found on the Site.	No	
	Eastern (or snake (Carolinian Population)	<i>Eidolon glaydi</i>	•	END	DND	2014				Shrub swamps and bogs; deciduous forest containing openings with shrubs and saplings; prefer woodland/marsh edges for hunting, breeding in Lake Erie area, often seen near or adjacent to large marshes.	No, suitable habitat is not found on the Site.	No	
REPTILES	Blanding's turtle	<i>Emydoidea blandingii</i>	•	THR	THR	2016				shallow water marshes, bogs, ponds or swamps, or coves in larger lakes with soft muddy bottoms and aquatic vegetation; basks on logs, stumps, or banks; hibernates in bogs	Yes, suitable habitat is found in the swamp communities on the Site. However, none were observed.	No	
	Eastern Hognose Snake	<i>Heterodon platirhinos</i>	•	THR	THR	2018				sandy upland fields, pastures, savannahs, sandy beaches; dry open oak-pine-maple forest with sandy soils; prefer forest areas > Site	No, suitable habitat is not found on the Site.	No	
	Eastern Meadowlark	<i>Sturnella magna</i>	•	THR	THR	2001-2005				Breed primarily in moderately tall grasslands such as pastures, hayfields and weedy borders of croplands, roadsides and other open areas.	No, suitable habitat is not found on the Site.	No	
	Eastern Wood-pewee	<i>Contopus virens</i>	•	SC	SC	2001-2005				Live in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundantly found in intermediate-age mature forest stands with little understorey vegetation.	Yes, suitable habitat is found in the forest communities on the Site.	No	

Table 1. Species at Risk Screening for the Study Area

Type	Common Name	Scientific Name	SARR Status	COSEWIC Status	Last Obs. Date	Background Information Source				Notes on Preferred Habitat ¹	Suitable Habitat on Site	Confirmed observation on Site
						NVIC Grid 17N05503	Atlas of the Ontario Mammals (Lambert 1994)	Atlas of the Breeding Bird of Ontario (Caldman 2009)	Ontario Butterfly Atlas (Macdonald et al. 2014)			
	Wood Thrush	<i>Hylocichla ustulata</i>	S4B	THR	2001-2005			•		Prefer to live in mature deciduous and mixed forests, near ponds and swamps, with a moist and developed understory.	Yes, suitable habitat is found in the forest and swamp communities on the Site. However, none were observed.	No
	Acadian Flycatcher	<i>Empidonax virens</i>	S2B5C3B	END	2001-2005			•		Mature, shady, deciduous forests; heavily wooded ravines; creek bottoms or river swamps; needs at least 30 ha of forest.	Yes, suitable habitat is found in the forest and swamp communities on the Site. However, none were observed.	No
	Bald eagle	<i>Haliaeetus leucocephalus</i>	S4L2Z1N	SC	2001-2005			•		Nests in a variety of forest types near major lakes or rivers where they can hunt.	No, suitable habitat is not found on the Site.	No
	Bank Swallow	<i>Riparia riparia</i>	S4B	THR	2001-2005			•		Can be found in burrows throughout natural or man-made vertical faces of mineral deposits. Such as bluffs, cliffs or banks of rivers.	No, suitable habitat is not found on the Site.	No
	Barn Swallow	<i>Hirundo rustica</i>	S4B	THR	2001-2005			•		Nest along human-made structures such as open berms, under bridges and in culverts. Attracted to open structures to build their nests, including eaves. They prefer unspaced wood structures as the mud nests adhere better.	Yes, suitable habitat is found on the structures on the Site. However, none were observed.	No
	Black Tern	<i>Chlidonias niger</i>	S3B	SC	2001-2005			•		Known to build nests in loose colonies in shallow marshes, preferably cattails.	No, suitable habitat is not found on the Site.	No
	Bobolink	<i>Dolichonyx oryzivorus</i>	S4B	THR	2001-2005			•		Can be found in tall grass prairie, open meadows, hayfields, and dense grasses, requires tracts of grassland 500 ha. They build their nests on the ground amongst the dense vegetation.	No, suitable habitat is not found on the Site.	No
BIRDS	Chimney Swift	<i>Cherata pelagica</i>	S4L, S4N	THR	2001-2005			•		Historically have nested on cave walls and in hollow trees, but are more likely to be found in urban settlements nesting in chimneys and masonry structures. They tend to stay close to water where flying insects congregate for foraging.	Yes, suitable habitat is found in the forests and structures on the Site. However, none were observed. And all chimneys on the Site were capped.	No
	Common Nighthawk	<i>Chordeiles minor</i>	S4B	THR	2001-2005			•		Rocky areas with little vegetation and clearings. Can use gravel roads, flat roofs, and frills. ¹	Yes, suitable habitat is found on flat roofs in the business sector of the Site. However, none were observed.	No
	Hooded Warbler	<i>Vireosia elphina</i>	S3B	THR	2001-2006			•		Nest in mature hardwood forests with tall trees and a relatively well-closed canopy. They occupy small clearings, such as created by a fallen tree, where a dense growth of low shrubby has sprung up.	Yes, suitable habitat is found in the forest and swamp communities on the Site.	No
	King Rail	<i>Rallus elegans</i>	S3B	END	2001-2005			•		Can be found in densely vegetated freshwater marshes	No, suitable habitat is not found on the Site.	No
	Least Bittern	<i>Icthyophaga exilis</i>	S4B	THR	2001-2005			•		Found in a variety of wetland habitats, but strongly prefers cattail marshes with a mix of open pools and channels.	No, suitable habitat is not found on the Site.	No
	Northern Bobwhite	<i>Colinus virginianus</i>	S1S2	END	2001-2005			•		Live in savannah, grasslands, abandoned farm fields and along bushy fence-lines. In severe weather conditions they move into small forest areas to find snow-free areas for foraging.	No, suitable habitat is not found on the Site.	No
	Peregrine Falcon*	<i>Falco peregrinus</i>	S2S3B, Z1N	THR	2001-2005			•		Live on tall ledges, usually close to a body of water. Can be found in urban or rural environments.	No, suitable habitat is not found on the Site.	No
	Prothonotary Warbler	<i>Protonotaria citrea</i>	S1B	END	2001-2005			•		area sensitive species preferring 100 ha of flooded or swampy woodlands with standing or flowing water and more than 25% canopy cover with numerous stumps and snags; stream borders or flooded bottomlands; soft, dead trees with dbh >10 cm; Carolinian species	No, suitable habitat is not found on the Site.	No

**APPENDIX F
PROPOSED SITE PLAN**



Stage 1 Archaeological Assessment

395-411 Queensway West
Part of Lot 2, Concession 14
Geographic Township of Windham
County of Norfolk

Prepared for:
Douglas Vallee Limited
c/o Leslie Hutton-Rhora
395-411 Queensway West
Simcoe, ON
N3Y 2N4

Licensee: Lena Zepf
PIF: P1033-0017-2023
Original Report



Earthworks
ARCHAEOLOGICAL SERVICES INC.

Earthworks Archaeological Services Inc.
2365 Watts Road,
Haliburton, Ontario
K0M 1S0

February 14, 2023

Executive Summary

Earthworks Archaeological Services Inc. was retained to conduct a Stage 1 archaeological assessment of a 2.89 hectare area located at 395-411 Queensway West, part of Lot 2, Concession 14, Geographic Township of Windham, Norfolk County, Ontario. The assessment was undertaken in support of an application for Site Plan Approval and was conducted as part of the requirements defined in Section 5.7.4 of the *The Norfolk County Official Plan*, which requires an archaeological assessment prior to final planning approval, or as a condition of final planning approval within an area of archaeological potential

Section 1.3 of the *Standards & Guidelines for Consultant Archaeologists* details a list of features that indicate archaeological potential when making and evaluation for developing recommendations. As documented in Section 1.0 of this report, there are features documented during background research that indicate archaeological potential. These include:

- Location of the study area adjacent to Queensway West, which historical maps suggest functioned as a historic transportation route.
- Location of the study area at the edge of Pringle Creek.

As a result of the identification of these features, it is determined that the study area contains archaeological potential, and a Stage 2 archaeological assessment is recommended.

The study area consists of a mixed residential and commercial lot, and as a result a test pit survey shall be required. Test pits shall be spaced at maximum intervals of five metres apart, and to within a metre of standing structures. Each test pit shall be excavated by hand to 30 centimetres in diameter, and excavated into the first five centimetres of subsoil. Each test pit shall be examined for stratigraphy, cultural features, or evidence of fill, and all soil shall be screened through wire mesh of no greater than six millimetre width. Any identified artifacts shall be collected according to their associated test pit. All test pits shall be backfilled.

The Ministry of Citizenship and Multiculturalism is requested to review this report and provide a letter indicating their satisfaction that the fieldwork and reporting for this archaeological assessment are consistent with the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licences, and to enter this report into the Ontario Public Register of Archaeological Reports.

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Project Personnel

Managing Director:	Anthony Butler, M.Sc. (P310)
Licensed Archaeologist:	Shane McCartney, M.A. (P321)
Report Production:	Justina Zivic, M.Sc. (R1312)
	Shane McCartney, M.A. (P321)



1.0 Project Context

1.1 Development Context

Earthworks Archaeological Services Inc. (Earthworks) was retained to conduct a Stage 1 archaeological assessment of a 2.89 hectare area located at 395-411 Queensway West, part of Lot 2, Concession 14, Geographic Township of Windham, Norfolk County, Ontario (Map 1). The assessment was undertaken in support of an application for Site Plan Approval (Map 2) and was conducted as part of the requirements defined in Section 5.7.4 of the *The Norfolk County Official Plan*, which requires an archaeological assessment prior to final planning approval, or as a condition of final planning approval within an area of archaeological potential (County of Norfolk 2021:87).

The objectives of the Stage 1 archaeological assessment, as outlined by the Ministry of Citizenship and Multiculturalism (MCM) *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), are as follows:

- To provide information about the property's geography, history, previous archaeological fieldwork and current land condition.
- To evaluate the property's archaeological potential.
- To document archaeological resources located on the property.

As part of this assessment, background research was conducted in Earthworks corporate library, the OnLand Registry Database, and the Federal Canadian Census located online at Library and Archives Canada.

Permission to access the property was provided by the proponent.

1.2 Historic Context

1.2.1 Pre-Contact Indigenous History

Table 1 provides a breakdown of the general culture history of southern Ontario, as based on Ellis and Ferris (1990).

Table 1: Summary of Pre-contact Culture History of Ontario

Culture Period	Diagnostic Artifacts	Time Span (Years B.P.)	Detail
Early Paleo-Indian	Fluted Projectile Points	11,000-10,400	Nomadic caribou hunters
Late Paleo-Indian	Hi-Lo, Holcombe, Plano Projectile Points	10,400-10,000	Gradual population increase
Early Archaic	Nettling and Bifurcate Points	10,000-8,000	More localized tool sources
Middle Archaic	Brewerton and Stanly-Neville Projectile Points	8,000-4,500	Re-purposed projectile points and greater amount of endscrapers
Narrow Point Late Archaic	Lamoka and Normanskill Projectile Points	4,000-3,800	Larger site size
Broad Point Late Archaic	Genessee, Adder Orchard Projectile Points	3,800-3,500	Large bifacial tools. First evidence of houses
Small Point Late Archaic	Crawford Knoll, Innes Projectile Points	3,500-3,100	Bow and Arrow Introduction
Terminal Archaic	Hind Projectile Points	3,100-2,950	First evidence of cemeteries
Early Woodland	Meadowood Points, Cache Blades, and pop-eyed birdstones	2,950-2,400	First evidence of Vinette I Pottery
Middle Woodland	Pseudo-scallop shell	2,450-1550	Burial Mounds
	Princess Point pottery	1550-1100	First evidence of corn horticulture
Late Woodland	Levanna Point	1,100-700	Early longhouses
	Saugeen Projectile Points	700-600	Agricultural villages
	Nanticoke Notched Points	600-450	Migrating villages, tribal warfare

1.2.2 Post-Contact Indigenous History

The surrounding area enters the historic record in 1626, when Father Daillon, a French missionary, spent three months in the Hamilton region attempting to conclude a trading alliance with the Neutral Confederacy, and travelling by canoe along the length of the Grand River (Harper 1950). These negotiations ultimately failed due to opposition from Huron allies (White 1978:409). By 1638, the Neutral had expanded east to the Niagara River in response to a void left by the Wenro migrating to Huronia and the Erie migrating southwest. By the early 1640s, the Neutrals were engaged in large scale warfare with the Assistaeronons to the west while maintaining a neutral stance between the Huron and the League of Five Nations Iroquois. European influence in the region was generally restricted to the beaver pelt trade, and Aboriginal groups practiced a way of life that did not differ significantly from the pre-Contact period. By the late 1640's, the increasing scarcity of beaver pelts prompted the invasion of the Neutral by the League of Five Nations Iroquois. By 1651, the Neutral Confederacy was dissolved and its former members either moved west out of Ontario or were absorbed into the League of Five Nations (Trigger 1994:57).

The region appears to have been relatively unpopulated by permanent settlements in the latter half of the seventeenth century, with much of southern Ontario used as a hunting territory by the Iroquois. However, Ojibwa groups previously thought to have settled along the northern shores of Georgian Bay and Lake Superior gradually migrated into southern Ontario, and by the late seventeenth/early eighteenth century the Mississauga had settled in the Hamilton region (Rogers 1978:761).

In 1669, Long Point and the surrounding area was described in a journal from Father Galinee, a Sulpician priest who traveled through Lakes Ontario, Erie and Huron. Him and his traveling group wintered on Black Creek (near Port Dover) and planted a cross, declaring the 'unoccupied' territory property of King Louis XIV (Tasker 1900: 34).

By 1784, the British government purchased from the Mississauga over a million hectares of land between Lake Ontario and Lake Erie, which became known as the Between the Lakes Purchase (Surtees 1994:102). The Mississauga eventually relocated to the Grand River at New Credit in 1847.

1.2.3 European Settlement History

European settlement in Norfolk County began as early as 1790 when settlers began to move into the area and 'squat' awaiting official surveys and land patents around Long Point Bay (Tasker 1900:46).

Lieutenant Governor Simcoe considered Long Point and the county a first line of defense against any invasion to the newly formed province and sought to establish a plan to build a military base at Long Point in 1794. Lord Dorchester, the Governor of both Upper and Lower Canada, rejected Simcoe's military plans and in response Simcoe halted all land grants to the area for prospective settlers (Tasker 1900: 45). In 1794 Simcoe banned all settlement in the region and issued an eviction order on all those who already lived along Long Point Bay. In 1795 Simcoe reopened land grants and encouraged the construction of Grist and Sawmills in the area. The first land grants were awarded in Woodhouse, Walsingham and Charlotteville Townships.

As Norfolk County began to establish itself it soon saw conflict with the outbreak of War between Britain and the United States of America. Communities along the shoreline were raided and saw active conflict between American Soldiers and the Norfolk Militia. The territory along Lake Erie had strategic value and fed many traveling armies, including General Brock when returning from a campaign in Detroit (Collins 2006: 82).

The Hamlet of Simcoe, named after Lieutenant Governor Simcoe, was a casualty of the War of 1812 and was partially burnt down by American soldiers (MacDonald 2012a). The settlers re-established the hamlet and by 1851 Simcoe was incorporated as a village. By 1878, Simcoe had expanded rapidly and grown in local prominence, resulting in its incorporation as a town (MacDonald 2012b). The town of Simcoe is divided by the historic townships of Windham, Townsend and Woodhouse. The study area is in the township of Windham.

Norfolk County saw rapid economic growth in the 1920's with the establishment of the Ontario Tobacco Belt, which was dominantly in Norfolk County (McQuarrie 2016: 32,33). Preferring the cheaper, sandy soil of Norfolk, companies and immigrants flocked to the area to grow flue-tobacco, a cash crop with high demand due to the popularity of cigarettes.

1.2.4 Land Use History of Study Area

Land registry records indicate that the Crown awarded the patent for Lot 2, Concession 14 in the Township of Windham to Gideon Cooley in 1796. John Davis purchased the 200-acre lot in 1801 and sold the southwestern 30 acres to James Derickson in 1813. By 1827 James Derickson sold the land to William Wilson, who mortgaged the lot to John Wilson. By 1836 the southwestern 30 acres of the lot began to be sectioned off into 10-acre parcels that were owned by James Derrickson. In 1842 James Derickson sold one of the parcels to Samuel Harvey and in 1847 William Wilson dies, which results in his portion of the lot being willed to multiple family members. These family members sell and mortgage out the land quickly, breaking up the lots further into 1-acre and 5-acre parcels. Robert Davis appears to hold the largest amount of land on the lot into the early 1850's. Starting in the 1850's, Henry Sebring, a mechanic from the United States, owns 3 acres and lives in a storey in a half frame house on the property. Between 1855-1857 there are seventeen separate land transactions, suggesting this is when Simcoe began to expand rapidly. This is supported by the incorporation of Simcoe as a village a few years prior in 1851. By the 1860's the southern portion of the lot continues to be divided. Occupants include farmers John Davis and Henry Clark, plough maker Henry H. Dell, Charles Garner, a Carpenter, and Robert More who is a labourer. All the listed occupants have either a one storey or storey and a half frame home on the land. Occupation continues into the 1870's and 1880's as more people immigrate into the area, including Henry Fishback and C. Ross, both farmers from Germany and Henry Sebren from Nova Scotia. Historic nineteenth century mapping indicate Queensway West had been established as 1854, and the owner of the study area in 1877 is listed as D.C. with a house on the property, of whom no further information could be located (Map 3).

Topographic maps and aerial imagery indicate the study area was uninhabited land in the first half of the twentieth century before converting to the current configuration as early as 1964 (Maps 4 and 5).

1.2.5. Historic Plaques

As per Section 1, Standard 1.1 of the *Standards and Guidelines for Consultant Archaeologists*, Earthworks consulted local historical plaques in order to inform archaeological potential and assessment strategies. No historic plaques were identified nearby that would be relevant to informing the study area's archaeological potential.

1.3 Archaeological Context

1.3.1 Current Conditions

The study area consists of a flat lot that is partially residential and partially commercial. The western edge of the property is a residential property and yard that backs up all the way to Patterson Creek on the northern edge of the property. The area is densely forested towards the creek. The remainder of the study area is a commercial building and parking lot that has been graded with gravel.

1.3.2 Natural Environment

The study area is situated within a sand plain (Map 6) of the Norfolk Sand Plain physiographic region, a 3134 square kilometre area consisting of silt and sand deposited as a delta in glacial Lakes Whittlesey and Warren. Sand in this plain can cover moraines and other strata in 15 to 22 metres of sand, with the average depth being 9 metres (Chapman and Putnam 1984: 153-154).

The surficial geology consists of fine- textured glaciolacustrine deposits of silt and clay with minor deposits of sand and gravel, coarse-textured glaciolacustrine deposits of sand and gravel with, minor deposits of silt and clay as well as modern alluvial deposits with clay, silt, sand, gravel and potential organic remains (Map 7).

The nearest water source is Patterson Creek on the northern edge of the study area and Mill Pond is 70 metres northeast. Patterson Creek connects to Dingle Creek and then to Spring Creek before draining into Lake Erie approximately 11.8 kilometres to the southeast.

The study area is located in the St. Thomas District of the Lake Erie- Lake Ontario Ecoregion, which itself is situated in the Mixedwood Plains Ecozone. This region encompasses 2,185,845 hectares, and contains a diverse array of flora and fauna. It is characterized by a mix of Carolinian forest remnants of tulip-tree, black gum, sycamore, Kentucky coffee-tree, pawpaw, various oaks and hickories, and common hackberry, in addition to the more widespread sugar maple, American beech, white ash, eastern hemlock, and eastern white pine.

Typical mammals inhabiting this ecoregion include white-tailed deer, northern raccoon, striped skunk, and the Virginia opossum which has increased its distribution and abundance since the latter half of the 20th century. Characteristic birds include green heron, Virginia rail, Cooper's hawk, eastern kingbird, willow flycatcher, brown thrasher, yellow warbler, common yellowthroat, northern cardinal, and savannah sparrow. Wild turkey has been re-introduced into the ecoregion. Herpetofauna, is diverse, including several provincially rare species (e.g., spiny softshell turtle), as well as more frequent species such as eastern red-backed salamander, American toad, eastern gartersnake,

and Midland painted turtle. Longnose gar, channel catfish, smallmouth bass, yellow perch, walleye, northern hogsucker, banded killifish, and spottail shiner are among the fish species found in the lakes and rivers in this ecoregion.

(Crins et al. 2009:52)

1.3.3 Known Archaeological Sites

A search of registered archaeological sites within the MHSTCI Archaeological Sites Database was conducted. A total of 2 archaeological sites have been found registered within one kilometre of the study area. These sites are detailed in Table 2. Neither site is within 300 metres of the study area.

Table 1: Registered Archaeological Sites within one kilometre of the Study Area

Borden Number	Site Name	Time Period	Affinity	Site Type
AfHb-135		Archaic, Middle		hunting, hunting loss
AfHb-1	Cayuga Quarry			

1.3.4 Adjacent Archaeological Assessments

A search of registered archaeological reports within the MCM Archaeological Reports Database was conducted. There were no archaeological surveys identified within 50 metres of the study area were identified.

2.0 Analysis & Conclusions

Section 1.3 of the *Standards & Guidelines for Consultant Archaeologists* details a list of features that indicate archaeological potential when making and evaluation for developing recommendations. As documented in Section 1.0 of this report, there are features documented during background research that indicate archaeological potential. These include:

- Location of the study area adjacent to Queensway West, which historical maps suggest functioned as a historic transportation route.
- Location of the study area at the edge of Pringle Creek.

As a result of the identification of these features, it is determined that the study area contains archaeological potential, and additional archaeological assessment is required.



3.0 Recommendations

Based on the results of the Stage 1 background investigation, the study area contains archaeological potential, and a Stage 2 archaeological assessment is recommended (Map 8).

The study area consists of a mixed residential and commercial lot, and as a result a test pit survey shall be required. Test pits shall be spaced at maximum intervals of five metres apart, and to within a metre of standing structures. Each test pit shall be excavated by hand to 30 centimetres in diameter, and excavated into the first 5 centimetres of subsoil. Each test pit shall be examined for stratigraphy, cultural features, or evidence of fill, and all soil shall be screened through wire mesh of no greater than six millimetre width. Any identified artifacts shall be collected according to their associated test pit. All test pits shall be backfilled.

The MCM is requested to review this report and provide a letter indicating their satisfaction that the fieldwork and reporting for this archaeological assessment are consistent with the Ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licences, and to enter this report into the Ontario Public Register of Archaeological Reports.



4.0 Advice on Compliance with Legislation

This report is submitted to the Ministry of Citizenship and Multiculturalism Citizenship, Inclusion and Heritage, as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Heritage Sport Tourism and Culture Industries, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.



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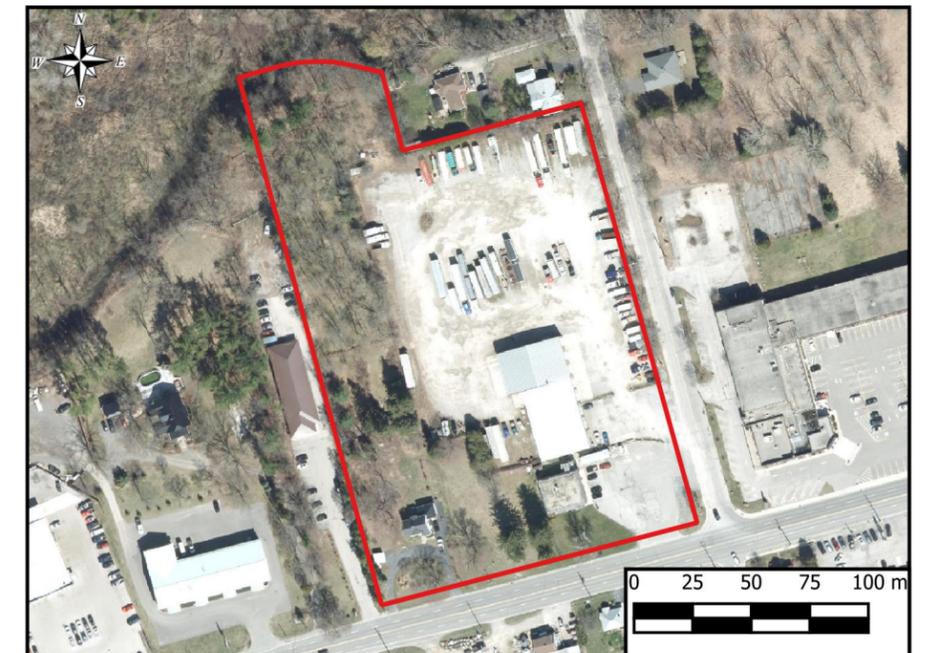
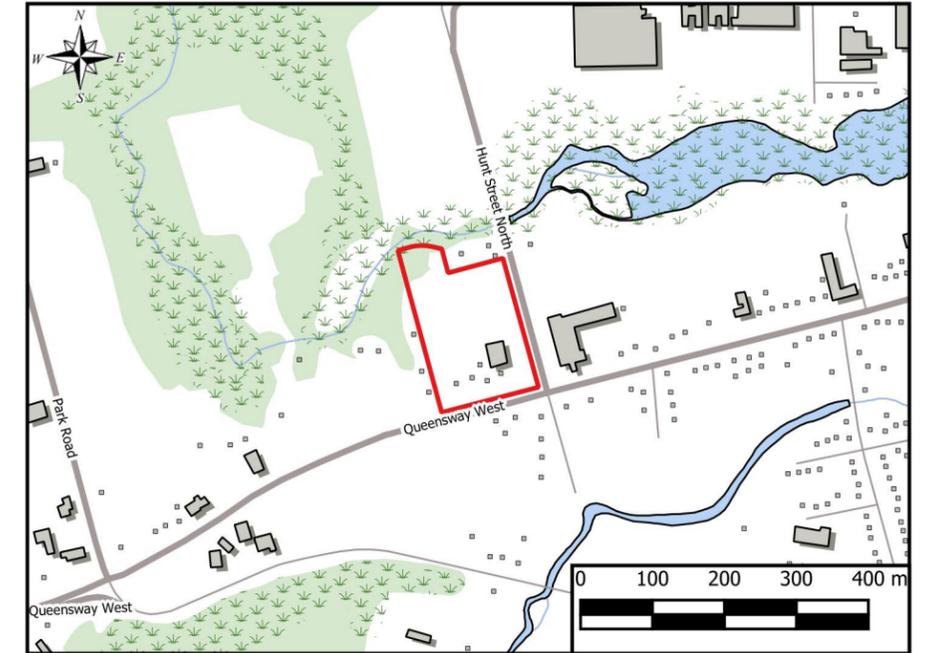
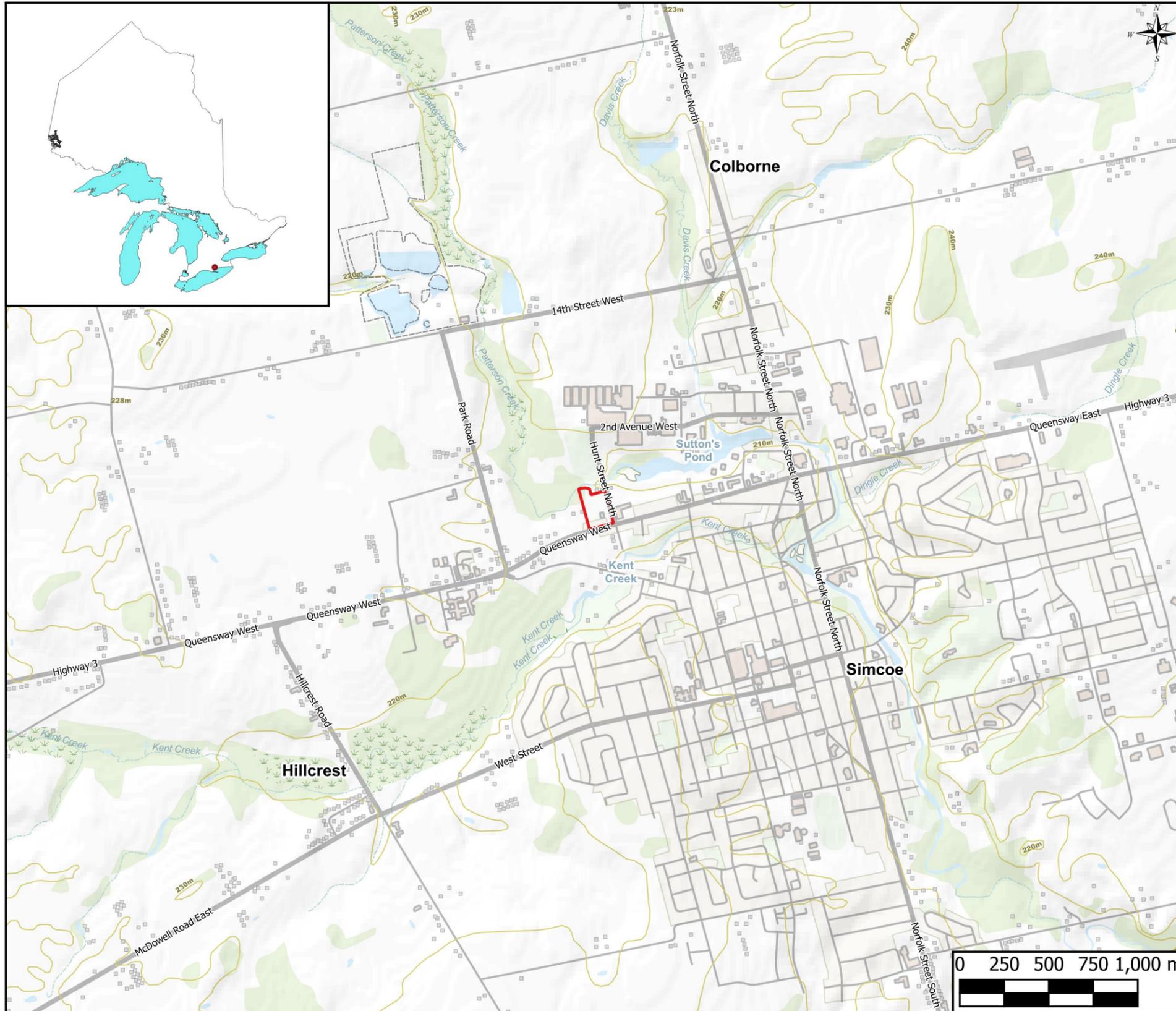
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6.0 Maps



Earthworks Archaeological Services Inc.
 Stage 1 Archaeological Assessment
 395 - 411 Queensway West
 Simcoe

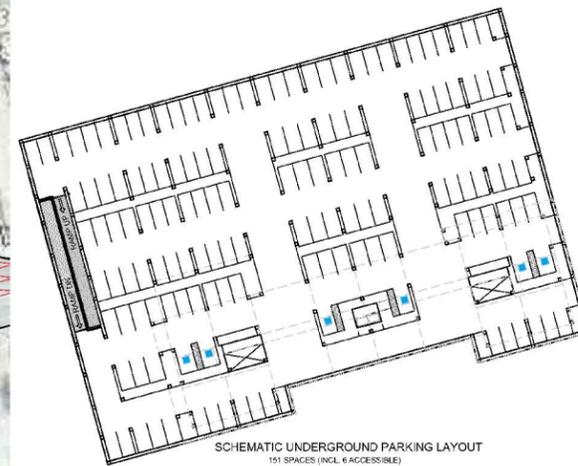


Legend

Study Area

Reference:
 Canvec Data. Scale 1:50000
 Ontario Basic Mapping. Scale 1:10000
 Norfolk County 2020 Aerial Imagery

Map 1: Regional Map



REV	DATE	REVISION

Scale: 1" = 50'

vallee
 Consulting Engineers,
 Architects & Planners
 G. DOUGLAS VALLEE LIMITED
 2 TALBOT STREET NORTH
 SIMCOE, ONTARIO N4Y 3W4
 (519) 426-6270

PRELIMINARY
 NOT TO BE USED
 FOR CONSTRUCTION

Project Title:
HUNT STREET RESIDENTIAL
 395 QUEENSWAY WEST

Drawing Title:
 CONCEPT SITE PLAN - OPTION B

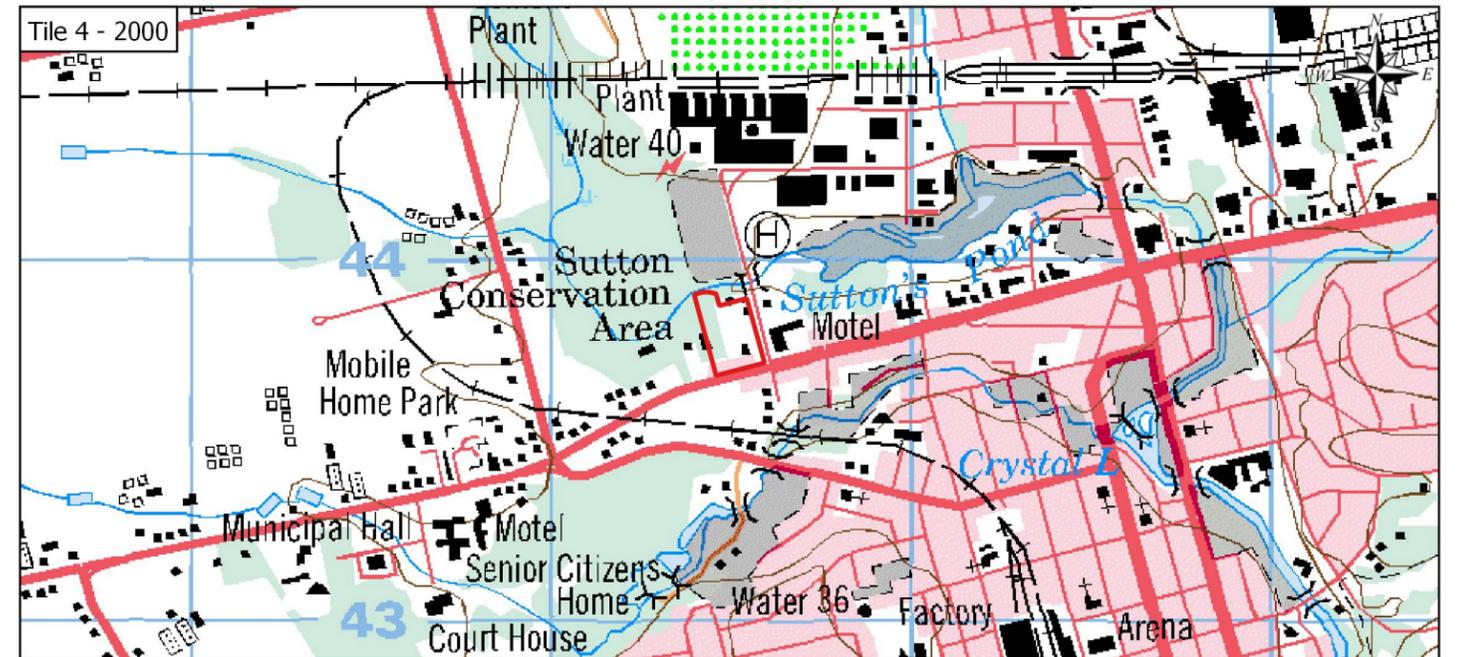
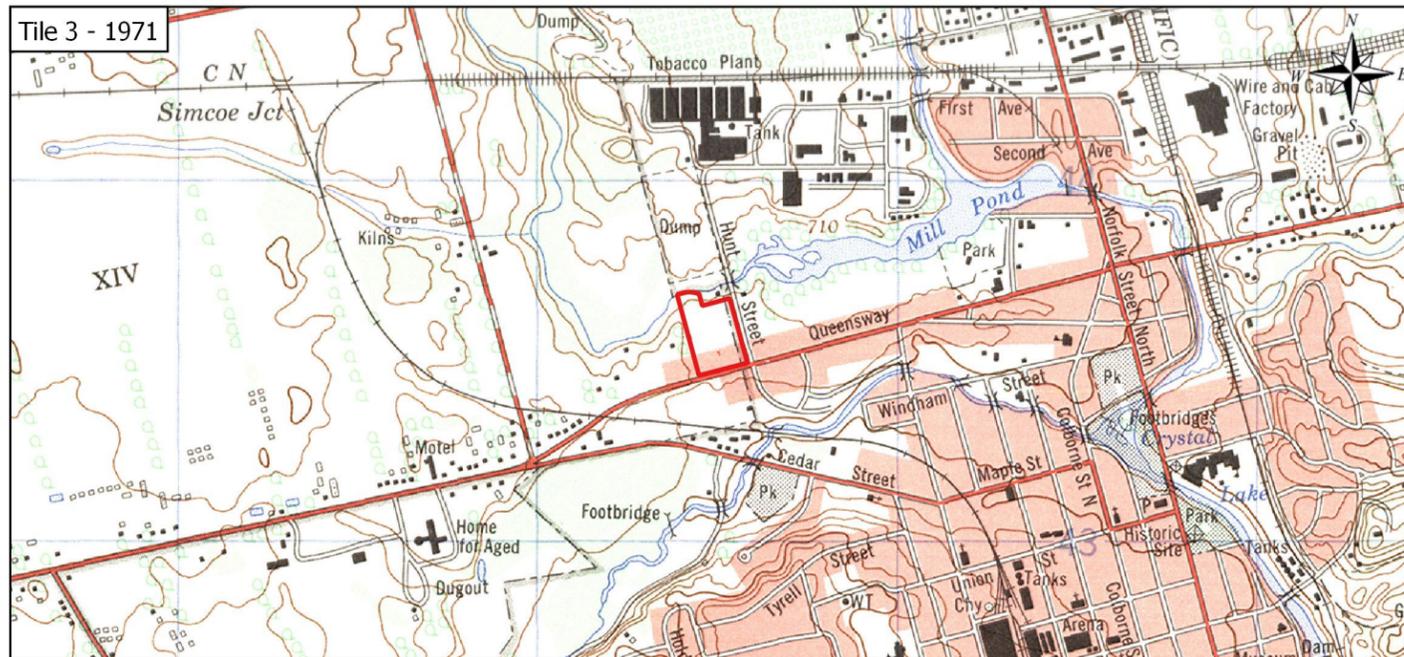
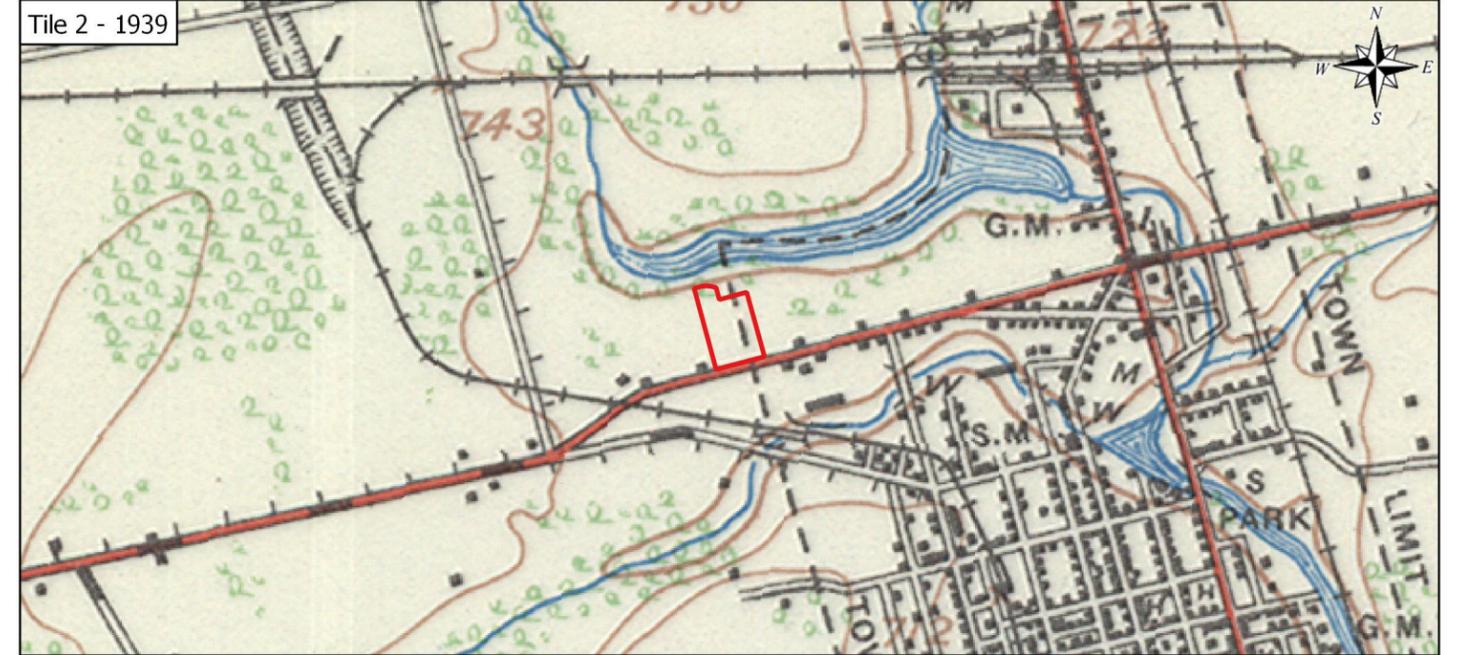
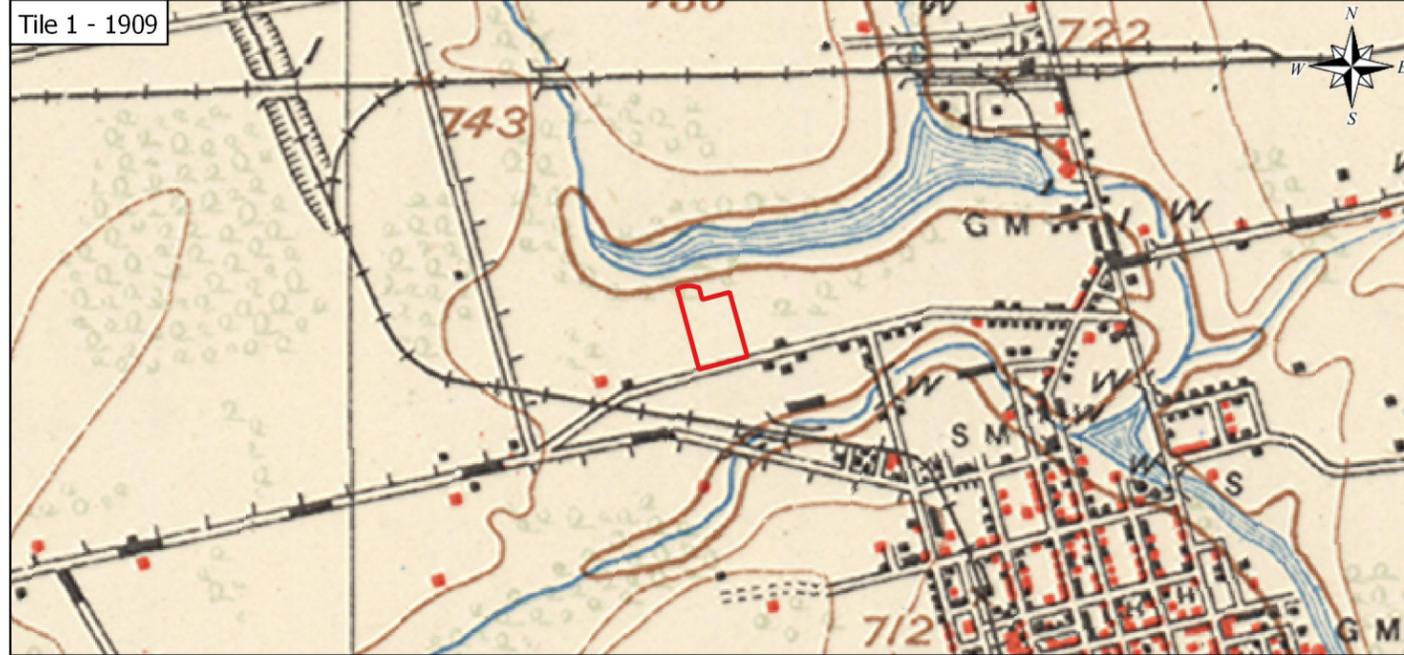
Designed by: Drawn By: WSK / 1

Checked by: Date Stored: 08/11/2022

Drawing Scale: Drawing No.:

Project No. **CSP**
 22-013

Map 2: Site Plan



Legend

 Study Area

0 250 500 750 1,000 m



Tile 1 - Canada, Department of Militia and Defence [Department of National Defence]. Simcoe, Ontario. 1:63,360. Map Sheet 040116, [ed. 1], 1909.

Tile 2 - Canada, Department of National Defence. Simcoe, Ontario. 1:63,360. Map Sheet 040116, [ed. 5], 1998.

Tile 3 - Canada, Department of Energy, Mines and Resources [Natural Resources Canada]. Simcoe, Ontario. 1:25,000. Map Sheet 040116C, ed. 1, 1971.

Tile 4 - Canada, Natural Resources Canada. Simcoe, Ontario. 1:50,000. Map Sheet 401/16, ed. 8, 2000.

Map 4: Twentieth Century Topographic Maps

Tile 1 - 1964



Tile 2 - 2002



Legend

 Study Area

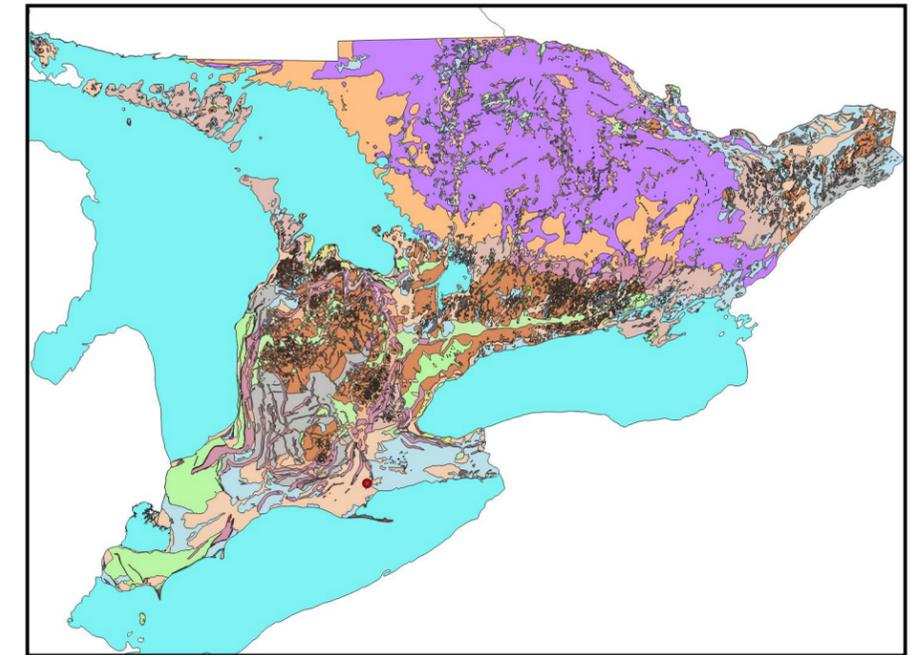
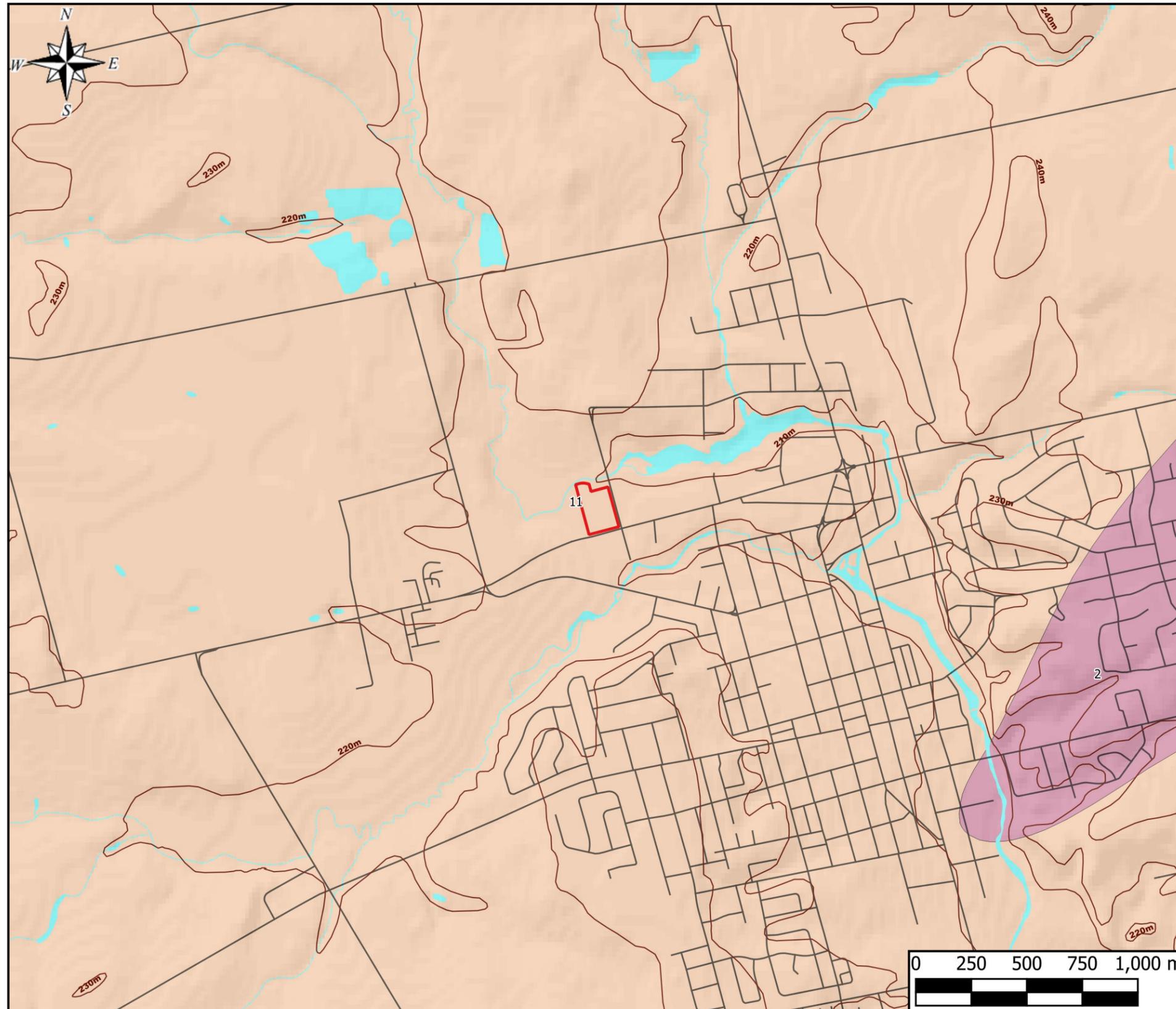
0 25 50 75 100 m



Tile 1 - Norfolk County 1964 Aerial Imagery

Tile 2 - Norfolk County 2002 Aerial Imagery

Map 5: Historic Aerial Imagery

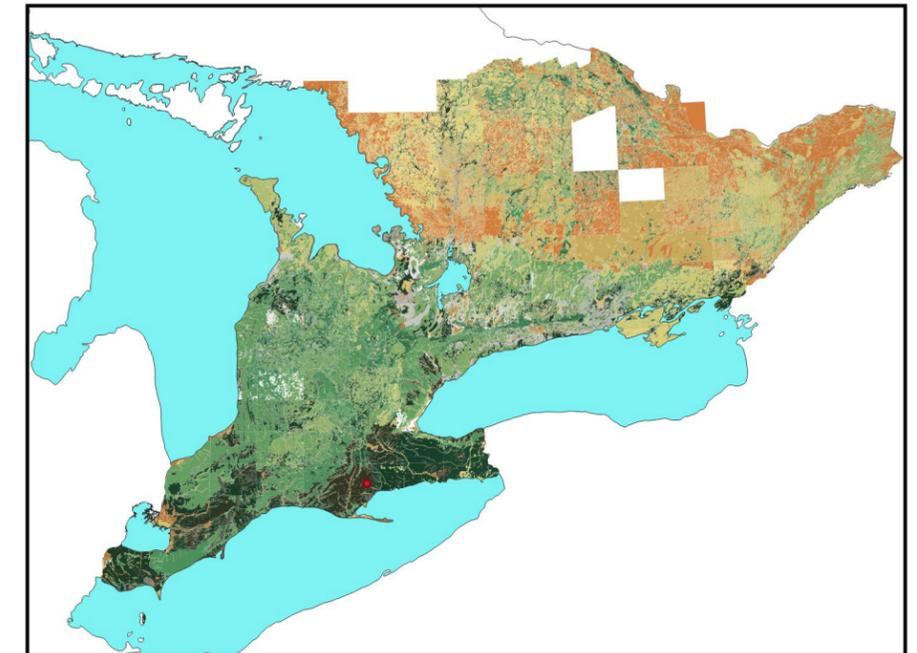
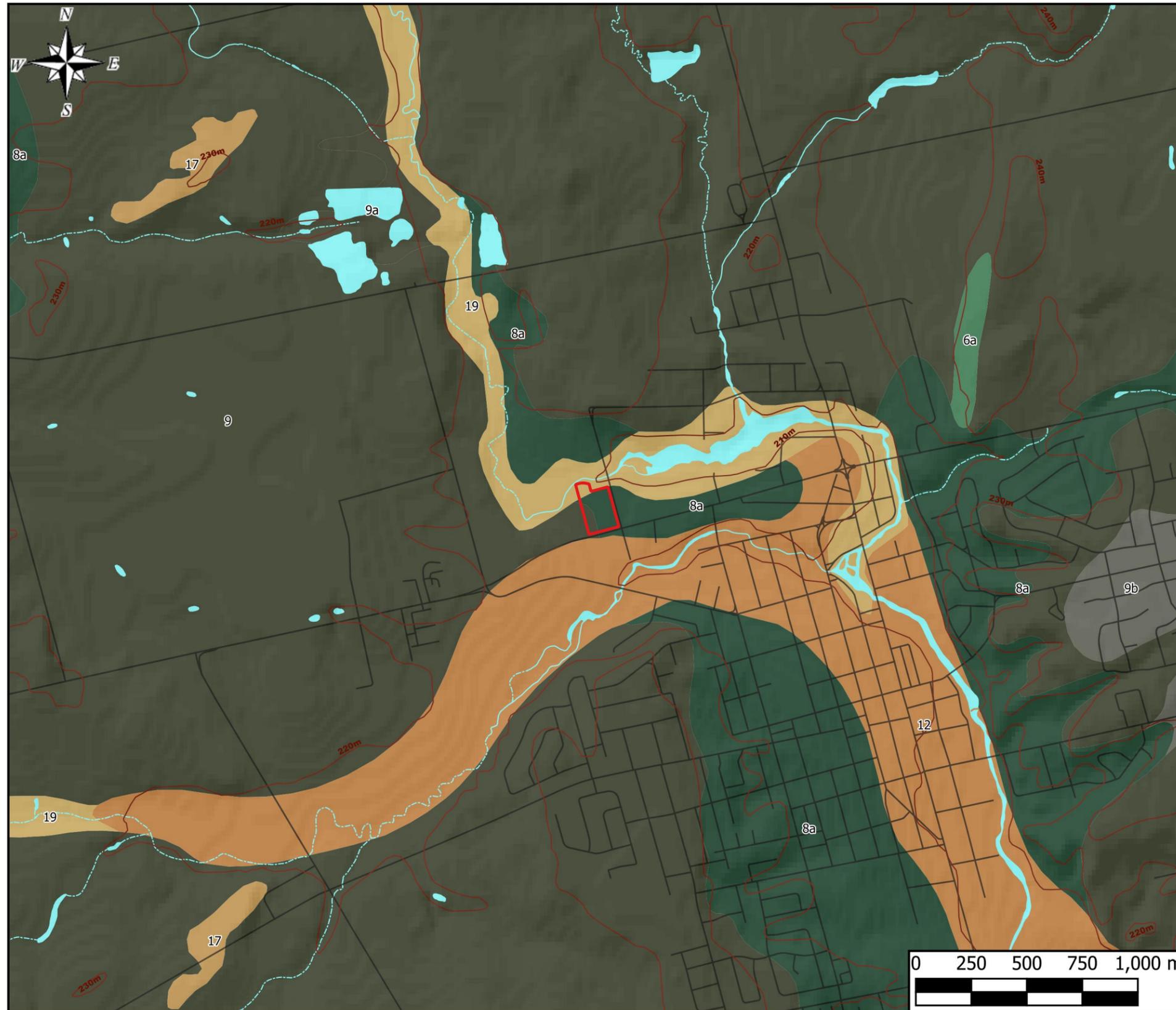


Legend

-  Study Area
-  Road Network
-  2 - Till Moraines
-  11 - Sand Plains

Base Data:
Chapman, L.J. and Putnam, D.F. 2007. Physiography of southern Ontario; Ontario Geological Survey, Miscellaneous Release—
Data 228.

Map 6: Physiographic Landforms

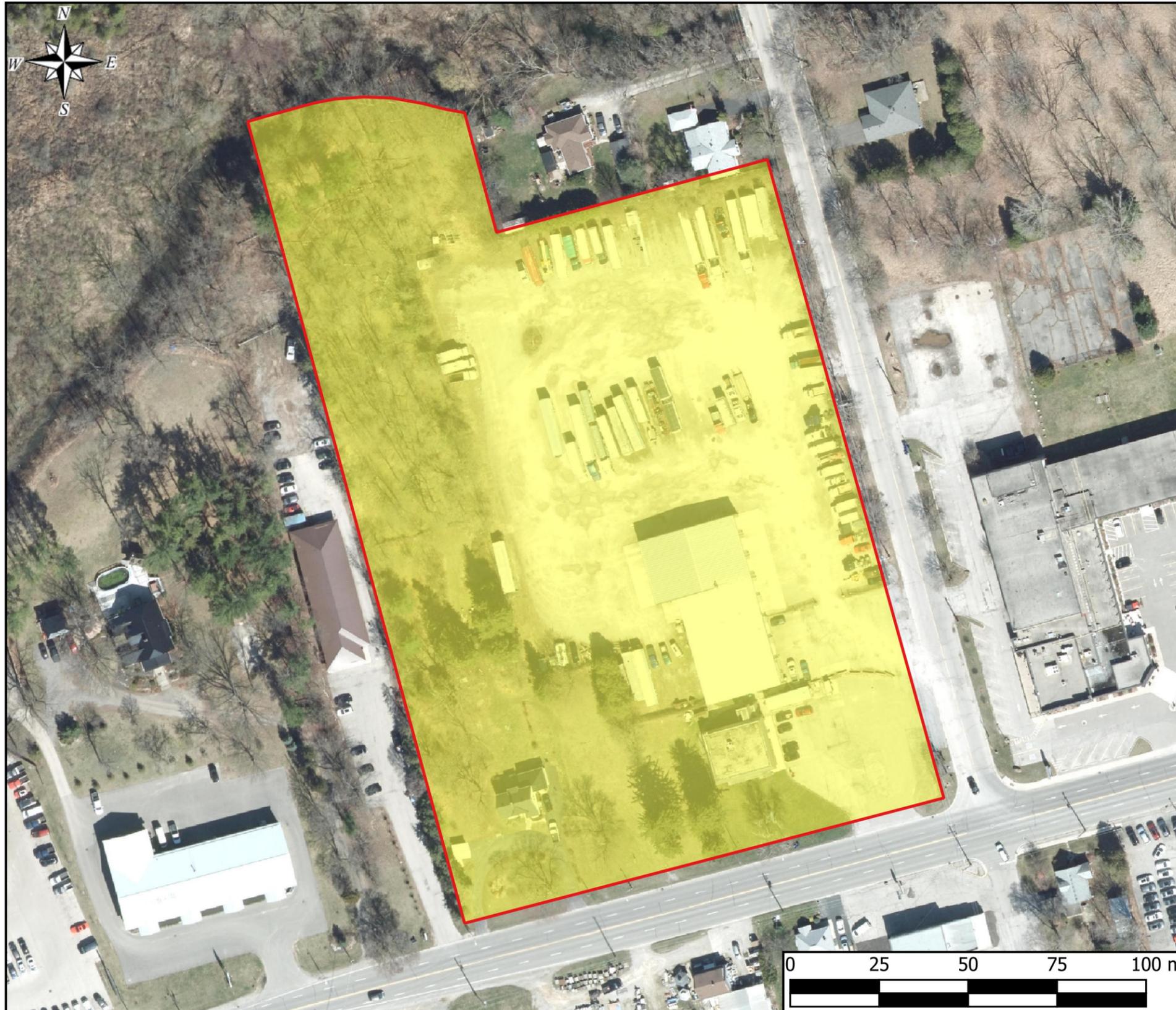


Legend

- Study Area
- Road Network
- 6a - Morainic and kame gravel and sand
- 8a - Massive to laminated and varved silt
- 9 - Very fine to coarse grained sand
- 9a - Gravel to gravelly sand
- 9b - Gravel to very coarse grained sand with pebbles
- 12 - Medium to very coarse grained sand with occasional pebbles
- 17 - Very fine to coarse grained sand, massive to faintly laminated
- 19 - Undifferentiated clay, silt, sand, muck

Base Data:
 Ontario Geological Survey 2010. Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data
 128-REV ISBN 978-1-4435-2483-4

Map 7: Surficial Geology



Legend

-  Study Area
-  Area of Archaeological Potential
Stage 2 Archaeological Assessment Recommended

Reference:
Norfolk County 2020 Aerial Imagery

**Map 8: Stage 1
Assessment Results**



vallee

*Consulting Engineers,
Architects & Planners*

June 12, 2023

HFW Holdings Limited
3 Fernwood Court
Richmond Hill, Ontario
L4B 3C2

Attention: Mr. Herbert Chiu

**Reference: Functional Servicing Report
HFW Hunt Street Residential Development
Simcoe, Norfolk County
Project #22-013**

Introduction

This functional servicing report has been prepared on behalf of HFW Holdings Ltd, to outline the servicing requirements for the development of an assembly of parcels known municipally as 395, 401, 403, 405 and 411 Queensway West in Simcoe – Norfolk County. The proposed development would feature a 6-storey, 114-unit residential mid-rise building, and a 37-unit condominium development. This report presents the conceptual servicing for the proposed development, including sanitary servicing, storm servicing and domestic and fire water servicing.

The 2.86 ha development site is currently occupied by a variety of buildings, including a single detached dwelling and storage/maintenance buildings and gravel yard for Wilson Truck and Trailer. The lands are bound by Hunt Street to the east, Queensway West to the south, Patterson Creek and the Sutton Conservation Area to the north, and the Queensway Veterinary Hospital to the west. Refer to Figure 1 below.



Figure 1 – Site Location

The development will be comprised of the following:

- Block 1 – Semi Detached at the north side of the property
 - 6 – 1-storey residential dwelling units
- Block 2 – Townhouses in the middle of the development
 - 32 – 3-storey stacked residential dwelling units
- Block 3 – 6-storey residential/commercial mid-rise building with approximately 114 units and 2 floors of commercial space
- Storm and sanitary infrastructure to support the proposed construction
- Stormwater management facility
- Curbs, sidewalks and other miscellaneous items to support the proposed construction

Refer to Appendix D for the proposed development concept plan.

Sanitary Servicing

Norfolk County GIS mapping and record drawings indicate an existing 375mm diameter sanitary sewer on Queensway West, and a 250mm diameter sanitary sewer stub on Hunt Street. Due to the insufficient depth of the existing sanitary sewer along Queensway West at the southwest corner of the property, it is proposed that sanitary flows from units 1-38 be discharged to the existing Hunt Street sanitary sewer. As part of the Sutton’s Trail Condo Development (Vallee project #19-068), the Hunt Street sanitary sewer is going to be extended northwards, making connection the proposed connection feasible. Sanitary flows from the mid-rise building will also be directed to the existing Hunt Street sanitary sewer. Refer to DWG C100 – Conceptual Servicing Plan in Appendix D.

Sanitary design flows for the proposed development were calculated using the Norfolk County Design Criteria. Table 1 presents the flow information associated with each of the proposed development zones. In summary, the proposed development is anticipated to generate a total additional sanitary flow of approximately 11.37 L/s to the existing sanitary sewer on Hunt Street. Detailed calculations are outlined in Appendix A.

Table 1 Sanitary Design Flows			
	Zone R4	Zone R4 Residential	Zone CS Commercial
Total Number of Units	38	114	-
Population Density (persons/units)	2.75	2.75	90 persons/ha
Population	105	314	
Per Capita Flow (L/person/day)	450	450	40000 L/ha/day
Peak Extraneous Flow (L/sec/ha)	0.28	0.28	-
Development Area (ha)	1.85	1.01	1.01
Infiltration Flow (L/s)	0.52	0.28	-
Sewage Flow (L/s)	0.55	1.64	0.47
Peak Design Flow (L/s)	2.84	6.94	1.59

Vallee has requested that sanitary hydraulic modelling be completed by the Norfolk County consultant to determine if the existing County infrastructure provides adequate capacity to accommodate the estimated sanitary design flow from the proposed development.

G. DOUGLAS VALLEE LIMITED
Consulting Engineers, Architects & Planners

Stormwater Management

Under existing conditions, the subject site features several commercial buildings, gravel and asphalt parking lots, an existing residential dwelling, and wooded areas. A topographic survey was completed by Jewitt & Dixon Limited to determine the overland drainage routes. Runoff from the majority of the site generally flows uncontrolled, overland in a northerly direction towards the Sutton Conservation Area. There are five existing catch basins within the existing asphalt and gravel parking lots that collect minor storm event flows and convey it to the north limit of the site, where runoff outlets to the Patterson Creek/Sutton Conservation Area. Minor flows from a small southern portion of the site along Queensway West drain in a southerly direction towards Queensway West where it is collected by the existing storm sewer system. Major flows from this portion of the site flow overland down Queensway West to Hunt Street, then northwards down Hunt Street and ultimately discharges to Patterson Creek. Refer to DWG PRE - Pre-Development SWM Areas in Appendix D.

The stormwater management (SWM) quantity control objective for the development is to reduce and/or control all post-development peak flow rates from the site to levels that do not exceed the allowable pre-development flow rates, for all storm events up to and including the 100-year storm event. To meet this objective, runoff from the proposed development will be detained in a dry pond, and released at a rate such that the pre-development peak flow rates from the subject site are not exceeded.

To reduce the required SWM pond storage volume, rooftop storage on the mid-rise building at the southeast corner of the site will be utilized to detain runoff. All storm events will be conveyed to a proposed SWM facility through the storm sewer network. For storm events greater than the 100-year storm, runoff will overland to the Patterson Creek. Runoff released from the storage facility will be released to a storm sewer which will outlet to Patterson Creek in the Sutton Conservation Area at the north limit of the site. Refer to DWG POST – Post-Development SWM Areas and C100 – Conceptual Servicing Plan in Appendix D. The proposed SWM facility is located entirely outside of the 100-year flood plain. However, during the 25, 50 and 100-year events, discharge from the pond is limited due to the outlet being submerged. Runoff from the stormwater management pond can only be released when the ponding level in the pond exceeds the flood elevation, or as the flood level begins to recede. For example, during the 100-year storm event, the flood elevation of the creek reaches 215.65m, and as such, runoff from the stormwater management pond will only release when the ponding level exceeds 215.65m. Correspondingly, the stormwater management facility has been sized to provide sufficient volume to store runoff when it cannot be released to the creek during flood events. Table 2 presents the flood elevations provided by the Long Point Region Conservation Authority (LPRCA).

Event	LPRCA Flood Elevation (m)
2-year	213.83
5-year	214.37
10-year	214.58
25-year	214.92
50-year	215.16
100-year	215.65

Visual OTTHYMO was used to simulate the pre-development and post-development conditions for the subject site and determine the SWM pond storage volume and the outlet control required to meet the quantity control objective. The maximum rooftop storage volume was determined to be 152 m³ based on the assumption that approximately 75% of the roof area can be utilized for storage, and ponding will occur to a maximum depth of 75mm. Using a SWM dry pond volume of 740 m³, a 100mm orifice and a 0.3m wide rectangular weir, the total post-development design flows from the subject site can be reduced to less than or equal to the pre-development design flow rates, as displayed in Table 3. Supporting calculations can be found in Appendix B. During the detailed design stage, further low-impact development infiltration practices will be analyzed to reduce the required storage volume and promote groundwater recharge and water balance. Water balance calculations will be conducted at this time.

Table 3 Pre to Post-Development Flow Rates				
Event	Pre (cms)	Pond (cms)	Total Post (cms)	Net Change (cms)
2-year	0.032	0.019	0.019	-0.013
5-year	0.077	0.054	0.056	-0.021
10-year	0.122	0.088	0.092	-0.030
25-year	0.182	0.132	0.140	-0.042
50-year	0.245	0.167	0.177	-0.068
100-year	0.304	0.175	0.188	-0.116

Quality Control

Based on the site and the receiving watercourse, an enhanced level of water quality treatment is required. During detailed design, stormwater quality control for the site will be analyzed and multiple quality control solutions will be investigated, such as low-impact development (LID) treatment and oil grit separators (OGS). The most practical solution that meets the municipal design criteria will be proposed.

Erosion and Sediment Control

Similar to the recently accepted design approach for a neighbouring development, the proposed outfall channel from the stormwater management pond will be designed by an environmental design consultant specializing in naturalized channel design. The proposed outfall will ensure long-term protection from erosion using naturalized elements, such as plunge pools, step stones and vegetated buffers, and will be designed to maintain and preserve as much of the natural environment in the outfall area as possible. The proposed design will include all erosion and sediment control controls and vegetation details, and will be provided at the site plan application stage.

During construction, the contractor will be required to protect the worksite and all adjacent lands from sediment and erosion regardless of the source, to the satisfaction of all applicable parties. The measures installed by the contractor are to remain in place until such time as there is no further threat of damage and all vegetation is established. Measures that are to be put into place as an absolute minimum include silt fences, mud mats, and filter cloths over catch basins onsite.

Water Servicing

Norfolk County GIS mapping and record drawings indicate an existing 300mm diameter watermain on Queensway West, and a 400mm diameter watermain on Hunt Street. It is proposed that the existing watermain along Hunt Street will be utilized to service both the mid-rise building and the condo development. Refer to DWG C100 – Conceptual Servicing Plan in Appendix D.

Norfolk County’s design criteria stipulates the following requirements for system pressures, and the system shall be designed to meet the greater of either of the following requirements;

- Fire flow conditions– not less than 140 kPa
- Normal operating conditions – not less than 280 kPa

Domestic Water Demand

Table 4 presents the domestic water flow information for the proposed development:

Table 4 Domestic Water Demands			
	Zone R4	Zone R4 Residential	Zone CS Commercial
Total Number of Units	38	114	-
Population Density (persons/units)	2.75	2.75	90 persons/ha
Development Area (ha)	-	-	1.01
Population	105	314	91
Average Daily Demand (L/person/day)	450	450	450
Maximum Day Demand Factor	2.25	2.25	2.25
Maximum Day Demand (L/s)	1.23	3.68	1.07
Peak Hourly Demand Factor	4.00	4.00	2.00
Peak Hourly Demand (L/s)	2.19	6.54	0.95

In summary, the proposed development is anticipated to have a total maximum daily demand of 5.98 L/s and a maximum hourly demand of 9.68 L/s. Refer to Appendix C for detailed calculations.

Fire Water Service

According to the County GIS online mapping, there is a single fire hydrant at the corner of Queensway West and Hunt Street. However, a majority of the site is located outside of the 90m fire hydrant radius, therefore, a fire hydrant will be installed on-site to adequately service the proposed development.

Typically, available fire flow during the maximum day demand is the critical criteria when evaluating a watermain distribution system’s ability to service a residential subdivision. Using the recommendations of the Fire Underwriters Survey – 2020 (FUS), the estimated fire flow required for the proposed development was determined to be 183 L/s. Refer to complete calculations in Appendix C.

Information obtained from Norfolk County ISMP indicates that the existing municipal watermain along Hunt Street has an available fire flow rate between greater than 159 L/s and less than 57 L/s, as shown in Appendix C. However, due to the diameter of the existing watermain it is expected the flow is greater than 159 L/s. Consequently, Vallee requests that an analysis of the hydraulic modelling be conducted by the County's consultant to determine if the existing water system has adequate system flows and pressure ensure the aforementioned fire flow demands.

Conclusions and Recommendations

The conceptual servicing design for the proposed development can be summarized as follows:

- A peak sanitary design flow of approximately 11.37 L/s is anticipated from the proposed development.
- Modelling from the Norfolk County's consultant has been requested to determine if existing County infrastructure provides adequate capacity to accommodate the estimated sanitary design flow.
- Storm sewers (2yr – 100yr storm events) will convey stormwater to the proposed SWM pond facility, ultimately releasing to the Patterson Creek via a storm sewer.
- Rooftop storage and an infiltration basin in the proposed SWM storage pond are used to reduced the required storage volume.
- Under all storm events, peak flows associated with the post-development site are controlled to less than or equal to the pre-development peak flows under all storm events.
- Quality control will be analyzed during the detailed design stage.
- The domestic maximum day demand and peak hourly demand were found to be 5.98 L/s and 9.68 L/s, respectively.
- The required fire flow demand for the proposed development was found to be 183 L/s using the FUS criteria.
- An analysis of the hydraulic modelling by the County consultants has been requested to determine the water servicing capacity and constraints on the existing water system to ensure adequate system flows and pressure for the aforementioned domestic and fire demands.

It is recommended that this report be provided to the Norfolk County and the Long Point Region Conservation Authority in support of the application for zoning by-law amendment of the proposed development.

We trust that this information is complete and sufficient for submission. Should you have any questions or require further information please do not hesitate to contact us.

Respectfully submitted,



Natalie Biesinger, EIT
G. DOUGLAS VALLEE LIMITED
Consulting Engineers, Architects and Planners



John Iezzi, P.Eng.
G. DOUGLAS VALLEE LIMITED
Consulting Engineers, Architects and Planners

Appendix A

– 22-013 Sanitary Flow Calculations

Appendix B

– 22-013 SWM Parameters and Calculations

Appendix C

– 22-013 Domestic Water Demand Calculations
– 22-013 FUS Fire Flow Calculations
– Norfolk County ISMP Available Fire Flow

Appendix D

– 22-013 DWG C100 – Conceptual Servicing Plan
– 22-013 DWG PRE – Pre-Development SWM Areas
– 22-013 DWG POST – Post-Development SWM Areas
– 22-013 DWG FIRE – Fire Separation Distances

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Consulting Engineers, Architects & Planners



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Ontario Association
of Architects

APPENDIX A
22-013 Sanitary Flow Calculation

Norfolk County Design Criteria Section 9.2 - Sanitary Sewage Flow

9.2.01 Tributary Population

Residential Development:	2.75 persons/unit
Units:	38 Units
Number of Persons:	105 persons
Site Area	1.85 ha

9.2.02 Sewage Flow

Residential Development:	0.45 m ³ /person/day
Average Sewage Flow:	0.547 L/s

9.2.03 Peak Sanitary Flow Factor

Commercial Peaking Factor Formula:
 $M = 1 + (14 / (4 + [14 / \{ 4 + P^{(0.5)} \}]))$
P = 0.105
M = 4.238

9.2.04 Infiltration Allowance

Infiltration Allowance:	0.28 L/s/ha
Infiltration Allowance:	0.519 L/s

9.2.05 Design Flow

Design Flow:
Design Flow = (Average Sewage Flow * Peak Sanitary Flow Factor) + Infil. Allowance

Design Flow =	2.84 L/s
---------------	----------

Norfolk County Design Criteria Section 9.2 - Sanitary Sewage Flow

9.2.01 Tributary Population

Residential Development:	2.75 persons/unit
Units:	114 Units
Number of Persons:	314 persons
Site Area	1.01 ha

9.2.02 Sewage Flow

Residential Development:	0.45 m ³ /person/day
Average Sewage Flow:	1.635 L/s

9.2.03 Peak Sanitary Flow Factor

Commercial Peaking Factor Formula:
 $M = 1 + (14 / (4 + [14 / \{ 4 + P^{(0.5)} \}]))$
P = 0.314
M = 4.070

9.2.04 Infiltration Allowance

Infiltration Allowance:	0.28 L/s/ha
Infiltration Allowance:	0.282 L/s

9.2.05 Design Flow

Design Flow:
Design Flow = (Average Sewage Flow * Peak Sanitary Flow Factor) + Infil. Allowance

Design Flow =	6.94 L/s
---------------	----------

Norfolk County Design Criteria Section 9.2 - Sanitary Sewage Flow

9.2.01 Tributary Population

Commercial Development:	90 persons/ha
Site Area:	1.01 ha
Number of Persons:	91 persons

9.2.02 Sewage Flow

Commercial Development:	40 m ³ /ha/day
Average Sewage Flow:	0.468 L/s

9.2.03 Peak Sanitary Flow Factor

Commercial Peaking Factor Formula:

$$M = 0.8(1 + (14 / (4 + (Pe^{0.5}))))$$

Pe =	0.091
------	-------

M =	3.404
-----	-------

9.2.05 Design Flow

Design Flow:

Design Flow = (Average Sewage Flow * Peak Sanitary Flow Factor)

Design Flow =	1.59 L/s
---------------	----------

Summary of Design Flows

Units 1-37: 2.84 L/s

Mid Rise Residential: 6.94 L/s

Mid Rise Commercial: 1.59 L/s

Total Design Flow:	11.37 L/s
---------------------------	------------------

APPENDIX B

22-013 SWM Parameters and Calculations

FLOOD PLAIN ELEVATIONS

Flood Hazard Map Lynn River Black Creek Sheet 19 of 23
Cross Section Number: 910.98

Design Storm	LPRCA Flood Elevation (m)
	CGVD-2013
2	213.39
5	213.93
10	214.14
25	214.48
50	214.72
100	215.21

SOIL PARAMETERS

Soil Parameters	PRE-DEV	POST-DEV
Soil Type	Sandy Textures over Silt Loam (Woodlot & Grass/Improved Land)	Sandy Textures over Silt Loam (Grass/Improved Land)
Soil Group	AB	AB
CN (-)	62	70
Initial Abstraction (mm)	13.6	9.0

INFILTRATION PARAMETERS

Hydraulic Conductivity	2.50E-03 cm/sec	<i>*Hydraulic Conductivity obtained from Preliminary Hydrogeological Assessment by GeoPro Consulting Limited (December 14, 2022)</i>
Infiltration Rate (i)	100 mm/hr	
Safety Factor	2.5	
Design Infiltration Rate	40 mm/hr	
Design Infiltration Rate	0.040 m/hr	
Void Ratio (Vr)	0.4	
Drainage Time (ts)	48 hr	
Max allowable stone depth (drmax)	4.80 m	

PRE-DEVELOPMENT AREA PARAMETERS:

Area Description	Runoff Coeff.	Area (ha)
Grass Area	0.25	1.14
Gravel	0.70	1.02
Roofs/Asphalt/Concrete	0.95	0.42

$$C = 0.9 (\% \text{ imperv}) + 0.25 (1 - \% \text{ Imperv})$$

$$\% \text{ Imperv} = \frac{C - 0.25}{0.65} \times 100$$

Drainage Area	Total Area (ha)	Composite Runoff Coeff.	TIMP (%)	XIMP (%)
PRE	2.58	0.54	45%	0%

POST-DEVELOPMENT AREA PARAMETERS:

Area Description	Impervious Area (ha)
7-Storey Mid Rise	0.27
Small Units	0.24
Large Units	0.24
Roads/Parking	0.86
Driveways	0.09
Sidewalks	0.13

Drainage Area	Description	Total Area (ha)	Impervious Area (ha)	TIMP (%)	Dir. Conn. Imperv. Area (ha)	XIMP (%)
POST1	Mid-Rise Roof Top Storage	0.27	0.27	100%	0.27	100%
POST2	Remaining Site	2.35	1.56	66%	1.08	46%
POST3	Back of Property	0.27	0.00	0%	0.00	0%
TOTAL	Total Site	2.89	1.83	63%	1.35	47%

PRE-DEVELOPMENT FLOW RATES

Design Storm	Q (m3/s)
2	0.032
5	0.077
10	0.122
25	0.182
50	0.245
100	0.304

PRE-DEV RAINFALL VOLUMES

Return Period	Pre-Development		
	Area (ha.)	Vol. (mm)	Vol. (m3)
2	2.58	6.779	174.8
5		13.573	350.0
10		18.710	482.5
25		25.970	669.8
50		32.072	827.1
100		38.353	989.1

ROOF STAGE-STORAGE-DISCHARGE

Total Roof Area	2702 m ²
75% of Total Roof Area	2027 m ²
Storage Depth	75 mm
Total Storage	152 m ³
Roof Drain Model	Zurn Z105 15"
Flow through Drain Notch	10 GPM / inch of head
Flow through Drain Notch	0.0631 L/s / inch of head
Number of Roof Drains	10
Number of Roof Drain Notches	60 6 notches/drain

Stage (m)	Total Volume (m3)	Total Volume (ha.m)	Q (m3/s)
0.000	0.00	0.0000	0.000
0.025	50.66	0.0051	0.004
0.050	101.33	0.0101	0.008
0.075	151.99	0.0152	0.011

FLOOD PLAIN ELEVATIONS

Flood Hazard Map Lynn River Black Creek Sheet 19 of 23
 Cross Section Number: 910.98

Design Storm	LPRCA Flood Elevation (m)		Adjusted Flood Elevation (m)	
	CGVD-2013		CGVD-1978	
2	213.39		213.83	
5	213.93		214.37	
10	214.14		214.58	
25	214.48		214.92	
50	214.72		215.16	
100	215.21		215.65	

POND PARAMETERS

Bottom of Pond	214.70 m
Active Storage Depth	1.3 m
Top of Active Storage	216.00 m
Top of Freeboard	216.30 m
Bottom Area	221 m ²
Depth of Stone	0.50 m

ORIFICE PARAMETERS

Orifice #1	Diameter	0.100 m
	Area	0.0079 m ²
	Inv. Elev.	214.70 m
	CL Elev.	214.75 m
Weir	Length	0.300 m
	Elev.	215.55 m

$$Q = CA\sqrt{2gh}$$

C = 0.63

$$Q = CLH^{1.5}$$

C = 1.67

STAGE-STORAGE-DSICHARGE (2, 5 & 10-Year Events)

Description	Elevation (m)	Stage (m)	Volume (m ³)			2, 5, 10-Year Q (m ³ /s)		
			Stone	Pond	Total	Orifice 1	Orifice 2	Total
	214.30	0.10	9	0	9	0.000	0.000	0.000
	214.40	0.20	18	0	18	0.000	0.000	0.000
	214.50	0.30	27	0	27	0.000	0.000	0.000
	214.60	0.40	35	0	35	0.000	0.000	0.000
Bottom of Pond/Orifice	214.70	0.50	44	0	44	0.000	0.000	0.000
	214.80	0.60	44	24	68	0.005	0.000	0.005
	214.90	0.70	44	53	97	0.008	0.000	0.008
	215.00	0.80	44	86	130	0.011	0.000	0.011
	215.10	0.90	44	123	167	0.013	0.000	0.013
	215.20	1.00	44	166	210	0.015	0.000	0.015
	215.30	1.10	44	213	257	0.016	0.000	0.016
Weir	215.40	1.20	44	265	310	0.018	0.000	0.018
	215.50	1.30	44	323	367	0.019	0.000	0.019
	215.60	1.40	44	386	430	0.020	0.025	0.045
	215.70	1.50	44	455	499	0.021	0.075	0.097
	215.80	1.60	44	529	573	0.022	0.125	0.148
	215.90	1.70	44	609	654	0.024	0.175	0.199
Top of Active Storage	216.00	1.80	44	696	740	0.025	0.225	0.250

*Storage volumes obtained from AutoCAD Civil 3D

STAGE-STORAGE-DSICHARGE (25, 50 & 100-Year Events)

NOTE: Discharge does not occur until the ponding level exceeds the flood plain elevation.

Description	Elevation (m)	Stage (m)	25-Year Q (m ³ /s)			50-Year Q (m ³ /s)			100-Year Q (m ³ /s)		
			Orifice 1	Orifice 2	Total	Orifice 1	Orifice 2	Total	Orifice 1	Orifice 2	Total
	214.30	0.10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	214.40	0.20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	214.50	0.30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	214.60	0.40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bottom of Pond/Orifice	214.70	0.50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	214.80	0.60	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	214.90	0.70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	215.00	0.80	0.006	0.000	0.006	0.000	0.000	0.000	0.000	0.000	
	215.10	0.90	0.009	0.000	0.009	0.000	0.000	0.000	0.000	0.000	
	215.20	1.00	0.012	0.000	0.012	0.004	0.000	0.004	0.000	0.000	
	215.30	1.10	0.014	0.000	0.014	0.008	0.000	0.008	0.000	0.000	
	215.40	1.20	0.015	0.000	0.015	0.011	0.000	0.011	0.000	0.000	
Weir	215.50	1.30	0.017	0.000	0.017	0.013	0.000	0.013	0.000	0.000	
	215.60	1.40	0.018	0.025	0.043	0.015	0.025	0.040	0.000	0.000	
	215.70	1.50	0.019	0.075	0.095	0.016	0.075	0.091	0.005	0.025	
	215.80	1.60	0.021	0.125	0.146	0.018	0.125	0.143	0.008	0.075	
	215.90	1.70	0.022	0.175	0.197	0.019	0.175	0.194	0.011	0.125	
Top of Active Storage	216.00	1.80	0.023	0.225	0.248	0.020	0.225	0.246	0.013	0.175	

PRE TO POST FLOWS

Return Period	Q (m3/s)				Check
	Pre	From Pond	Total Post	Net	
2	0.032	0.019	0.019	-0.013	✓
5	0.077	0.054	0.056	-0.021	✓
10	0.122	0.088	0.092	-0.030	✓
25	0.182	0.132	0.140	-0.042	✓
50	0.245	0.167	0.177	-0.068	✓
100	0.304	0.175	0.188	-0.116	✓

STAGE-STORAGE-DISCHARGE

Description	Elevation (m)	Stage Depth (m)	Volume (m ³)	Total Q (m3/s) From Pond			
				2-10 YR	25 YR	50 YR	10 YR
Bottom of Stone	214.20	0.00	0	0.000	0.000	0.000	0.000
	214.30	0.10	9	0.000	0.000	0.000	0.000
	214.40	0.20	18	0.000	0.000	0.000	0.000
	214.50	0.30	27	0.000	0.000	0.000	0.000
	214.60	0.40	35	0.000	0.000	0.000	0.000
Bottom of Pond/Orifice	214.70	0.50	44	0.000	0.000	0.000	0.000
	214.80	0.60	68	0.005	0.000	0.000	0.000
	214.90	0.70	97	0.008	0.000	0.000	0.000
	215.00	0.80	130	0.011	0.006	0.000	0.000
	215.10	0.90	167	0.013	0.009	0.000	0.000
	215.20	1.00	210	0.015	0.012	0.004	0.000
	215.30	1.10	257	0.016	0.014	0.008	0.000
	215.40	1.20	310	0.018	0.015	0.011	0.000
Weir	215.50	1.30	367	0.019	0.017	0.013	0.000
	215.60	1.40	430	0.045	0.043	0.040	0.000
	215.70	1.50	499	0.097	0.095	0.091	0.030
	215.80	1.60	573	0.148	0.146	0.143	0.084
	215.90	1.70	654	0.199	0.197	0.194	0.136
Top of Active Storage	216.00	1.80	740	0.250	0.248	0.246	0.188

*Storage volumes obtained from AutoCAD Civil 3D

APPROXIMATE STORAGE & PONDING DEPTHS

Return Period	Q (m ³ /s) From Pond	Storage (m)	Depth (m)	Elev. (m)
2	0.019	368	1.30	215.50
5	0.054	442	1.42	215.62
10	0.088	488	1.48	215.68
25	0.132	553	1.57	215.77
50	0.167	611	1.65	215.85
100	0.175	718	1.65	215.85

*Storage volumes obtained from OTTHYMO

APPENDIX C

22-013 Domestic Water Demand Calculations

22-013 FUS Calculations

Norfolk County ISMP Available Fire Flow



Maximum Daily Demand

Total Number of Units	38 units		
Zoning of Land	Residential		
Equiv. Population Density	2.75 ppl/unit		
Equiv. Population	105		
Av. Daily Demand Per Capita	0.45 m ³ /capita/day		
Maximum Daily Demand Peaking Factor	2.25		
Maximum Daily Demand	<table border="1"><tr><td>106.31 m³/day</td></tr><tr><td>1.23 l/s</td></tr></table>	106.31 m ³ /day	1.23 l/s
106.31 m ³ /day			
1.23 l/s			

Maximum Hourly Demand

Total Number of Units	38 units		
Zoning of Land	Residential		
Equiv. Population Density	2.75 ppl/ha		
Equiv. Population	105		
Av. Daily Demand Per Capita	0.45 m ³ /capita/day		
Maximum Hourly Demand Peaking Factor	4		
Maximum Hourly Demand	<table border="1"><tr><td>7.88 m³/hour</td></tr><tr><td>2.19 l/s</td></tr></table>	7.88 m ³ /hour	2.19 l/s
7.88 m ³ /hour			
2.19 l/s			



Subject: HFW Hunt Street Development
 Date: 2023-04-28 By: NLB
 Project #: 22-013 Page: 2
 Description: Mid-Rise (Residential)

Maximum Daily Demand

Total Number of Units	114 units
Zoning of Land	Residential
Equiv. Population Density	2.75 ppl/unit
Equiv. Population	314
Av. Daily Demand Per Capita	0.45 m ³ /capita/day
Maximum Daily Demand Peaking Factor	2.25
Maximum Daily Demand	317.93 m ³ /day
	3.68 l/s

Maximum Hourly Demand

Total Number of Units	114 units
Zoning of Land	Residential
Equiv. Population Density	2.75 ppl/ha
Equiv. Population	314
Av. Daily Demand Per Capita	0.45 m ³ /capita/day
Maximum Hourly Demand Peaking Factor	4
Maximum Hourly Demand	23.55 m ³ /hour
	6.54 l/s

Maximum Daily Demand

Area	1.01 ha
Zoning of Land	Commercial
Equiv. Population Density	90 ppl/ha
Equiv. Population	91
Av. Daily Demand Per Capita	0.45 m ³ /capita/day
Maximum Daily Demand Peaking Factor	2.25
Maximum Daily Demand	92.14 m ³ /day
	1.07 l/s

Maximum Hourly Demand

Area	1.01 ha
Zoning of Land	Commercial
Equiv. Population Density	90 ppl/ha
Equiv. Population	91
Av. Daily Demand Per Capita	0.45 m ³ /capita/day
Maximum Hourly Demand Peaking Factor	2
Maximum Hourly Demand	3.41 m ³ /hour
	0.95 l/s

Summary of Maximum Daily Demand

Units 1-38: 1.23 L/s

Mid Rise Residential: 3.68 L/s

Mid Rise Commercial: 1.07 L/s

Total Maximum Daily Demand:	5.98 L/s
------------------------------------	-----------------

Summary of Maximum Hourly Demand

Units 1-38: 2.19 L/s

Mid Rise Residential: 6.54 L/s

Mid Rise Commercial: 0.95 L/s

Total Maximum Hourly Demand:	9.68 L/s
-------------------------------------	-----------------

UNIT 3 & 4

1) Fire Flow Requirement

$F_1 = 220C(A^{1/2})$ (L/min)

C= 1.5 Construction coefficient for wood frame construction

Length= 24 m

Width= 19.7 m

A= 394 Floor Area m² = Main Floor Area

= 394 Fire Area m² = Main Floor Area (no second floor)

F₁= 6552 L/min

F₁= 7000 L/min (Round to the nearest 1,000 l/min)

2) Occupancy

Occupancy Type: Residential Occupancy

Reduction: 15%

Surcharge: 0%

$F_2 = F_1 + (F_1 * \text{Reduction} / \text{Surcharge})$ (L/min)

F₂= 5950 L/min

3) Sprinkler System

Sprinkler System: Not Applicable (assumed no sprinkler system in service)

Reduction: 0%

$F_3 = F_2 * \text{Reduction}$ (L/min)

F₃= 0 L/min

4) Seperation

<u>Location</u>	<u>Direction</u>	<u>Distance (m)</u>	<u>Surcharge</u>	<u>Separation Surcharges</u>	
Front	South	18.5	15%	0 to 3m	25%
Side	East	3.0	25%	3.1m to 10m	20%
Side	West	3.0	25%	10.1m to 20m	15%
Rear	North	29.0	10%	20.1 to 30m	10%
		Total:	75%	Greater than 30m	0%

$F_4 = (\text{TOTAL}) * F_2$ (L/min)

F₄= 4463 L/min

Total Fire Flow

F = F₂ - F₃ + F₄ = 10413 L/min
 = 10000 L/min (Round to the nearest 1,000 l/min)
 = **166.7 L/s**

Notes: 1) All calculations and factors from Part 2 "Water Supply for Public Fire Protection" by the Fire Underwriters Survey, 2020

UNIT 17-19

1) Fire Flow Requirement

$F_1 = 220C(A^{1/2})$ (L/min)

C= 1.5 Construction coefficient for wood frame construction

Length= 21.8 m

Width= 12.3 m

A= 268 Floor Area m² = Main Floor Area

= 804 Fire Area m² = 3 Floors

F₁= 9360 L/min

F₁= 9000 L/min (Round to the nearest 1,000 l/min)

2) Occupancy

Occupancy Type: Residential Occupancy

Reduction: 15%

Surcharge: 0%

$F_2 = F_1 + (F_1 * \text{Reduction} / \text{Surcharge})$ (L/min)

F₂= 7650 L/min

3) Sprinkler System

Sprinkler System: Not Applicable (assumed no sprinkler system in service)

Reduction: 0%

$F_3 = F_2 * \text{Reduction}$ (L/min)

F₃= 0 L/min

4) Seperation

<u>Location</u>	<u>Direction</u>	<u>Distance (m)</u>	<u>Surcharge</u>	<u>Separation Surcharges</u>	
Front	East	22.9	10%	0 to 3m	25%
Side	North	Firewall	0%	3.1m to 10m	20%
Side	South	> 30m	0%	10.1m to 20m	15%
Rear	West	12.0	15%	20.1 to 30m	10%
		Total:	25%	Greater than 30m	0%

$F_4 = (\text{TOTAL}) * F_2$ (L/min)

F₄= 1913 L/min

Total Fire Flow

F = F₂ - F₃ + F₄ = 9563 L/min
 = 10000 L/min (Round to the nearest 1,000 l/min)
 = **166.7 L/s**

Notes: 1) All calculations and factors from Part 2 "Water Supply for Public Fire Protection" by the Fire Underwriters Survey, 2020

UNIT 33 & 34

1) Fire Flow Requirement

$F_1 = 220C(A^{1/2})$ (L/min)

C= 1.5 Construction coefficient for wood frame construction

Length= 14.5 m

Width= 12.3 m

A= 178 Floor Area m² = Main Floor Area

= 535 Fire Area m² = 3 Floors

F₁= 7633 L/min

F₁= 8000 L/min (Round to the nearest 1,000 l/min)

2) Occupancy

Occupancy Type: Residential Occupancy

Reduction: 15%

Surcharge: 0%

$F_2 = F_1 + (F_1 * \text{Reduction} / \text{Surcharge})$ (L/min)

F₂= 6800 L/min

3) Sprinkler System

Sprinkler System: Not Applicable (assumed no sprinkler system in service)

Reduction: 0%

$F_3 = F_2 * \text{Reduction}$ (L/min)

F₃= 0 L/min

4) Seperation

<u>Location</u>	<u>Direction</u>	<u>Distance (m)</u>	<u>Surcharge</u>	<u>Separation Surcharges</u>	
Front	North	18.5	15%	0 to 3m	25%
Side	East	3.0	25%	3.1m to 10m	20%
Side	West	Firewall	0%	10.1m to 20m	15%
Rear	South	10.8	15%	20.1 to 30m	10%
		Total:	55%	Greater than 30m	0%

$F_4 = (\text{TOTAL}) * F_2$ (L/min)

F₄= 3740 L/min

Total Fire Flow

F = F₂ - F₃ + F₄ = 10540 L/min
 = 11000 L/min (Round to the nearest 1,000 l/min)
 = **183.3 L/s**

Notes: 1) All calculations and factors from Part 2 "Water Supply for Public Fire Protection" by the Fire Underwriters Survey, 2020

6-Storey Mid-Rise Building

1) Fire Flow Requirement

$F_1 = 220C(A^{1/2})$ (L/min)

C= 0.8 Non Combustible Construction

Af= 2714 m² = main floor area
 2714 m² = second floor area
 A= 12213 Fire Area m² = two adjoining floor areas plus 50% of all floors immediately above them

$F_1 = 19450$ L/min

$F_1 = 19000$ L/min (Round to the nearest 1,000 l/min)

2) Occupancy

Occupancy Type: Residential Occupancy

Reduction: 15%

Surcharge: 0%

$F_2 = F_1 + (F_1 * \text{Reduction} / \text{Surcharge})$ (L/min)

$F_2 = 16150$ L/min

3) Sprinkler System

Sprinkler System: Applicable (Assumes the building is protected by a complete automatic sprinkler system, conforming to NFPA 13 and other standards)

Reduction: 50%

$F_3 = F_2 * \text{Reduction}$ (L/min)

$F_3 = 8075$ L/min

4) Seperation

Location	Direction	Distance (m)	Surcharge	Separation Surcharges	
Front	North	> 30m	0%	0 to 3m	25%
Side	East	> 30m	0%	3.1m to 10m	20%
Side	West	> 30m	11%	10.1m to 20m	15%
Rear	South	> 30m	0%	20.1 to 30m	10%
		Total:	11%	Greater than 30m	0%

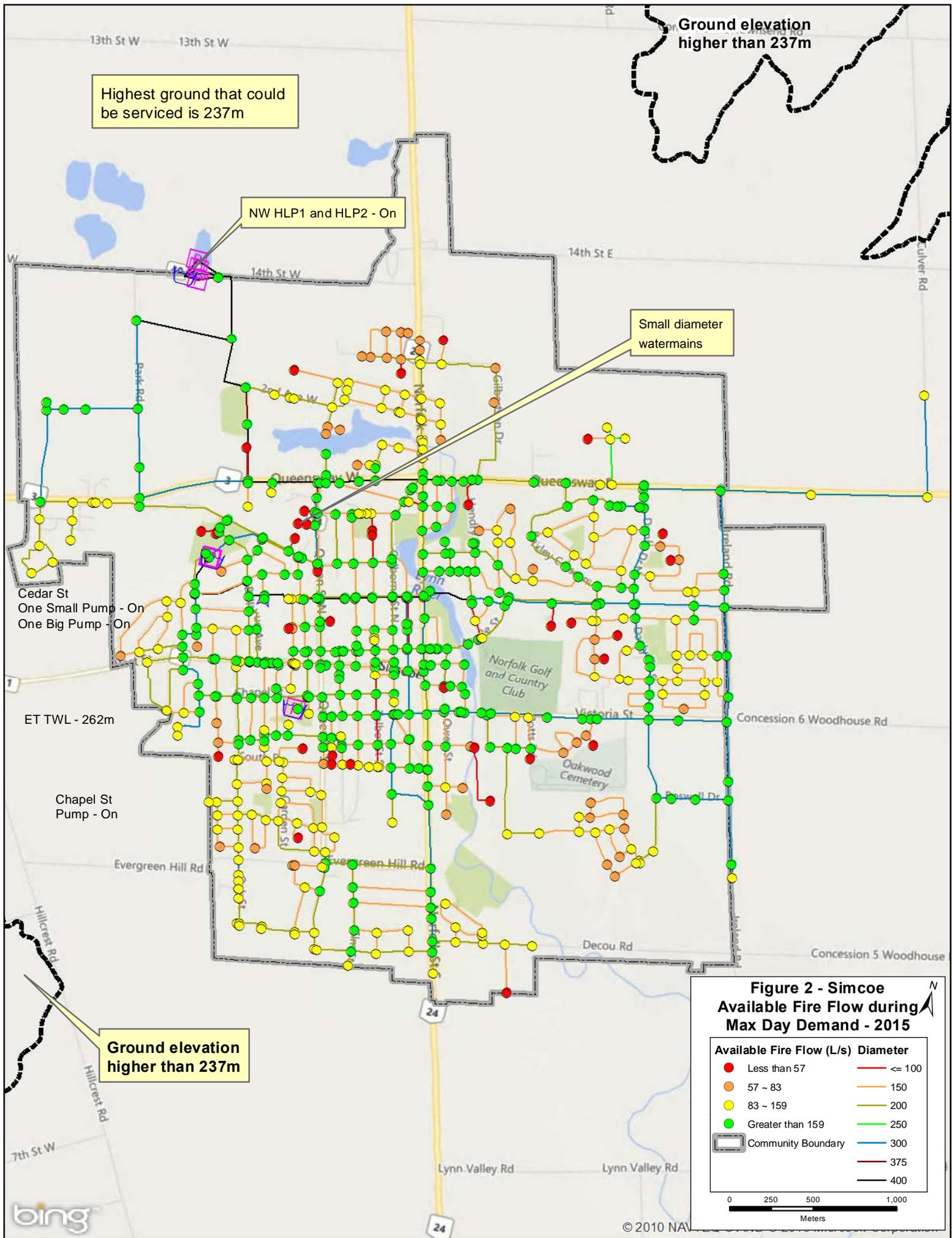
$F_4 = (\text{TOTAL}) * F_2$ (L/min)

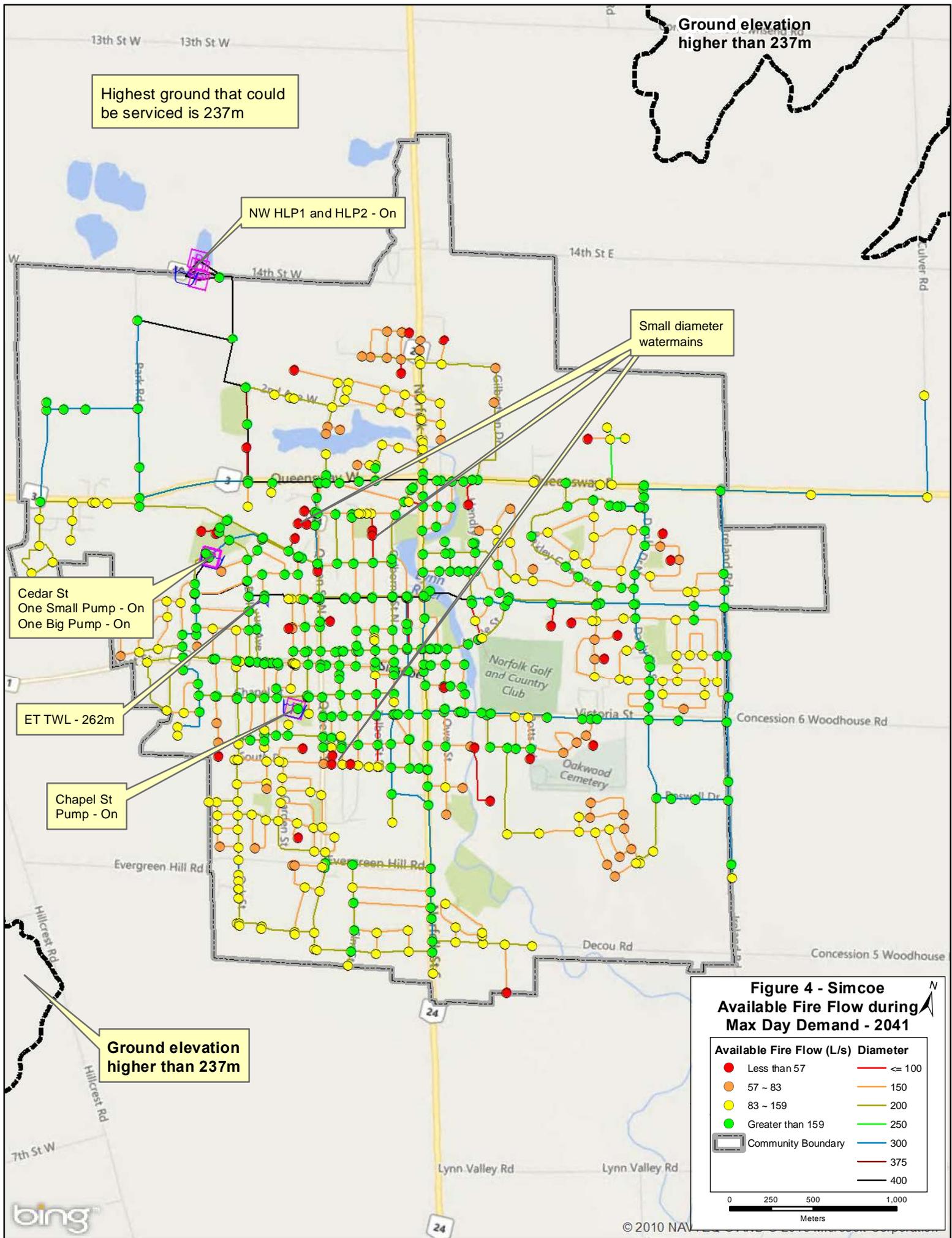
$F_4 = 1777$ L/min

Total Fire Flow

$F = F_2 - F_3 + F_4 = 9852$ L/min
 = **10000** L/min (Round to the nearest 1,000 l/min)
 = **166.7** L/s

Notes: 1) All calculations and factors from Part 2 "Water Supply for Public Fire Protection" by the Fire Underwriters Survey, 2020





APPENDIX D

22-013 DWG C100 – Conceptual Servicing Plan
22-013 DWG PRE – Pre-Development SWM Areas
22-013 DWG POST – Post-Development SWM Areas
22-013 DWG FIRE – Fire Separation Distances

Lesley Hutton-Rhora

From: Stephen Gradish <Stephen.Gradish@norfolkcounty.ca>
Sent: Thursday, June 1, 2023 9:41 AM
To: John Iezzi
Cc: Tim Dickhout; Brett Hamm
Subject: RE: Hunt Street Mixed Use Pre-Consultation Meeting Minutes from August 3, 2022

Hello John

Development Engineering has received the Water and Wastewater modelling quote for the above noted upcoming application. Further to this I also had a meeting yesterday afternoon with Leslie and John V to go over the Pre submission requirements for this application.

The cost to complete the Water and Wastewater modelling for the proposed development is \$4,500.00 plus HST. Please confirm authorization as well as include mailing information for invoicing. I can get this project in the que as soon as I receive confirmation. If I should be reaching out to the owner separately, please let me know.

If you have any questions or comments do not hesitate to ask.

Regards,
Stephen

Stephen Gradish

Development Technologist
Engineering
Environmental and Infrastructure Services Division
185 Robinson Street
Suite 200, Simcoe, Ontario, N3Y 5L6
226-NORFOLK x. 8015



Providing valued public services that are responsive to our community's needs

From: John Iezzi <johniezzi@gdvallee.ca>
Sent: Thursday, May 25, 2023 10:32 AM
To: Stephen Gradish <Stephen.Gradish@norfolkcounty.ca>; Tim Dickhout <Tim.Dickhout@norfolkcounty.ca>
Subject: RE: Hunt Street Mixed Use Pre-Consultation Meeting Minutes from August 3, 2022

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I understand completely. Thanks Stephen.

I've attached our draft FSR and Conceptual Servicing Plan. They're only marked draft as we're waiting on other reports to finalize for submission – nothing in terms of servicing (water, sanitary) will change. I trust this is sufficient to get a quote? Let me know otherwise.

Thanks!

John Iezzi, P.Eng.

G. DOUGLAS VALLEE LIMITED

Consulting Engineers, Architects and Planner

2 Talbot Street North Simcoe Ontario N3Y 3W4

Office: 519 426 6270

Cell: 519 732 5513

www.gdvallee.ca



From: Stephen Gradish <Stephen.Gradish@norfolkcounty.ca>

Sent: Tuesday, May 23, 2023 9:23 AM

To: John Iezzi <johniezzi@gdvallee.ca>; Tim Dickhout <Tim.Dickhout@norfolkcounty.ca>

Subject: RE: Hunt Street Mixed Use Pre-Consultation Meeting Minutes from August 3, 2022

Hello John

It is difficult for Development Engineering to provide a recommendation to support the OPA / ZBA if we cannot confirm there is adequate conveyance on the Water and Wastewater systems for the proposal. Therefore, I would like to have Modelling complete prior to having to make a recommendation.

If you have the General Plan of Services and the FSR complete I can ask for a quote right away. That way we can have things ready to go when a submission is made. If the developer approves of the costs, we can even start the modelling during the pre-submission stages while Planning is deeming the application complete.

Let me know your thoughts.

Thanks,
Stephen

Stephen Gradish

Development Technologist

Engineering

Environmental and Infrastructure Services Division

185 Robinson Street

Suite 200, Simcoe, Ontario, N3Y 5L6

519-426-5870 x. 8015



Working together with our community

From: John Iezzi <johniezzi@gdvallee.ca>

Sent: Thursday, May 18, 2023 10:49 AM

To: Tim Dickhout <Tim.Dickhout@norfolkcounty.ca>; Stephen Gradish <Stephen.Gradish@norfolkcounty.ca>

Subject: FW: Hunt Street Mixed Use Pre-Consultation Meeting Minutes from August 3, 2022

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Tim and Stephen,

In the attached minutes Water/Wastewater modelling is noted as required for the OPA/ZBA submission. Can you confirm - Is this requirement that the modeling has been **initiated only** and not completed?

Given that a General Plan of Services and Functional Servicing Report will be provided as part of our OPA/ZBA submission, it would make sense to be that the request for modelling would be a part of the application.

Please advise.

Thanks,

John Iezzi, P.Eng.

G. DOUGLAS VALLEE LIMITED

Consulting Engineers, Architects and Planner

2 Talbot Street North Simcoe Ontario N3Y 3W4

Office: 519 426 6270

Cell: 519 732 5513

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From: Lindsay King <Lindsay.King@norfolkcounty.ca>

Sent: Friday, November 18, 2022 9:06 AM

To: Scott Puillandre <Scottpuillandre@gdvallee.ca>

Subject: Hunt Street Mixed Use Pre-Consultation Meeting Minutes from August 3, 2022

Hello Scott Puillandre,

I am working to get some outstanding pre-consultation minutes out, so I wanted to provide you with yours. My apologies if you have already received these. If you have any questions regarding them, I am happy to help. My apologies for the delay in sending these.

Kind Regards,

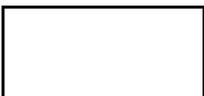
Lindsay King

Planning Coordinator

Planning

185 Robinson St., Simcoe, Ontario, N3Y 5L6

519-426-5870 x. 1028



Working together with our community

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Lesley Hutton-Rhora

From: John Iezzi
Sent: Wednesday, May 24, 2023 2:42 PM
To: Gary Brasenell
Cc: CHIU; Lesley Hutton-Rhora
Subject: FW: LPRCA comments - 395-411 Queensway West, Simcoe

Gary,
See below form Isabel – the LPRCA has no concerns with our revised pond location.

John Iezzi, P.Eng.

G. DOUGLAS VALLEE LIMITED

Consulting Engineers, Architects and Planner
2 Talbot Street North Simcoe Ontario N3Y 3W4
Office: 519 426 6270
Cell: 519 732 5513
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From: Isabel Johnson <ijohnson@lprca.on.ca>
Sent: Wednesday, May 24, 2023 11:55 AM
To: John Iezzi <johniezzi@gdvallee.ca>
Subject: RE: LPRCA comments - 395-411 Queensway West, Simcoe

Good morning,

Thank you for your email. I can confirm that if the SWM pond is located outside of the hazard land (from the layers I sent you), then LPRCA have no concern with the concept of the design.

We look forward to continuing to work with you. Thanks,



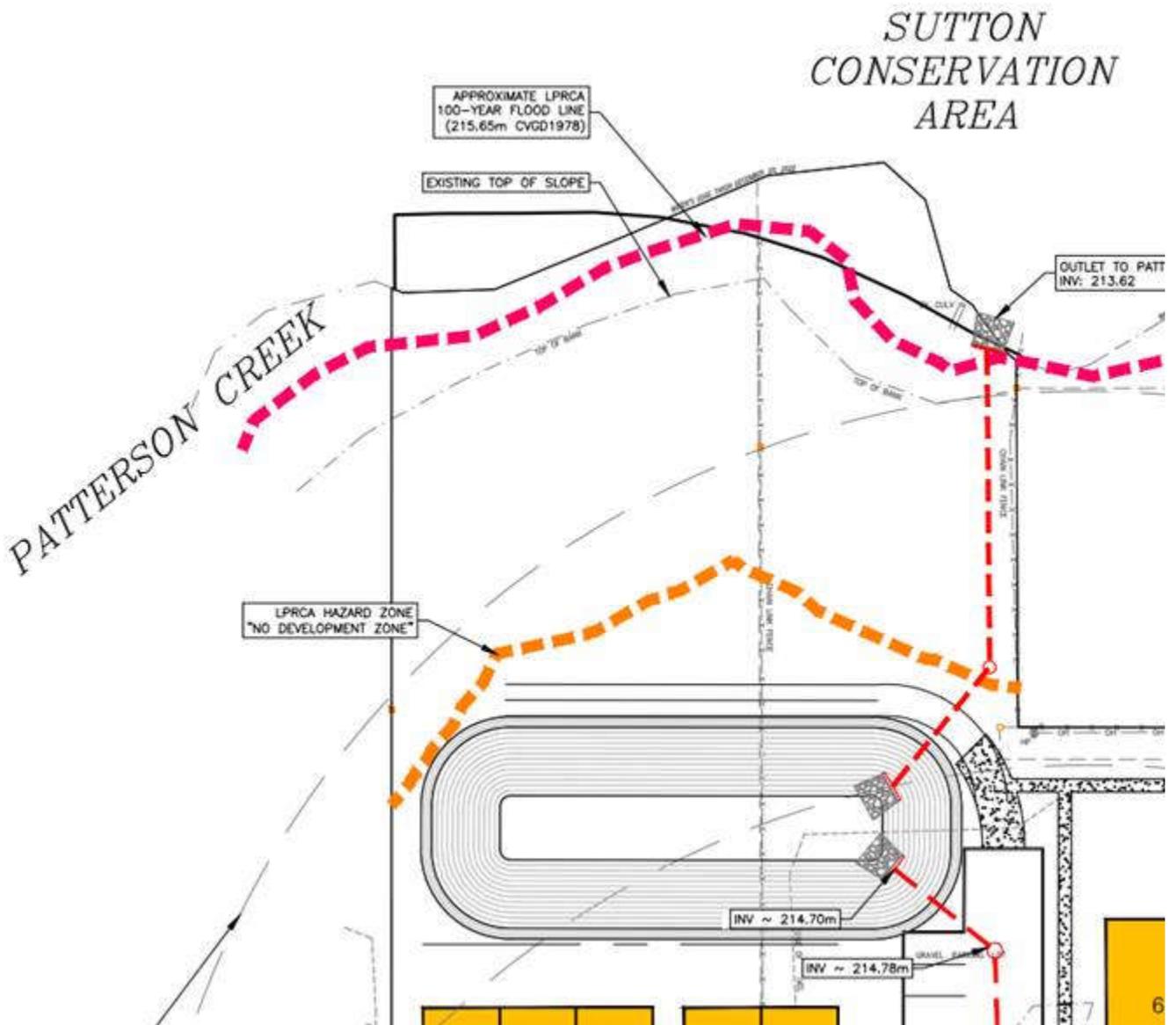
Isabel Johnson, *Resource Planner*
Long Point Region Conservation Authority
4 Elm Street, Tillsonburg, ON. N4G 0C4
519-842-4242 ext. 229. Email: ijohnson@lprca.on.ca

From: John Iezzi <johniezzi@gdvallee.ca>
Sent: May 16, 2023 11:10 AM
To: Isabel Johnson <ijohnson@lprca.on.ca>
Subject: RE: LPRCA comments - 395-411 Queensway West, Simcoe

Thank you Isabel.

Since we last spoke, we have revised the concept to locate the pond outside of the 'Hazard Zone' – see below for the new location. Please confirm this is satisfactory.

As we are only at the ZBA phase of the development we do not intend on progressing the design further at this point. Your addition comments #1-3 below will be reflected in a subsequent design detail following our zoning approval.



Thank you!

John Iezzi, P.Eng.

G. DOUGLAS VALLEE LIMITED

Consulting Engineers, Architects and Planner

2 Talbot Street North Simcoe Ontario N3Y 3W4

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Cell: 519 732 5513

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vallee

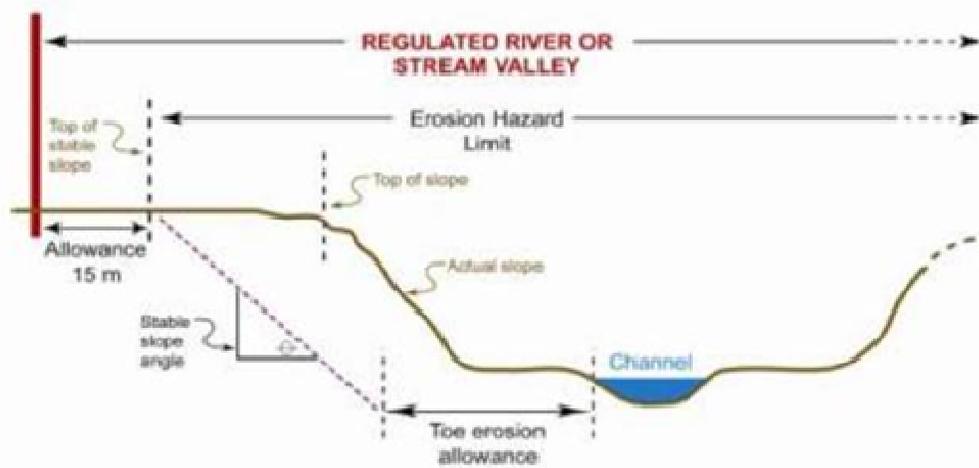
*Consulting Engineers,
Architects & Planners*

From: Isabel Johnson <ijohnson@lprca.on.ca>
Sent: Wednesday, April 26, 2023 3:19 PM
To: John Iezzi <johniezzi@gdvallee.ca>
Subject: LPRCA comments - 395-411 Queensway West, Simcoe

Good afternoon,

The site visit was informative. We saw what appears to be active erosion at the north east corner of the property of 395 Queensway. Please see the attached files of our regulated area and the “hazard” layer which is essentially our “no development” area. Please see the following comments below following our virtual meeting and the site visit on Monday:

1. LPRCA staff request a water budget analysis to ensure there is no infiltration loss from pre to post development.
2. Concern to this Authority is the potential impacts that development may have on stormwater drainage, soil erosion and sedimentation. Staff encourage the implementation of an environmentally sensitive approach to stormwater management through a low impact development design. LPRCA strongly advises the use of the treatment train approach with a focus on capturing the first flush (1in) of rainfall.
3. Staff request that if an OGS filter is to be used, an O&M manual is provided to the owner of the OGS.
4. Staff cannot support any plan to cut and alter the slope.
5. LPRCA cannot support the proposed location of the pond. The pond is located within an erosion hazard which consists of a 3H:1V stable slope allowance(SSA), toe erosion allowance and erosion access allowance. The toe erosion is applied to the toe of the slope, followed by the SSA. The location of these two allowances will place them either within the slope or atop the slope. If placed within the slope, the erosion access is applied to the top of physical slope and all development must be behind this line. If placed at the top of the slope (or setback from the top of slope), the 6m access allowance is just added onto the current summation of the other two allowances. Please see the diagram below.



If you have any questions, please feel free to reach out to me.

Thank you,



Isabel Johnson, Resource Planner
Long Point Region Conservation Authority
4 Elm Street, Tillsonburg, ON. N4G 0C4
519-842-4242 ext. 229. Email: ijohnson@lprca.on.ca

From: John Iezzi <johniezzi@gdvallee.ca>
Sent: April 26, 2023 10:27 AM
To: Isabel Johnson <ijohnson@lprca.on.ca>
Subject: RE: FW: 395-411 Queensway West, Simcoe

Hi Isabel,
How did Monday's site visit go?
Also, could you please send over the mapping files as discussed during our meeting; unless the site visit warranted changes.

Thank you,
John Iezzi, P.Eng.
G. DOUGLAS VALLEE LIMITED
Consulting Engineers, Architects and Planner
2 Talbot Street North Simcoe Ontario N3Y 3W4
Office: 519 426 6270
Cell: 519 732 5513
www.gdvallee.ca



From: John Iezzi
Sent: Monday, April 24, 2023 9:34 AM
To: Isabel Johnson <ijohnson@lprca.on.ca>
Subject: RE: FW: 395-411 Queensway West, Simcoe

Yes, you're free to access the site.
Thanks,

John Iezzi, P.Eng.
G. DOUGLAS VALLEE LIMITED
Consulting Engineers, Architects and Planner
2 Talbot Street North Simcoe Ontario N3Y 3W4
Office: 519 426 6270
Cell: 519 732 5513
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From: Isabel Johnson <ijohnson@lprca.on.ca>
Sent: Monday, April 24, 2023 9:32 AM
To: John Iezzi <johniezzi@gdvallee.ca>
Subject: RE: FW: 395-411 Queensway West, Simcoe

Good morning John,

I hope you had a good weekend. I am just following up on the email below. I want to ensure we have permission from the landowners to access the property today.

Thank you,



Isabel Johnson, *Resource Planner*
Long Point Region Conservation Authority
4 Elm Street, Tillsonburg, ON. N4G 0C4
519-842-4242 ext. 229. Email: ijohnson@lprca.on.ca

From: Isabel Johnson
Sent: April 21, 2023 1:30 PM
To: John Iezzi <johniezzi@gdvallee.ca>
Subject: RE: FW: 395-411 Queensway West, Simcoe

John,

Staff will be in the area Monday April, 24th. Our plan is to assess the property, take some photos to facilitate discussion with staff. It is not necessary for someone to meet us on the property, but they can if they would like to.

Please advise.



Isabel Johnson, *Resource Planner*
Long Point Region Conservation Authority
4 Elm Street, Tillsonburg, ON. N4G 0C4
519-842-4242 ext. 229. Email: ijohnson@lprca.on.ca

From: John Iezzi <johniezzi@gdvallee.ca>
Sent: April 21, 2023 1:18 PM
To: Isabel Johnson <ijohnson@lprca.on.ca>
Subject: RE: FW: 395-411 Queensway West, Simcoe

Hi Isabel,

Yes – the owners would certainly allow a site visit. Please let us know when you plan on being out.

Thanks,

John Iezzi, P.Eng.

G. DOUGLAS VALLEE LIMITED

Consulting Engineers, Architects and Planner

2 Talbot Street North Simcoe Ontario N3Y 3W4

Office: 519 426 6270

Cell: 519 732 5513

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From: Isabel Johnson <ijohnson@lprca.on.ca>
Sent: Friday, April 21, 2023 9:27 AM
To: John Iezzi <johniezzi@gdvallee.ca>
Subject: RE: 395-411 Queensway West, Simcoe

Good morning,

To follow up on our meeting on April 18th, staff would like to visit the property to examine the topography of the land. I understand you are looking to submit a zoning application to the County soon, however, this would facilitate putting our comments together.

If a site visit is something the owners can agree to, please advise.

Thank you,



Isabel Johnson, *Resource Planner*

Long Point Region Conservation Authority

4 Elm Street, Tillsonburg, ON. N4G 0C4

519-842-4242 ext. 229. Email: ijohnson@lprca.on.ca



paradigm
TRANSPORTATION SOLUTIONS LIMITED



Employee-owned | Client-centric | Solution-focused

395 Queensway West Simcoe, Norfolk County Transportation Impact Study

Paradigm Transportation Solutions Limited

April 2023
220786



ptsl.com



Project Number
220786

Date: April 2023
Version 1.0.0

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Rajan Philips, M.Sc. (PI), P.Eng.
Patrick Neal, EIT

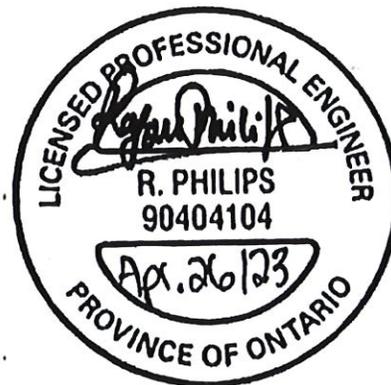
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395 Queensway West, Simcoe, Norfolk County Transportation Impact Study



Rajan Philips, P.Eng.

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Executive Summary

Content

Paradigm Transportation Solutions Limited (Paradigm) has been retained to conduct this Transportation Impact Study (TIS) for a proposed Residential development located at 395 Queensway West in the community of Simcoe, Norfolk County.

This TIS includes an analysis of existing traffic conditions, a description of the proposed development, analysis of future traffic conditions, and assessment of development traffic impacts with recommendations as appropriate to accommodate the proposed development.

Development Concept

The subject site is located in the northwest corner of Queensway West and Hunt Street. The proposed development will include an Apartment Building with up to seven storeys and 114 apartment units and 2,714 sq. m. GLA of commercial use, along with 10 semi-detached dwelling units and 27 townhouses.

Three full-moves driveways are proposed, two to Hunt Street and one to Queensway West.

TIS Scope

The scope of the Transportation Impact Study for the proposed development includes:

- ▶ **Study Area Intersections:**
 - Queensway West and Hunt Street; and
 - driveways on Queensway West and on Hunt Street.
- ▶ **Analysis Periods:** Weekday AM and PM peak hours.
- ▶ **Traffic Conditions:** Existing (2023), year of development opening (2025), five years after development (2030), and ten years after development (2035).

Conclusions

Based on the investigations carried out, it is concluded that:

- ▶ **Existing Traffic Conditions:** The intersection of Queensway West and Hunt Street is currently operating at acceptable levels of service.



- ▶ **Development Trip Generation:** The development is forecast to generate 122 and 180 net trips during the AM and PM peak hours, respectively.
- ▶ **Background and Total Traffic Conditions:** The intersection of Queensway West and Hunt Street is forecast to operate at acceptable levels of service under 2025, 2030, and 2035 background traffic conditions without development traffic, and total traffic conditions including development traffic.
- ▶ **Access Operations:** The Site Access intersections on Queensway West and on Hunt Street are forecast to operate at acceptable levels of service under 2025, 2030, and 2035 total traffic conditions.

Northbound auxiliary left-turn lanes are not required at the two access points on Hunt Street given the low to moderate through traffic volumes and turning movements.

For the access on Queensway West, an eastbound auxiliary left-turn lane, with 15 metres of storage, is identified as warranted under 2035 total traffic conditions.

However, an auxiliary left-turn lane will not be necessary as the eastbound (inbound) left-turning movement can be accommodated given the four-lane road cross-section with two lanes in each direction, and the projected level of service of LOS A and minimal queuing for the left-turning movement under 2035 total traffic conditions.

Recommendations

Based on the findings and conclusions of this study, it is recommended that the development be considered for approval as proposed.



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1 Introduction

1.1 Overview

Paradigm Transportation Solutions Limited (Paradigm) has been retained to conduct this Transportation Impact Study (TIS) for a proposed Residential development located at 395 Queensway West in the community of Simcoe, Norfolk County. **Figure 1.1** details the subject development location.

The subject site is located in the northwest corner of Queensway West and Hunt Street. The proposed development will include an Apartment Building with up to seven storeys and 114 apartment units and 2,714 sq. m. GLA of commercial use, along with 10 semi-detached dwelling units and 27 townhouses.

Three full-moves driveways are proposed, two to Hunt Street and one to Queensway West.

1.2 Purpose and Scope

The purpose of this report is to identify and assess the potential traffic impact resulting from the proposed development. The scope of the study, shared with Norfolk County staff via e-mail in January 2023, includes:

- ▶ assessment of the current traffic and site conditions within the study area;
- ▶ estimates of background traffic growth for opening year of development (2025), five years after development (2030), and ten years after development (2035);
- ▶ estimates of additional traffic generated by the subject site;
- ▶ analyses of the impact of the future traffic on the surrounding road network, including the following study area intersections:
 - Queensway West and Hunt Street; and
 - Driveways on Queensway West and Hunt Street.
- ▶ recommendations, if necessary, to mitigate the site generated traffic in a satisfactory manner.

Appendix A contains the pre-study consultation material shared with Norfolk County staff.



This study has been prepared in accordance with the requirements detailed by the Norfolk County TIS Guidelines¹.

¹ Norfolk County Integrate Sustainable Master Plan (ISMP), Appendix J: TIS Guidelines, September 2016.





Location of Subject Site

395 Queensway, Simcoe TIA
220786

Figure 1.1

2 Existing Conditions

2.1 Existing Roadways

The main roadways near the subject development considered in assessing the traffic impacts of the development include:

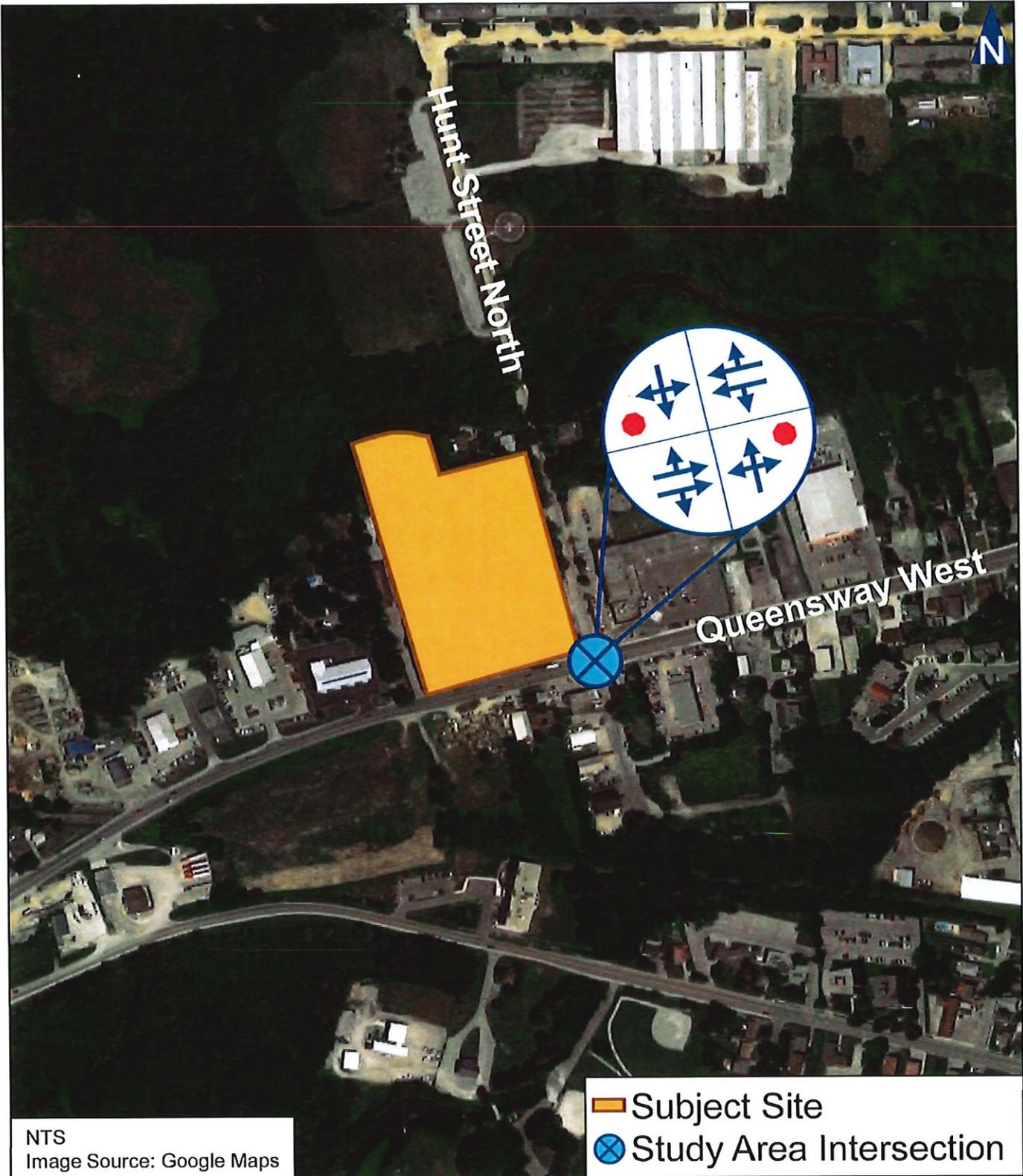
- ▶ **Queensway West (Highway 3)** is an east-west provincial highway Connecting Link² with a four-lane cross-section and a posted speed limit of 50 km/h. Sidewalks are provided on both sides of the road east of Hunt Street, but not west of Hunt Street.
- ▶ **Hunt Street (Norfolk Road 35)** is a north-south county arterial road with a two-lane cross section and a posted speed limit of 50 km/h. Sidewalks are not provided on either side of the road within the study area.

Side-street (Hunt Street) stop control is provided at the intersection of Queensway West and Hunt Street.

Figure 2.1 illustrates the traffic control and lane configuration at the Queensway West and Hunt Street intersection.

² Norfolk County Official Plan Schedule E-2: Transportation, Revised October 2018.





Existing Lane Configuration and Traffic Control

2.2 Transit Service

Norfolk County operates Ride Norfolk Transit, which provides fixed route transit service in Simcoe from Monday to Friday. Major stops in Simcoe are located at Simcoe Library, Whitehorse Plaza, Norfolk General Hospital, Health and Social Services, Walmart, and Argyle Street.

The route operates between 8:00AM and 6:30PM with 60-minute headways. Out of town routes operate five times daily on Monday, Wednesday and Thursday to Delhi, Waterford, Courtland, Tillsonburg, Langton, Greens Corner, and Bill's Corner. Trips to Brantford occur three times daily.

The service costs \$2.50 to travel within Simcoe, and \$6.00 to travel to other towns in Norfolk County.

The nearest transit stop is located on the south side of Queensway West, 430 meters west of the subject site.

Figure 2.2 illustrates the location of the Simcoe transit route.

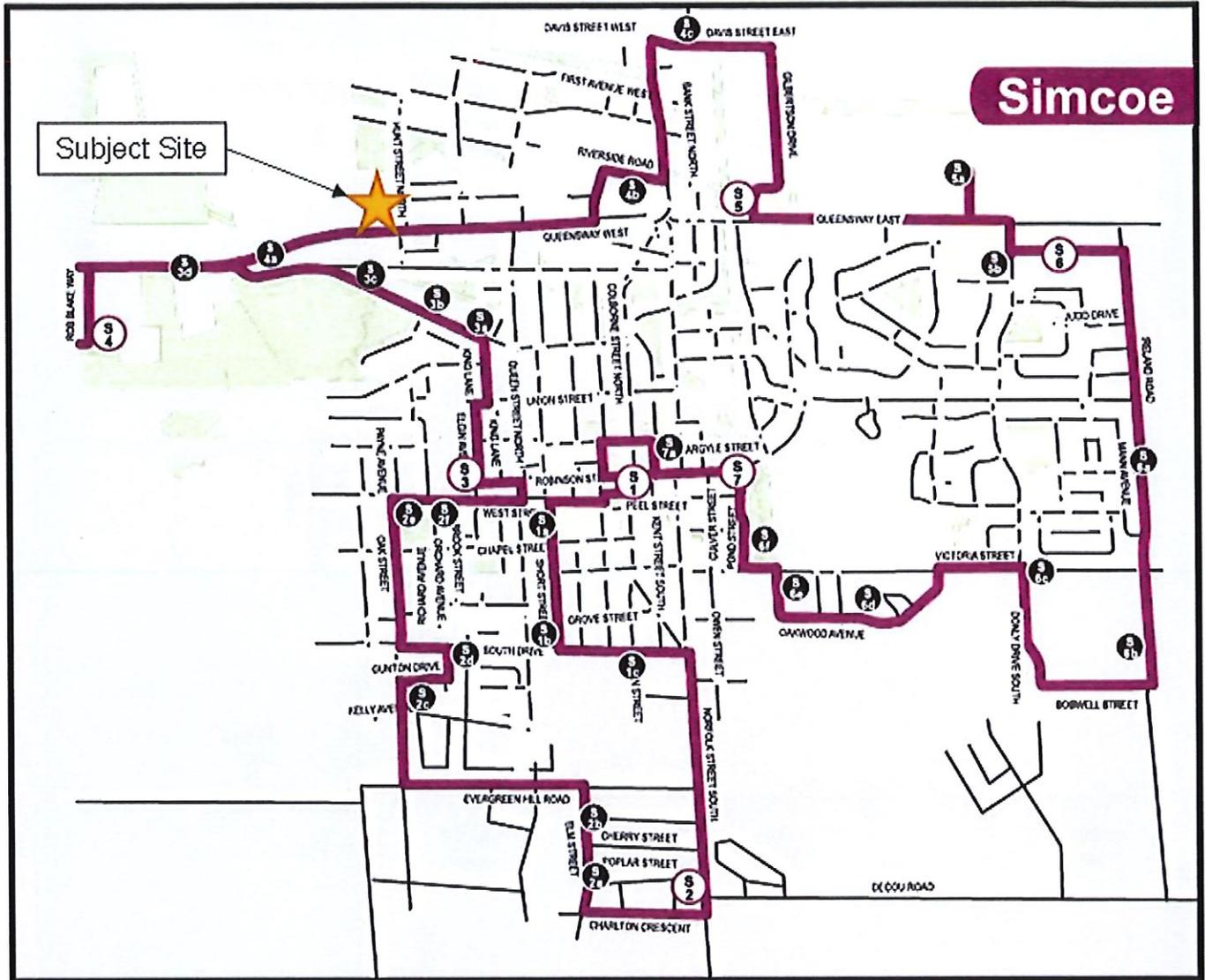
2.3 Traffic Volumes

Paradigm conducted turning movement counts at the intersection of Queensway West and Hunt Street on 11 January 2023.

Figure 2.3 illustrates the existing AM (8:15 – 9:15) and PM (3:30 – 4:30) weekday peak hour turning movement traffic volumes.

Appendix B contains the detailed traffic count information.



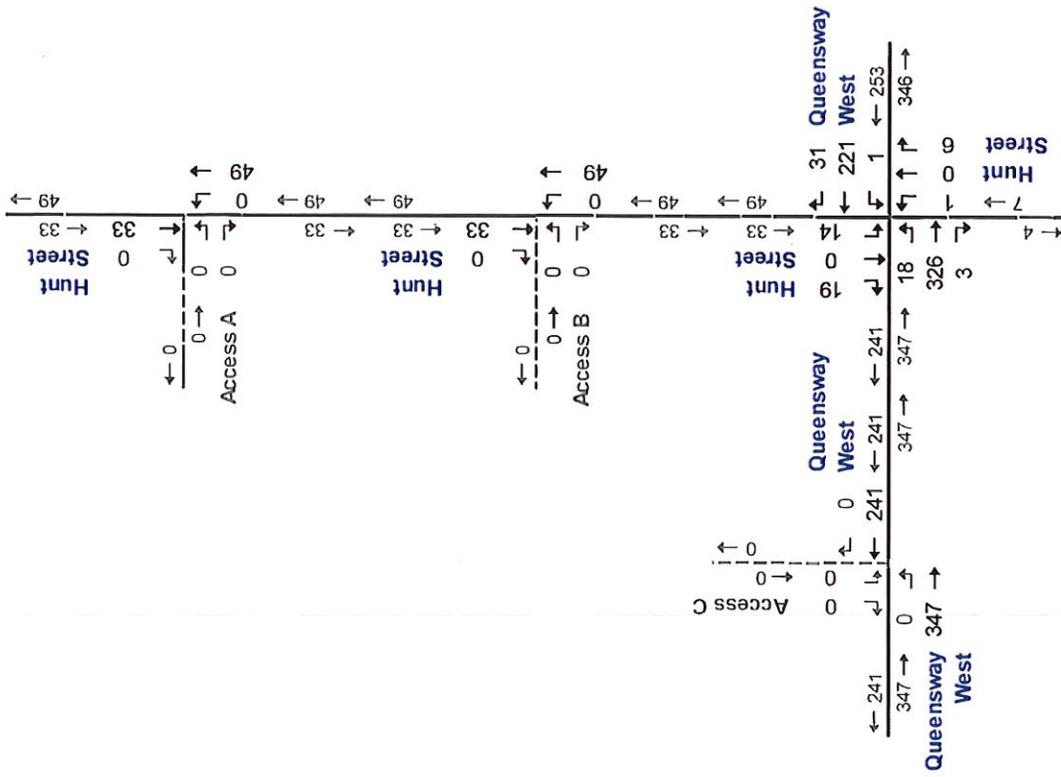


NTS
Image Source: Norfolk Transit

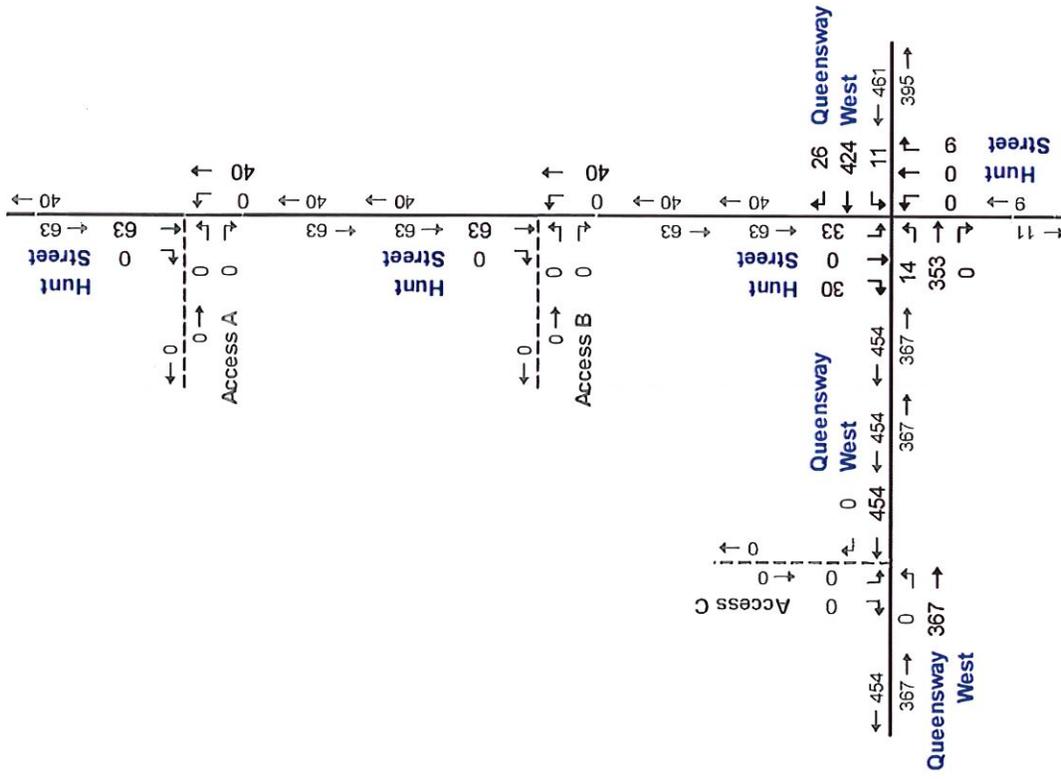


Existing Transit Network

AM Peak Hour



PM Peak Hour



Existing Traffic Volumes

395 Queensway West, Simcoe TIA
220786

Figure 2.3

2.4 Traffic Operations

The level of service conditions at the intersection of Queensway West and Hunt Street have been assessed through intersection operational analysis using Synchro 11.

Intersection level of service (LOS) is a recognized method of quantifying the average delay experienced by drivers at intersections. It is based on the delay experienced by individual vehicles executing the various movements. The delay is related to the number of vehicles intending to make a particular movement, compared to the estimated capacity for that movement. The capacity is based on several criteria related to the opposing traffic flows and intersection geometry.

The highest possible rating is LOS A, under which the average total delay is equal or less than 10.0 seconds per vehicle. When the average delay exceeds 80 seconds for signalized intersections, 50 seconds for unsignalized intersections or when the volume to capacity ratio is greater than 1.00, the movement is classed as LOS F and remedial measures are usually implemented if they are feasible. LOS E is usually used as a guideline for the determination of road improvement needs on through lanes, while LOS F may be acceptable for left-turn movements at peak times, depending on delays.

Table 2.1 summarizes the results of the intersection operational analysis under existing conditions, including the AM and PM peak hour LOS, v/c ratios, and 95th percentile queues experienced.

The results indicate that the Queensway West and Hunt Street intersection is operating at acceptable levels of service, and with no problem movements.

Appendix C contains the detailed Synchro 11 reports.



TABLE 2.1: EXISTING TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 8 0.02 0	> > > >	A 0	< < < <	A 8 0.00 0	> > > >	A 0	< < < <	A 10 0.01 0	> > > >	A 10	< < < <	B 11 0.06 2	> > > >	B 11	
PM Peak Hour	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 9 0.02 0	> > > >	A 0	< < < <	A 8 0.01 0	> > > >	A 0	< < < <	A 10 0.01 0	> > > >	A 10	< < < <	C 15 0.16 4	> > > >	C 15	

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

TWSC - Two-Way Stop Control

</> - Shared with through movement



3 Development Concept

3.1 Development Description

The subject site is located in the northwest corner of Queensway West and Hunt Street. The proposed development will include an Apartment Building with up to seven storeys and 114 apartment units and 2,714 sq. m. GLA of commercial use, along with 10 semi-detached dwelling units and 27 townhouses.

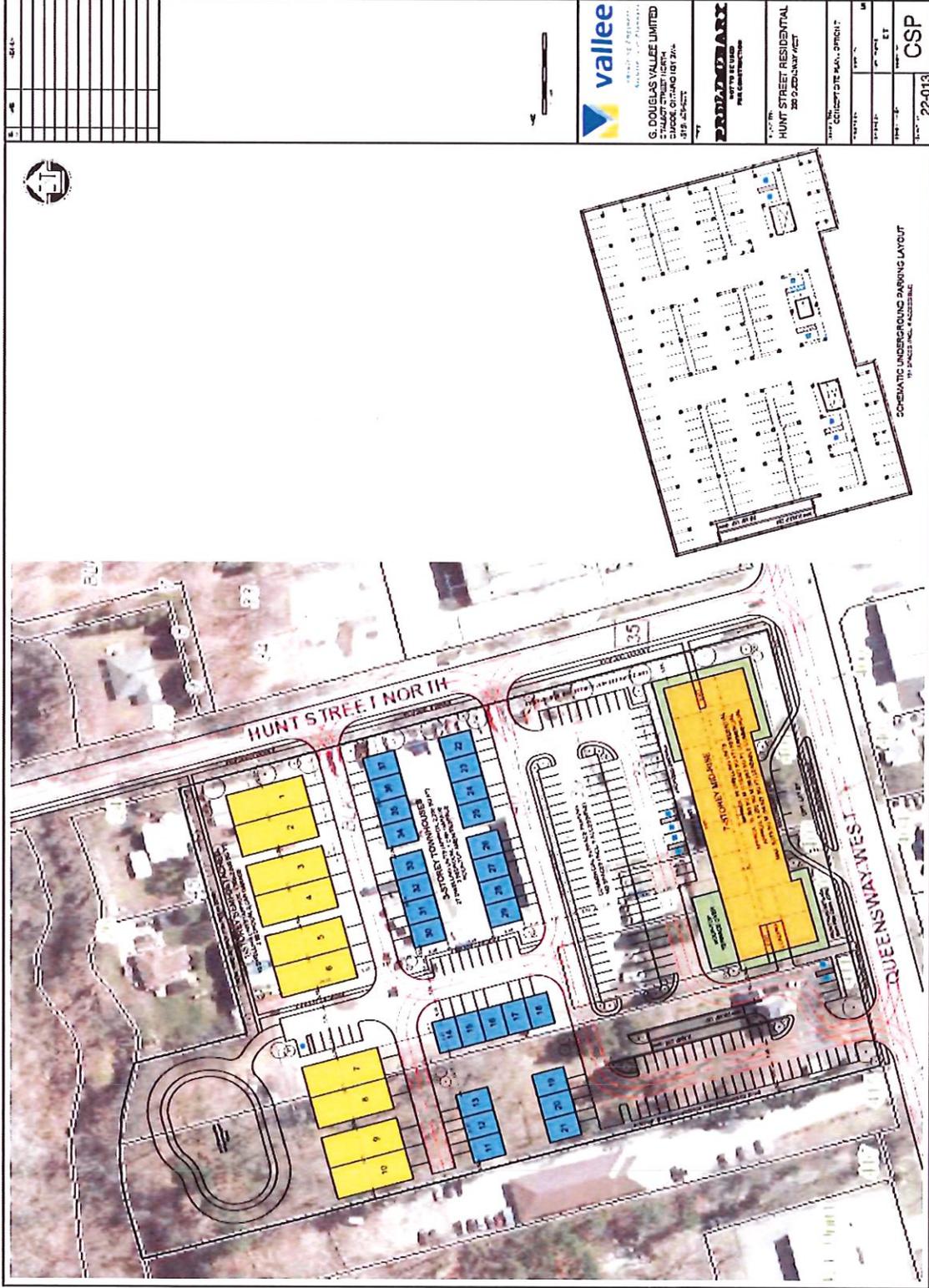
Three full-moves driveways are proposed, two to Hunt Street and one to Queensway West.

The development is also proposing to include 'streetside parallel parking' to enhance the site's commercial exposure. Two options are proposed, one providing a Parking Lay-by on Queensway West, and the other on-street parallel parking on both Queensway West and Hunt Street.

Figure 3.1a shows the concept site plan with the lay-by lane option, and **Figure 3.1b** shows the concept site plan with the on-street parking option.

The lay-by option provides three parking spaces on Queensway West; the on-street option provides 13 and six parking spaces on Queensway West and Hunt Street, respectively.



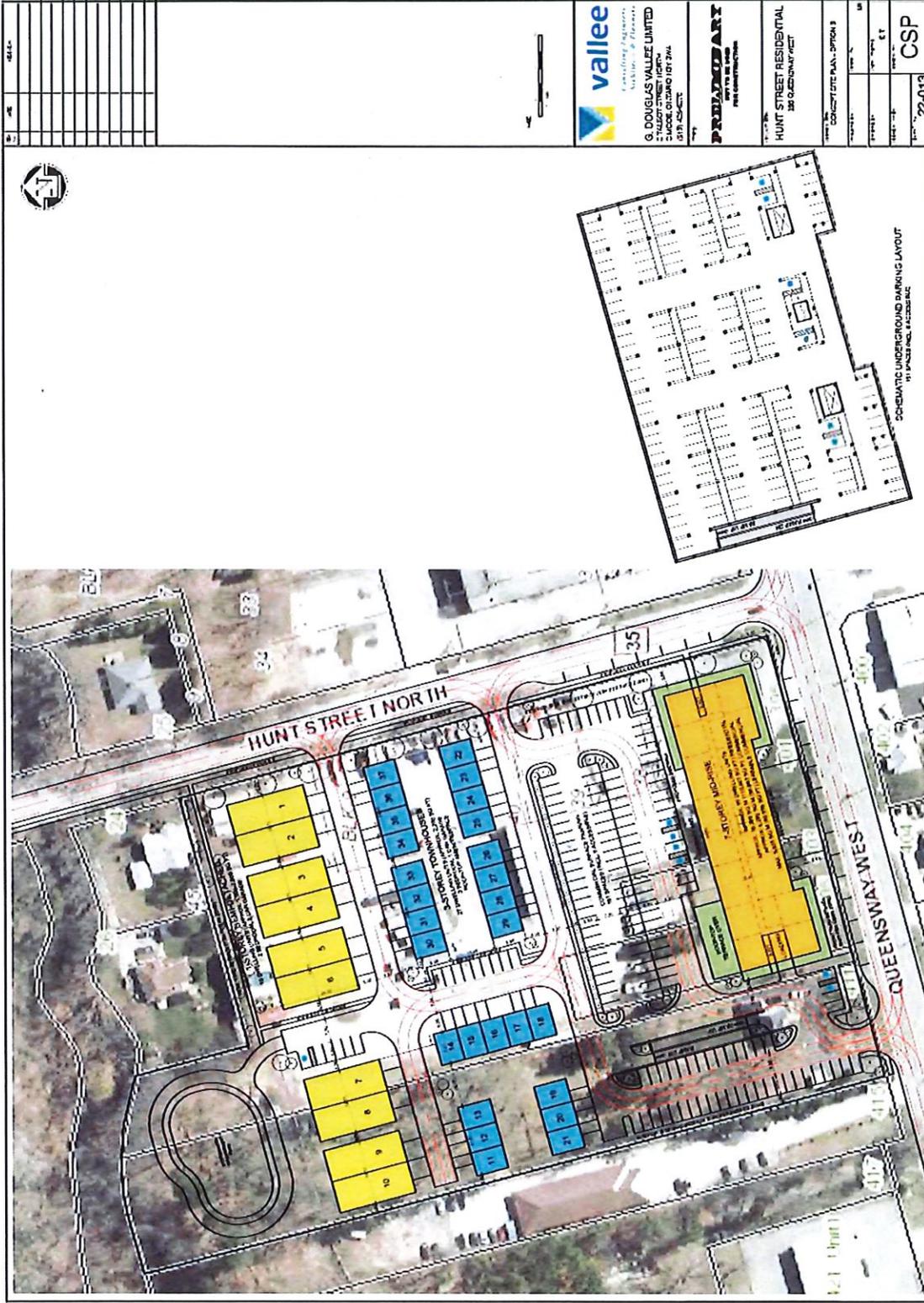


Concept Site Plan – Lay-by Lane Option

Figure 3.1a



395 Queensway West, Simcoe TIA
 220786



Concept Site Plan - Streetside Parking Option

Figure 3.1b

3.2 Development Trip Generation

The Institute of Transportation Engineers (ITE) Trip Generation Manual³ rates and equations were used to estimate the peak hour traffic volumes generated by the subject development based on the following ITE Land Use Codes:

- ▶ 215, Single Family Attached Housing;
- ▶ 221, Multifamily Housing (Mid Rise); and
- ▶ 822, Strip Retail Plaza (<40k).

It is noted that internal trips within the development between the retail and residential uses have been estimated based on the National Cooperative Highway Research Program (NCHRP)⁴ Internal Trip Capture Estimation Tool included in **Appendix D**.

Table 3.1 summarizes the forecast number of net new trips generated by the proposed development.

TABLE 3.1: TRIP GENERATION

Land Use Code	Units	AM Peak Hour				PM Peak Hour			
		Rate	In	Out	Total	Rate	In	Out	Total
215: Single-Family Attached Housing	37 Units	Eq	4	10	14	Eq	11	7	18
221: Multifamily Housing (Mid-Rise)	114 Units	Eq	9	30	39	Eq	27	18	45
822: Strip Retail Plaza (<40k)	29,213 sq. ft.	2.36	41	28	69	5.19	84	83	167
<i>Internal Trips</i>			-	-	-		25	25	50
Total Trip Generation			54	68	122		97	83	180

LUC 215 | AM: $T = 0.52(X) - 5.70$ | PM: $T = 0.60(X) - 3.93$

LUC 221 | AM: $T = 0.44(X) - 11.61$ | PM: $T = 0.39(X) + 0.34$

LUC 822 | PM: $\ln(T) = 0.71 \ln(X) + 2.72$

3.3 Development Trip Distribution and Assignment

The trip distribution was determined based on existing traffic distribution at the intersection of Queensway West and Hunt Street. The site-generated trips have been assigned to the access intersections based on the location of each land use within the site.

³ Institute of Transportation Engineers, *Trip Generation Manual*, 11th ed., (Washington, DC: ITE, 2021).

⁴ NCHRP, "Enhancing Internal Trip Capture Estimation for Mixed-Use Developments", 2010.



Table 3.2 provides the breakdown of trip distributions used in this study.

TABLE 3.2: ESTIMATED TRIP DISTRIBUTION

Origin/Destination	Distribution
East via Queensway West	55%
West via Queensway West	40%
North via Hunt Street	5%
Total	100%

Figure 3.2 illustrates the site-generated traffic volumes for the AM and PM peak hours.

3.4 Lay-by Lane

The northside shoulder of Queensway West along the subject site property line is proposed to be used for either a parking lay-by lane with three parking spaces or street-side parking with 13 parking spots.

The currently-proposed parking supply satisfies the zoning by-law. The proposed additional street-side or lay-by parking spaces will enhance the availability of parking, primarily for the commercial use.



4 Evaluation of Future Traffic Conditions

The assessment of future traffic conditions contained in this section includes estimates of future background and total traffic volumes, and the analyses for the year of development opening (2025), five years after opening (2030), and ten years after opening (2035).

4.1 Background Traffic Forecasts

In order to derive the generalized background traffic volumes, a growth rate of 2.0% per annum was applied to the existing roadway traffic volumes.

4.2 2025 Background Traffic Operations

Figure 4.1 illustrates the 2025 background traffic volumes, including road traffic growth.

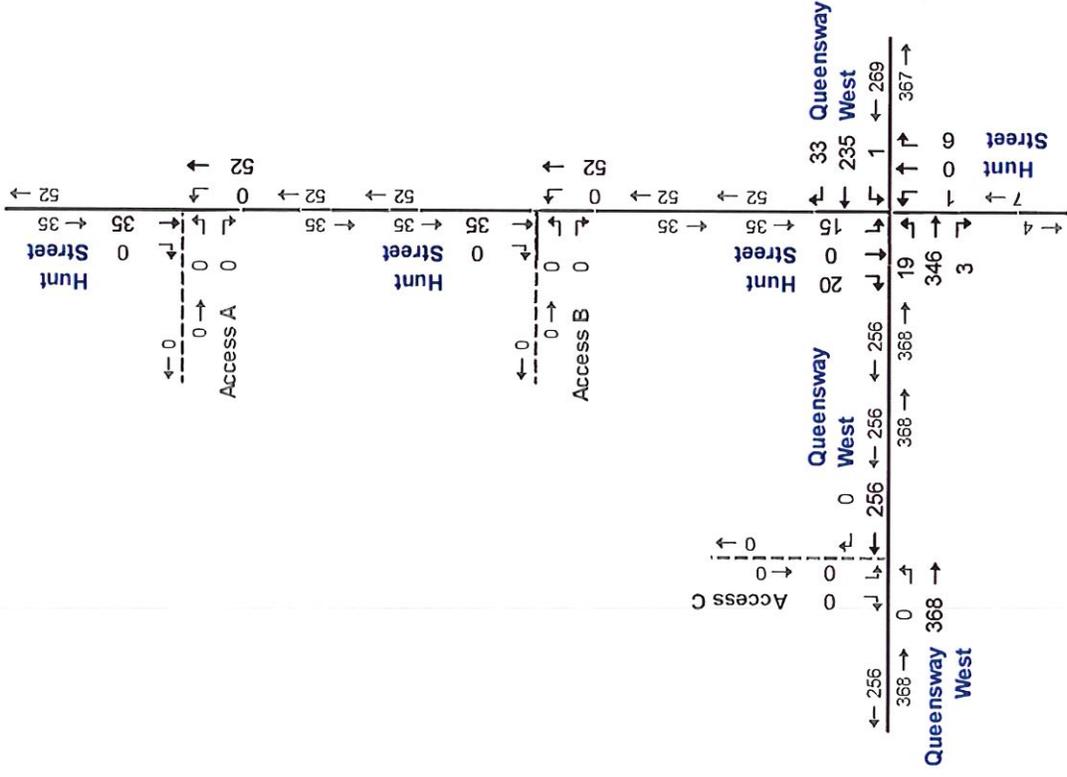
The 2025 background traffic volumes have been analyzed using the same methodology as under existing traffic conditions.

Table 4.1 summarizes the results of the 2025 background traffic operations. The results indicate that the Queensway West and Hunt Street intersection is forecast to operate at acceptable levels of service during the AM and PM peak hours.

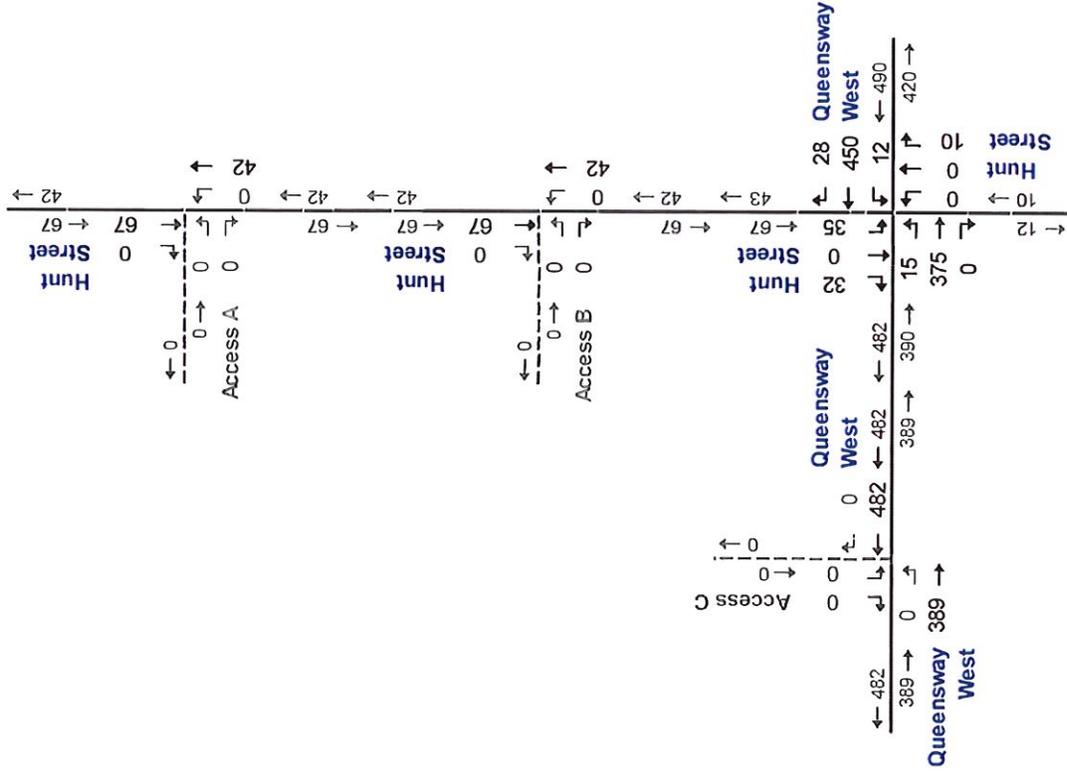
Appendix E contains the supporting detailed Synchro 11 reports.



AM Peak Hour



PM Peak Hour



2025 Background Traffic Volumes

Figure 4.1

TABLE 4.1: 2025 BACKGROUND TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 8 0.02 1	> > > >	A 0	< < < <	A 8 0.00 0	> > > >	A 0	< < < <	B 10 0.01 0	> > > >	B 10	< < < <	B 11 0.06 2	> > > >	B 11	
PM Peak Hour	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 9 0.02 1	> > > >	A 0	< < < <	A 8 0.01 0	> > > >	A 0	< < < <	A 10 0.01 0	> > > >	A 10	< < < <	C 16 0.18 5	> > > >	C 16	

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

TWSC - Two-Way Stop Control

</> - Shared with through movement



4.3 2025 Total Traffic Operations

Figure 4.2 illustrates the 2025 total traffic volumes, including trips generated by the proposed development.

The 2025 total traffic volumes have been analyzed using the same methodology as under existing and background traffic conditions.

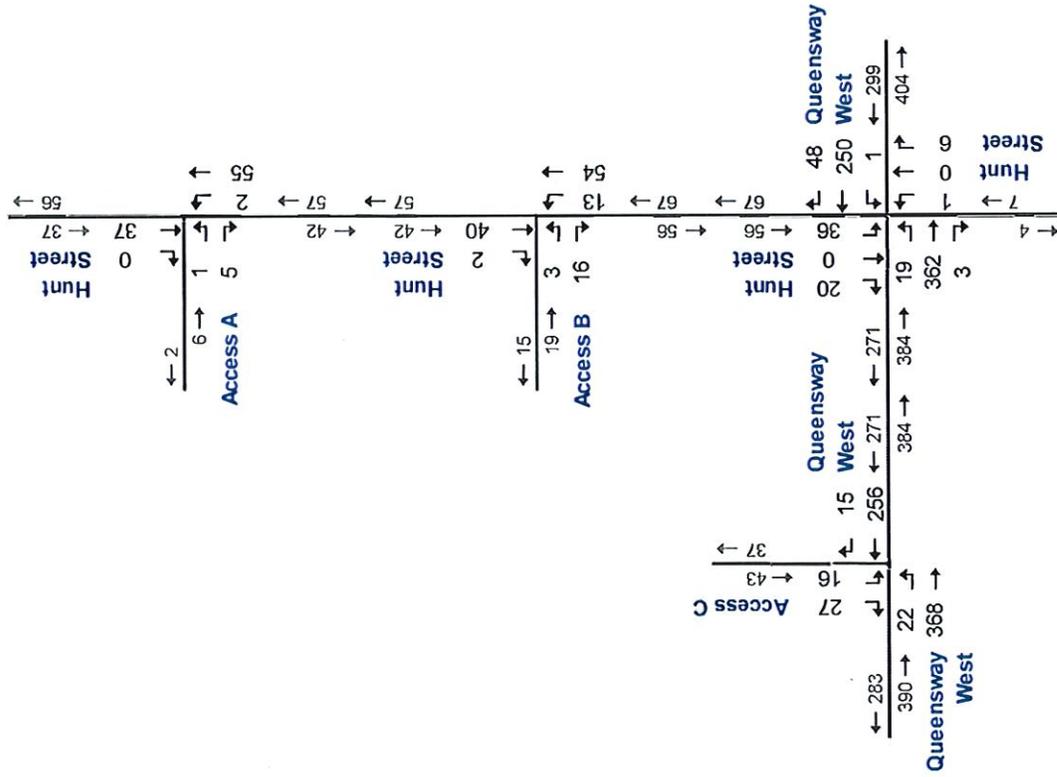
Table 4.2 summarizes the results of the 2025 total traffic operations. The results indicate that the Queensway West and Hunt Street intersection is forecast to operate at acceptable levels of service during the AM and PM peak hours.

The Site Access intersections to Queensway West and Hunt Street are forecast to operate at acceptable levels of service.

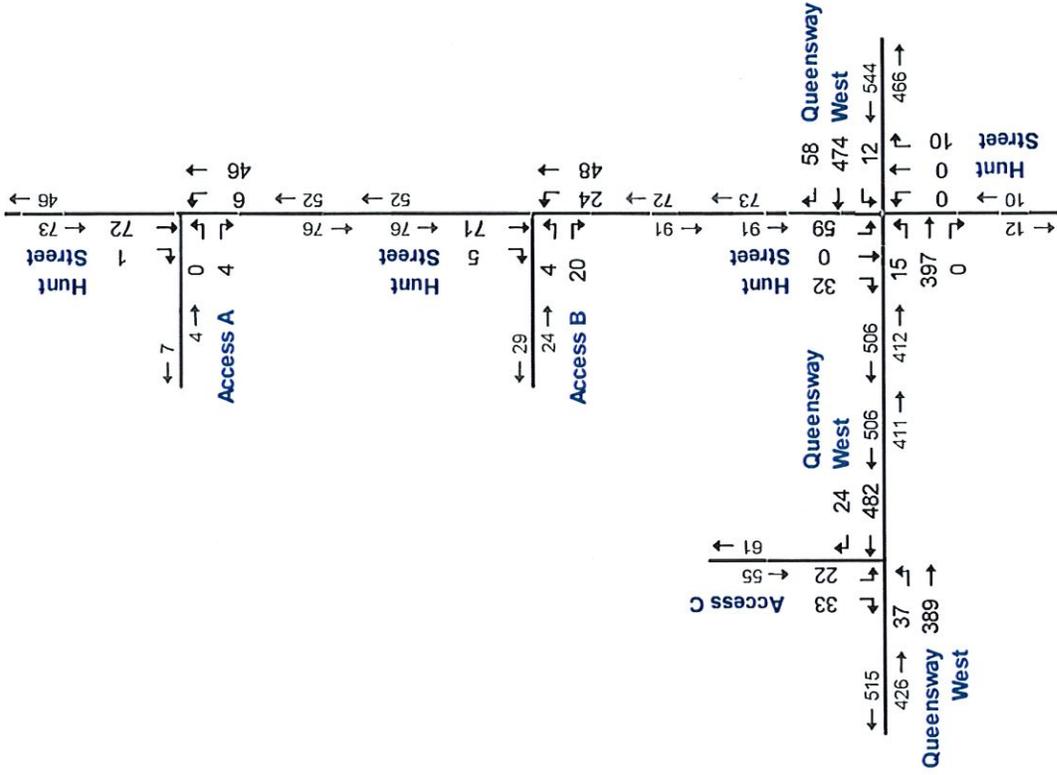
Appendix F contains the supporting detailed Synchro 11 reports.



AM Peak Hour



PM Peak Hour



2025 Total Traffic Volumes

Figure 4.2



TABLE 4.2: 2025 TOTAL TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Hunt Street & Access A	TWSC	LOS Delay V/C Q	A 9 0.01 0	< > > >	> > > >	A 9	< < < <	< < < <	< < < <	< < < <	A 7 0.00 0	< < < <	A 0	< < < <	A 0 0.00 0	> > > >	A 0		
	Hunt Street & Access B	TWSC	LOS Delay V/C Q	A 9 0.02 1	< > > >	> > > >	A 9	< < < <	< < < <	< < < <	< < < <	A 7 0.01 0	< < < <	A 1	< < < <	A 0 0.00 0	> > > >	A 0		
	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 8 0.02 1	> > > >	A 0	< < < <	A 8 0.00 0	> > > >	A 0	< < < <	B 10 0.01 0	> > > >	B 10	< < < <	B 13 0.12 3	> > > >	B 13	
	Queensway West & Access C	TWSC	LOS Delay V/C Q	< < < <	A 8 0.02 1	> > > >	A 0	< < < <	A 0 0.00 0	> > > >	A 0	< < < <	< < < <	< < < <	B 11 0.07 2	< < < <	< < < <	> > > >	B 11	
PM Peak Hour	Hunt Street & Access A	TWSC	LOS Delay V/C Q	A 9 0.00 0	< > > >	> > > >	A 9	< < < <	< < < <	< < < <	< < < <	A 7 0.00 0	< < < <	A 1	< < < <	A 0 0.00 0	> > > >	A 0		
	Hunt Street & Access B	TWSC	LOS Delay V/C Q	A 9 0.03 1	< > > >	> > > >	A 9	< < < <	< < < <	< < < <	< < < <	A 7 0.02 1	< < < <	A 2	< < < <	A 0 0.00 0	> > > >	A 0		
	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 9 0.02 1	> > > >	A 0	< < < <	A 9 0.01 0	> > > >	A 0	< < < <	A 10 0.01 0	> > > >	A 10	< < < <	C 21 0.30 9	> > > >	C 21	
	Queensway West & Access C	TWSC	LOS Delay V/C Q	< < < <	A 9 0.04 1	> > > >	A 1	< < < <	A 0 0.00 0	> > > >	A 0	< < < <	< < < <	< < < <	B 14 0.13 4	< < < <	< < < <	> > > >	B 14	

MOE - Measure of Effectiveness
 LOS - Level of Service
 Delay - Average Delay per Vehicle in Seconds
 V/C - Volume to Capacity Ratio
 Q - 95th Percentile Queue Length (m)
 TWSC - Two-Way Stop Control
 </> - Shared with through movement



4.4 2030 Background Traffic Operations

Figure 4.3 illustrates the 2030 background traffic volumes, including road traffic growth.

The 2030 background traffic volumes have been analyzed using the same methodology as under existing traffic conditions.

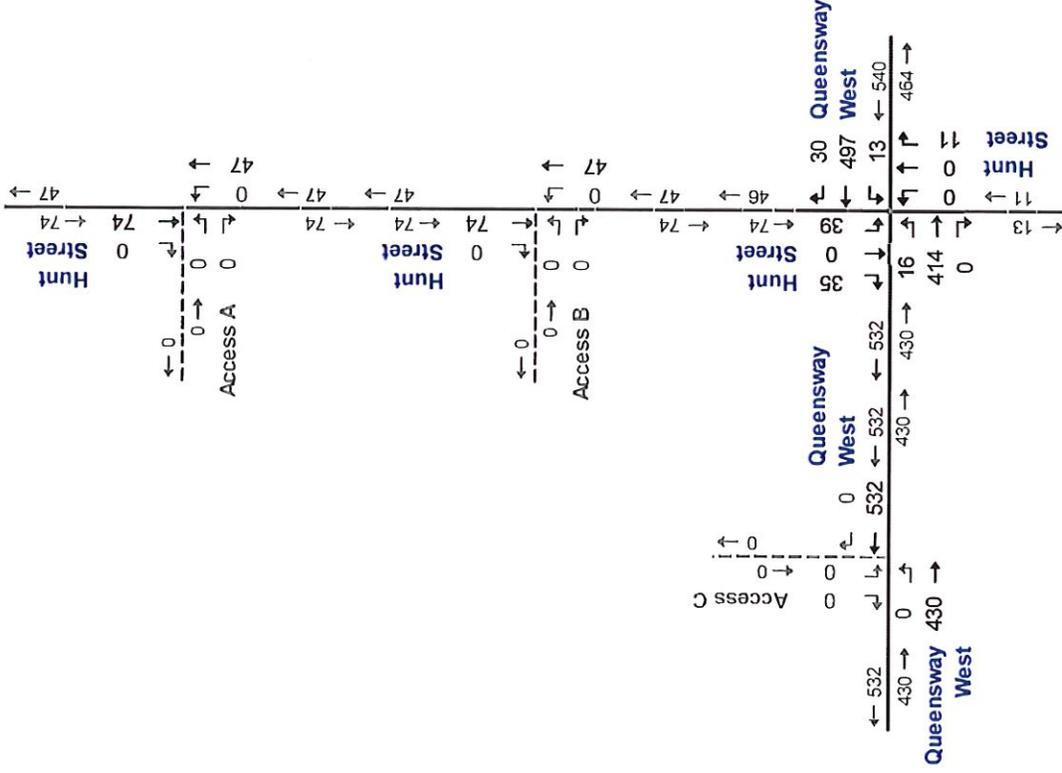
Table 4.3 summarizes the results of the 2030 background traffic operations. The results indicate that the Queensway West and Hunt Street intersection is forecast to operate at acceptable levels of service during the AM and PM peak hours.

Appendix G contains the supporting detailed Synchro 11 reports.

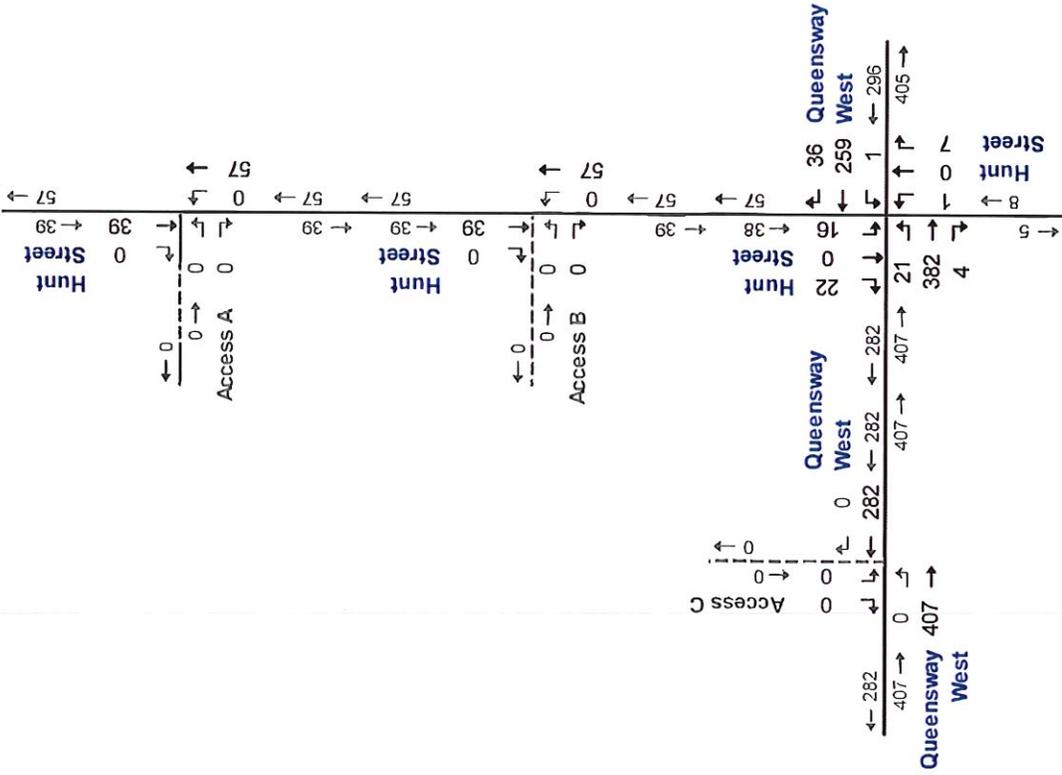




PM Peak Hour



AM Peak Hour



2030 Background Traffic Volumes

TABLE 4.3: 2030 BACKGROUND TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 8 0.02 1	> > > >	A 0	< < < <	A 8 0.00 0	> > > >	A 0	< < < <	B 10 0.01 0	> > > >	B 10	< < < <	B 12 0.07 2	> > > >	B 12	
PM Peak Hour	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 9 0.02 1	> > > >	A 0	< < < <	A 9 0.01 0	> > > >	A 0	< < < <	A 10 0.02 0	> > > >	A 10	< < < <	C 18 0.23 7	> > > >	C 18	

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

TWSC - Two-Way Stop Control

</> - Shared with through movement



4.5 2030 Total Traffic Operations

Figure 4.4 illustrates the 2030 total traffic volumes, including trips generated by the proposed development.

The 2030 total traffic volumes have been analyzed using the same methodology as under existing and background traffic conditions.

Table 4.4 summarizes the results of the 2030 total traffic operations. The results indicate that the Queensway West and Hunt Street intersection is forecast to operate at acceptable levels of service during the AM and PM peak hours.

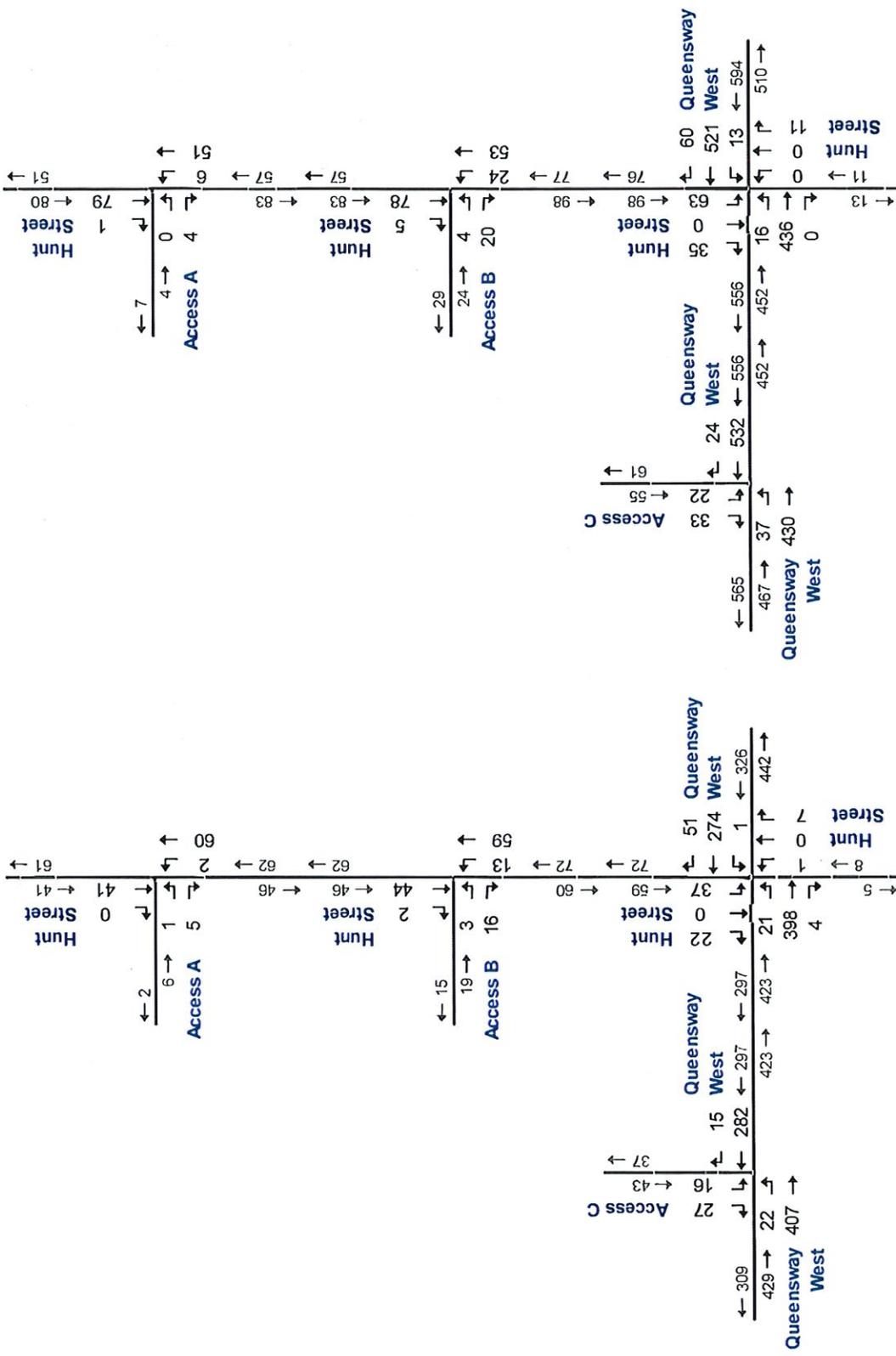
The Site Access intersections to Queensway West and Hunt Street are forecast to operate at acceptable levels of service.

Appendix H contains the supporting detailed Synchro 11 reports.



AM Peak Hour

PM Peak Hour



2030 Total Traffic Volumes

Figure 4.4

TABLE 4.4: 2030 TOTAL TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Hunt Street & Access A	TWSC	LOS Delay V/C Q	A 9 0.01 0	> > > >	A 9	< < < <	A 7 0.00 0	> > > >	A 0	< < < <	A 0	> > > >	A 0 0.00 0	> > > >	A 0	< < < <	A 0		
	Hunt Street & Access B	TWSC	LOS Delay V/C Q	A 9 0.02 1	> > > >	A 9	< < < <	A 7 0.01 0	> > > >	A 1	< < < <	A 1	> > > >	A 0 0.00 0	> > > >	A 0	< < < <	A 0		
	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 8 0.02 1	> > > >	A 0	< < < <	A 8 0.00 0	> > > >	A 0	< < < <	B 10 0.01 0	> > > >	B 10	< < < <	B 14 0.14 4	> > > >	B 14	
	Queensway West & Access C	TWSC	LOS Delay V/C Q	< < < <	A 8 0.02 1	> > > >	A 0	< < < <	A 0 0.00 0	> > > >	A 0	< < < <		> > > >	B 11 0.07 2	< < < <		> > > >	B 11	
PM Peak Hour	Hunt Street & Access A	TWSC	LOS Delay V/C Q	A 9 0.00 0	> > > >	A 9	< < < <	A 7 0.00 0	> > > >	A 1	< < < <	A 1	> > > >	A 0 0.00 0	> > > >	A 0	< < < <	A 0		
	Hunt Street & Access B	TWSC	LOS Delay V/C Q	A 9 0.03 1	> > > >	A 9	< < < <	A 7 0.02 1	> > > >	A 2	< < < <	A 2	> > > >	A 0 0.00 0	> > > >	A 0	< < < <	A 0		
	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 9 0.02 1	> > > >	A 0	< < < <	A 9 0.01 0	> > > >	A 0	< < < <	A 10 0.02 1	> > > >	A 10	< < < <	C 24 0.36 12	> > > >	C 24	
	Queensway West & Access C	TWSC	LOS Delay V/C Q	< < < <	A 9 0.04 1	> > > >	A 1	< < < <	A 0 0.00 0	> > > >	A 0	< < < <		> > > >	C 15 0.14 4	< < < <		> > > >	C 15	

MOE - Measure of Effectiveness
 LOS - Level of Service
 Delay - Average Delay per Vehicle in Seconds
 V/C - Volume to Capacity Ratio
 Q - 95th Percentile Queue Length (m)
 TWSC - Two-Way Stop Control
 </> - Shared with through movement



4.6 2035 Background Traffic Operations

Figure 4.5 illustrates the 2035 background traffic volumes, including road traffic growth.

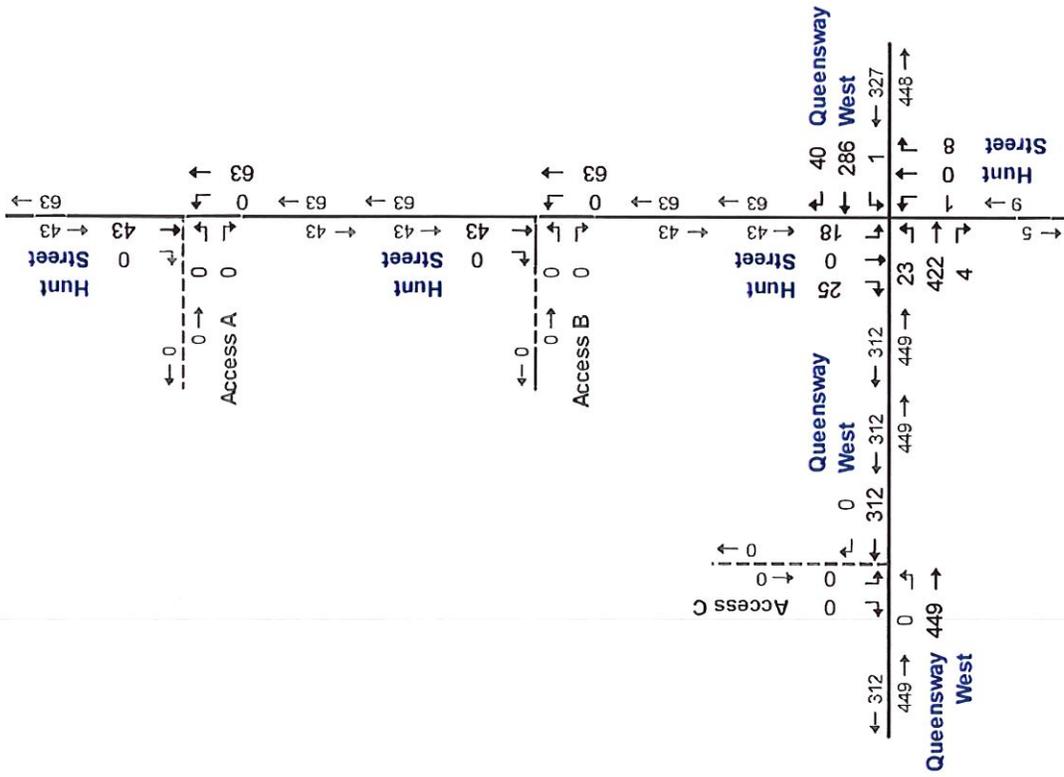
The 2035 background traffic volumes have been analyzed using the same methodology as under existing traffic conditions.

Table 4.5 summarizes the results of the 2035 background traffic operations. The results indicate that the Queensway West and Hunt Street intersection is forecast to operate at acceptable levels of service during the AM and PM peak hours.

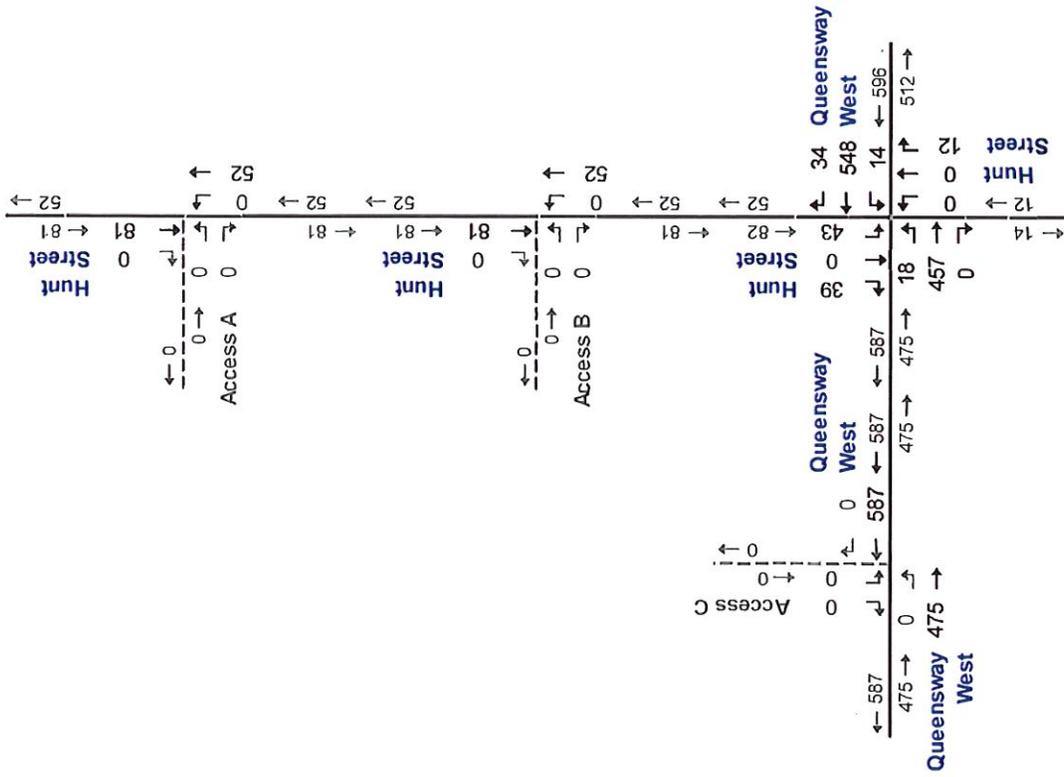
Appendix I contains the supporting detailed Synchro 11 reports.



AM Peak Hour



PM Peak Hour



2035 Background Traffic Volumes

395 Queensway West, Simcoe TIA
220786

Figure 4.5

TABLE 4.5: 2035 BACKGROUND TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 8 0.02 1	> > > >	A 0	< < < <	A 8 0.00 0	> > > >	A 0	< < < <	B 10 0.01 0	> > > >	B 10	< < < <	B 12 0.09 2	> > > >	B 12	
PM Peak Hour	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 10 0.02 1	> > > >	A 0	< < < <	A 9 0.02 0	> > > >	A 0	< < < <	B 10 0.02 1	> > > >	B 10	< < < <	C 21 0.29 9	> > > >	C 21	

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

TWSC - Two-Way Stop Control

</> - Shared with through movement



4.7 2035 Total Traffic Operations

Figure 4.6 illustrates the 2035 total traffic volumes, including trips generated by the proposed development.

The 2035 total traffic volumes have been analyzed using the same methodology as under existing and background traffic conditions.

Table 4.6 summarizes the results of the 2035 total traffic operations. The results indicate that the Queensway West and Hunt Street intersection is forecast to operate at acceptable levels of service during the AM and PM peak hours.

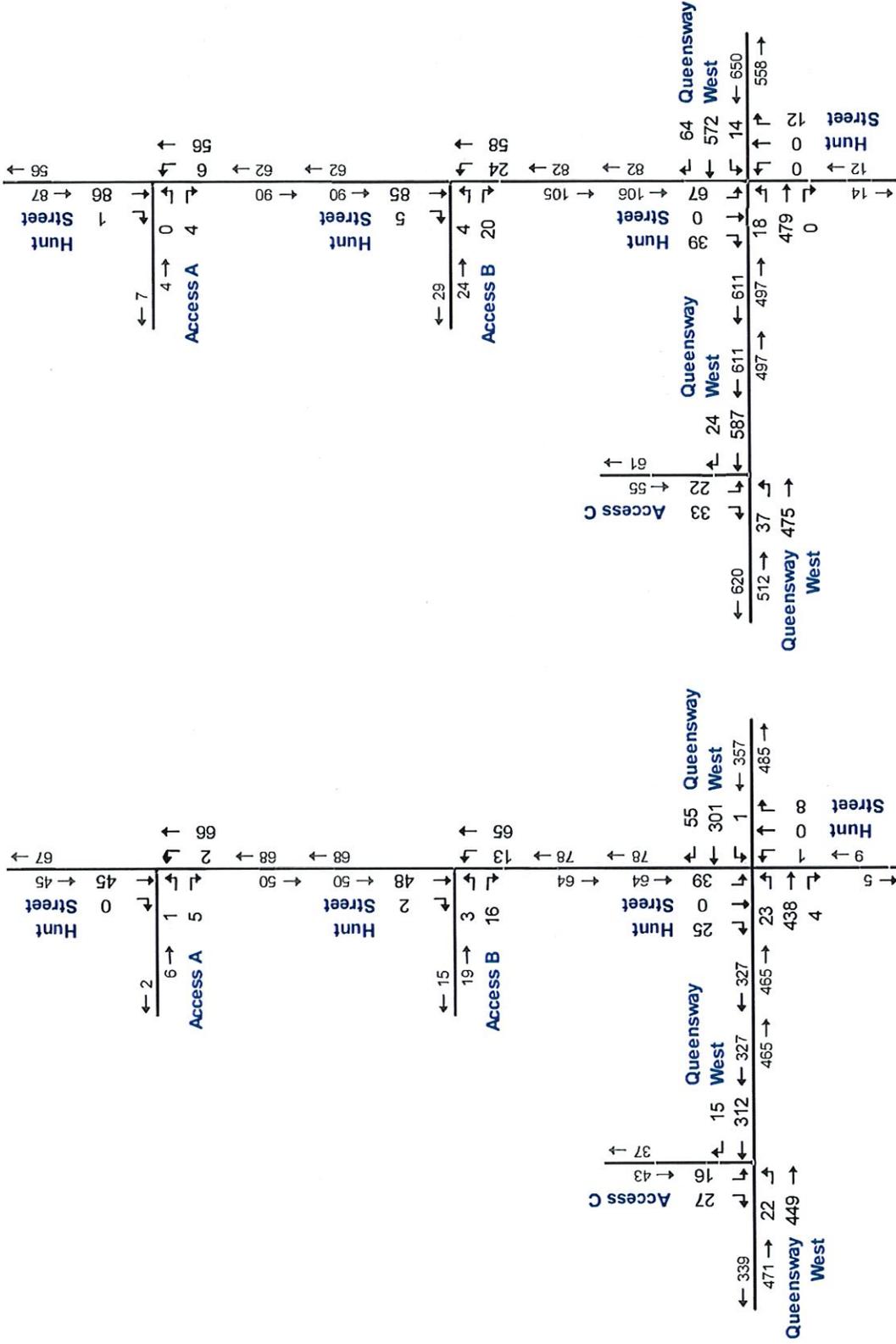
The Site Access intersections to Queensway West and Hunt Street are forecast to operate at acceptable levels of service.

Appendix J contains the supporting detailed Synchro 11 reports.



AM Peak Hour

PM Peak Hour



2035 Total Traffic Volumes

Figure 4.6

TABLE 4.6: 2035 TOTAL TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Hunt Street & Access A	TWSC	LOS Delay V/C Q	A 9 0.01 0	< > > >	> > > >	A 9	< < < <	< < < <	< < < <	A 7 0.00 0	< < < <	A 0	< < < <	A 0 0.00 0	> > > >	A 0			
	Hunt Street & Access B	TWSC	LOS Delay V/C Q	A 9 0.02 1	< > > >	> > > >	A 9	< < < <	< < < <	< < < <	A 7 0.01 0	< < < <	A 1	< < < <	A 0 0.00 0	> > > >	A 0			
	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 8 0.02 1	> > > >	A 0	< < < <	A 8 0.00 0	> > > >	A 0	< < < <	B 10 0.01 0	> > > >	B 10	< < < <	B 15 0.16 4	> > > >	B 15	
	Queensway West & Access C	TWSC	LOS Delay V/C Q	< < < <	A 8 0.02 1	> > > >	A 0	< < < <	A 0 0.00 0	> > > >	A 0	< < < <			B 12 0.08 2	< < < <		> > > >	B 12	
PM Peak Hour	Hunt Street & Access A	TWSC	LOS Delay V/C Q	A 9 0.01 0	< > > >	> > > >	A 9	< < < <	< < < <	< < < <	A 7 0.00 0	< < < <	A 1	< < < <	A 0 0.00 0	> > > >	A 0			
	Hunt Street & Access B	TWSC	LOS Delay V/C Q	A 9 0.03 1	< > > >	> > > >	A 9	< < < <	< < < <	< < < <	A 7 0.02 1	< < < <	A 2	< < < <	A 0 0.00 0	> > > >	A 0			
	Hunt Street & Queensway West	TWSC	LOS Delay V/C Q	< < < <	A 10 0.03 1	> > > >	A 0	< < < <	A 9 0.02 1	> > > >	A 0	< < < <	B 10 0.02 1	> > > >	B 10	< < < <	D 30 0.45 16	> > > >	D 30	
	Queensway West & Access C	TWSC	LOS Delay V/C Q	< < < <	A 9 0.04 1	> > > >	A 1	< < < <	A 0 0.00 0	> > > >	A 0	< < < <			C 16 0.16 4	< < < <		> > > >	C 16	

MOE - Measure of Effectiveness
 LOS - Level of Service
 Delay - Average Delay per Vehicle in Seconds
 V/C - Volume to Capacity Ratio
 Q - 95th Percentile Queue Length (m)
 TWSC - Two-Way Stop Control
 </> - Shared with through movement



4.8 Left-Turn Lanes

The need for auxiliary left-turn turning lanes were reviewed at all access points on Hunt Street and Queensway West.

For the two access points on Hunt Street, northbound auxiliary left-turn lanes are not required given the low to moderate through traffic volumes and turning movements.

For the access on Queensway West, an eastbound auxiliary left-turn lane, with 15 metres of storage, is identified as warranted⁵ under 2035 total traffic conditions.

However, an auxiliary left-turn lane need not be provided as the eastbound (inbound) left-turning movement can be accommodated given the four-lane road cross-section with two lanes in each direction, and the projected level of service of LOS A and minimal queuing for the left-turning movement under 2035 total traffic conditions.

⁵ Based on *MTO Design Supplement for TAC Geometric Design Guide for Canadian Roads*, June 2017.



5 Conclusions and Recommendations

5.1 Conclusions

Based on the investigations carried out, it is concluded that:

- ▶ **Existing Traffic Conditions:** The intersection of Queensway West and Hunt Street is currently operating at acceptable levels of service.
- ▶ **Development Trip Generation:** The development is forecast to generate 122 and 180 net trips during the AM and PM peak hours, respectively.
- ▶ **Background and Total Traffic Conditions:** The intersection of Queensway West and Hunt Street is forecast to operate at acceptable levels of service under 2025, 2030, and 2035 background traffic conditions without development traffic, and total traffic conditions including development traffic.
- ▶ **Access Operations:** The Site Access intersections on Queensway West and on Hunt Street are forecast to operate at acceptable levels of service under 2025, 2030, and 2035 total traffic conditions.

Northbound auxiliary left-turn lanes are not required at the two access points on Hunt Street given the low to moderate through traffic volumes and turning movements.

For the access on Queensway West, an eastbound auxiliary left-turn lane, with 15 metres of storage, is identified as warranted under 2035 total traffic conditions.

However, an auxiliary left-turn lane will not be necessary as the eastbound (inbound) left-turning movement can be accommodated given the four-lane road cross-section with two lanes in each direction, and the projected level of service of LOS A and minimal queuing for the left-turning movement under 2035 total traffic conditions.

5.2 Recommendations

Based on the findings and conclusions of this study, it is recommended that the development be considered for approval as proposed.



Appendix A

Pre-Study Consultation



From: [Patrick Neal](#)
To: [Stephen Gradish](#)
Cc: [Raian Philips](#); leslevhuttonrhora@qdvallée.ca
Subject: (220786) 395 Queensway West, Simcoe TIS - Pre-Study Consultation
Date: January 5, 2023 11:31:00 AM
Attachments: [2022.09.07 Hunt Street Residential - Site Plan Opt.8.pdf](#)
[image001.png](#)
[image002.png](#)
[image003.png](#)
[2022.09.07 Hunt Street Residential - Site Plan Opt.7.pdf](#)

Hi Stephen,

Paradigm has been retained to undertake a Traffic Impact Study (TIS) for the proposed Residential development located at 395 Queensway West, Simcoe, Norfolk County.

The site is located in the northwest corner of Queensway West and Hunt Street.

Please let us know if MTO review/approval is required.

The proposed development will include a seven-storey Apartment Building accommodating 86 apartments and approximately 5,000 square metres GLA of commercial use, along with 10 semi-detached units and 27 town houses.

Access is proposed via three driveways: two to Hunt Street North and one to Queensway West.

The development is also proposing to include 'streetside parallel parking' to enhance exposure to the commercial component. Two options are proposed, one of which provides for a Parking Lay-by on Queensway West.

Two Site Plan options for streetside parking are attached.

Based on Norfolk County's TIS Guidelines, we are proposing the following scope of work, for your review and approval:

- Weekday AM and PM peak hour analysis of adjacent roadways.
- Study area intersections:
 - Queensway West & Hunt Street;
 - driveways on Queensway West; and
 - driveway on Hunt Street.
- Traffic Data: We will collect traffic counts. **Please confirm.**
- Horizon Years: (1) Year of development opening, (2) five years after development opening, and (3) 10 years after development opening.
- Background Growth Rate: 1.5% per annum.
- Background Development: **Please confirm if there are any nearby planned developments.**
- Trip Generation: ITE Trip Generation Manual 11th Edition.
- Site traffic distribution will be based on the existing traffic volumes at the Queensway West and Hunt Street intersection.

Streetside Parking: Review Streetside Parking as proposed in two options (attached).

Please let us know if you have any comments or questions.

Regards,

Patrick Neal, EIT
Transportation Consultant



Paradigm Transportation Solutions Limited

5A-150 Pinebush Road, Cambridge ON N1R 8J8

p: 416.479.9684 x510

m: 416.688.7338

e: pneal@ptsl.com

w: www.ptsl.com



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Appendix B

Existing Traffic Data





Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsi.com

Count Name: Queensway West & Hunt Street
Site Code: 220786
Start Date: 01/11/2023
Page No: 1

Turning Movement Data

Start Time	Queensway W Eastbound				Queensway W Westbound				Hunt Street Northbound				Hunt Street Southbound				Int. Total										
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn		Peds	App. Total								
7:00 AM	2	56	0	0	0	68	0	34	6	0	1	40	0	0	0	0	0	0	0	3	0	0	0	3	111		
7:15 AM	2	48	1	0	0	51	0	37	7	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	11	106	
7:30 AM	10	51	0	0	0	61	1	56	4	0	0	61	0	0	0	0	0	0	0	2	0	2	0	0	4	126	
7:45 AM	5	70	2	0	0	77	3	72	8	0	0	83	0	0	1	0	0	0	0	1	1	0	6	0	0	7	168
Hourly Total	19	235	3	0	0	257	4	199	25	0	1	228	0	0	1	0	0	0	0	14	0	11	0	0	0	25	511
8:00 AM	5	66	0	0	0	71	2	47	4	0	0	53	2	0	2	0	0	0	0	3	0	5	0	0	0	8	136
8:15 AM	3	67	2	0	0	72	0	51	8	0	0	59	0	0	0	0	0	0	0	7	0	3	0	0	0	10	141
8:30 AM	4	90	0	0	0	94	0	49	4	0	0	53	1	0	2	0	0	0	0	1	0	6	0	0	1	157	
8:45 AM	7	94	1	0	0	102	1	63	11	0	0	75	0	0	4	0	0	0	0	3	0	5	0	0	0	8	189
Hourly Total	19	317	3	0	0	339	3	210	27	0	0	240	3	0	8	0	0	0	0	14	0	19	0	1	33	623	
9:00 AM	4	75	0	0	0	79	0	58	8	0	1	66	0	0	0	0	0	0	0	3	0	5	0	0	0	8	153
9:15 AM	2	62	1	0	0	65	0	56	5	0	0	61	0	0	2	0	0	0	0	5	0	6	0	0	0	11	139
9:30 AM	2	73	2	0	0	77	1	59	3	0	0	63	0	0	1	0	0	0	0	3	0	3	0	0	0	6	147
9:45 AM	2	70	0	0	0	72	0	74	5	0	1	79	0	0	0	0	0	0	0	11	0	1	0	0	0	12	163
Hourly Total	10	280	3	0	0	293	1	247	21	0	2	269	0	0	3	0	0	0	0	22	0	15	0	0	0	37	602
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	1	64	0	0	0	65	0	72	6	0	0	78	0	0	2	0	0	0	0	7	0	3	0	0	0	10	155
11:15 AM	4	72	0	0	0	76	2	83	3	0	0	88	0	1	0	0	0	0	0	2	0	3	0	0	0	5	170
11:30 AM	2	83	0	0	0	85	0	91	5	0	0	96	0	1	0	0	0	0	0	4	1	9	0	0	1	14	196
11:45 AM	3	86	0	0	0	89	2	71	12	0	0	85	0	0	4	0	0	0	0	2	0	4	0	0	0	6	184
Hourly Total	10	305	0	0	0	315	4	317	26	0	0	347	0	2	6	0	0	0	0	15	1	19	0	1	35	705	
12:00 PM	2	96	0	0	0	98	0	76	8	0	0	84	0	0	3	0	0	0	0	9	0	4	0	0	0	13	198
12:15 PM	3	73	0	0	0	76	3	76	4	0	0	83	2	0	1	0	0	0	0	9	1	5	0	0	0	15	177
12:30 PM	4	82	1	0	0	87	3	89	9	0	0	101	0	0	2	0	0	0	0	9	0	6	0	0	0	15	205
12:45 PM	3	69	0	0	0	72	2	92	7	0	0	101	0	0	3	0	0	0	0	6	0	8	0	0	0	14	190
Hourly Total	12	320	1	0	0	333	8	333	28	0	0	369	2	0	9	0	0	0	0	33	1	23	0	0	0	57	770
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	5	89	0	0	0	94	1	89	5	0	1	95	0	0	1	0	0	0	0	4	1	19	0	0	0	24	214
3:15 PM	2	88	0	0	0	90	2	91	11	0	0	104	0	0	1	0	0	0	0	4	0	12	0	0	1	16	211
3:30 PM	3	79	0	0	0	82	2	115	7	0	0	124	0	0	4	0	0	0	0	11	0	10	0	0	0	21	231
3:45 PM	5	84	0	0	0	89	5	105	6	0	0	116	0	0	3	0	0	0	0	7	0	7	0	0	0	14	222
Hourly Total	15	340	0	0	0	355	10	400	29	0	1	439	0	0	9	0	0	0	0	26	1	48	0	1	75	878	
4:00 PM	4	104	0	0	0	108	4	101	8	0	0	113	0	0	2	0	0	0	0	6	0	6	0	0	0	12	235
4:15 PM	2	86	0	0	0	88	0	103	5	0	0	108	0	0	0	0	0	0	0	9	0	7	0	0	1	16	212
4:30 PM	6	88	0	0	0	94	1	92	6	0	0	99	0	1	1	0	0	0	0	8	1	4	0	0	0	13	208

4:45 PM	3	78	1	0	0	82	4	97	5	0	0	106	1	0	4	0	0	0	5	6	0	3	0	1	9	202
Hourly Total	15	356	1	0	0	372	9	393	24	0	0	426	1	1	7	0	0	0	9	29	1	20	0	2	50	857
5:00 PM	1	89	0	0	0	90	0	110	3	0	0	113	2	0	4	1	0	7	7	14	0	11	0	0	25	235
5:15 PM	2	58	0	0	0	60	0	96	9	0	0	105	0	0	1	0	0	1	1	6	0	4	0	0	10	176
5:30 PM	3	59	1	0	0	63	0	72	3	0	0	75	0	0	0	0	1	0	0	4	0	2	0	0	11	149
5:45 PM	3	53	0	0	0	56	1	57	5	0	0	63	0	0	0	0	0	0	0	4	0	0	0	0	4	123
Hourly Total	9	259	1	0	0	269	1	335	20	0	0	356	2	0	5	1	1	8	8	33	0	17	0	0	50	683
Grand Total	109	2412	12	0	0	2533	40	2434	200	0	4	2674	8	3	48	1	4	50	50	186	4	172	0	5	362	5629
Approach %	4.3	95.2	0.5	0.0	-	-	1.5	91.0	7.5	0.0	-	47.5	0.1	0.1	0.9	0.0	-	1.1	-	51.4	1.1	47.5	0.0	-	-	-
Total %	1.9	42.8	0.2	0.0	-	45.0	0.7	43.2	3.6	0.0	-	47.5	0.0	0.0	0.0	0.0	-	1.1	-	3.3	0.1	3.1	0.0	-	6.4	-
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Cars & Light Goods	100	2309	11	0	-	2420	36	2322	191	0	-	2549	7	3	47	1	-	58	-	181	4	160	0	-	345	5372
% Cars & Light Goods	91.7	95.7	91.7	-	-	95.5	90.0	95.4	95.5	-	-	95.3	87.5	100.0	97.9	100.0	-	96.7	-	97.3	100.0	93.0	-	-	95.3	95.4
Buses	1	26	0	0	-	27	0	26	0	0	-	26	0	0	0	0	-	0	-	1	0	1	0	-	2	55
% Buses	0.9	1.1	0.0	-	-	1.1	0.0	1.1	0.0	-	-	1.0	0.0	0.0	0.0	0.0	-	0.0	-	0.5	0.0	0.6	-	-	0.6	1.0
Single-Unit Trucks	6	33	0	0	-	39	3	36	4	0	-	42	1	0	1	0	-	2	-	1	0	8	0	-	9	92
% Single-Unit Trucks	5.5	1.4	0.0	-	-	1.5	7.5	1.4	2.0	-	-	1.6	12.5	0.0	2.1	0.0	-	3.3	-	0.5	0.0	4.7	-	-	2.5	1.6
Articulated Trucks	2	44	1	0	-	47	0	51	5	0	-	56	0	0	0	0	-	0	-	3	0	3	0	-	6	109
% Articulated Trucks	1.8	1.8	8.3	-	-	1.9	0.0	2.1	2.5	-	-	2.1	0.0	0.0	0.0	0.0	-	0.0	-	1.6	0.0	1.7	-	-	1.7	1.9
Bicycles on Road	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	-	0	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	2.5	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	2	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	25.0	-	-	-	-	-	-	50.0	-	-	-	-	-	20.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	-	2	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	75.0	-	-	-	-	-	-	50.0	-	-	-	-	-	80.0	-	-



Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cdowness@ptsil.com

Count Name: Queensway West & Hunt Street
Site Code: 220786
Start Date: 01/11/2023
Page No: 4

Turning Movement Peak Hour Data (8:15 AM)

Start Time	Queensway W Eastbound						Queensway W Westbound						Hunt Street Northbound						Hunt Street Southbound					
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total
8:15 AM	3	67	2	0	0	72	0	51	8	0	0	59	0	0	0	0	0	0	7	0	3	0	0	10
8:30 AM	4	90	0	0	0	94	0	49	4	0	0	53	1	0	2	0	0	3	1	0	6	0	1	7
8:45 AM	7	94	1	0	0	102	1	63	11	0	0	75	0	0	4	0	0	4	3	0	5	0	0	8
9:00 AM	4	75	0	0	0	79	0	58	8	0	1	66	0	0	0	0	0	0	3	0	5	0	0	8
Total	18	326	3	0	0	347	1	221	31	0	1	253	1	0	6	0	0	7	14	0	19	0	1	33
Approach %	5.2	93.9	0.9	0.0	-	-	0.4	87.4	12.3	0.0	-	-	14.3	0.0	85.7	0.0	-	-	42.4	0.0	57.6	0.0	-	-
Total %	2.8	50.9	0.5	0.0	-	54.2	0.2	34.5	4.8	0.0	-	39.5	0.2	0.0	0.9	0.0	-	1.1	2.2	0.0	3.0	0.0	-	5.2
PHF	0.643	0.867	0.375	0.000	-	0.850	0.250	0.877	0.705	0.000	-	0.943	0.250	0.000	0.375	0.000	-	0.438	0.500	0.000	0.792	0.000	-	0.825
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0
Cars & Light Goods	17	308	3	0	-	328	1	205	29	0	-	235	1	0	6	0	-	7	14	0	18	0	-	32
% Cars & Light Goods	94.4	94.5	100.0	-	-	94.5	100.0	92.8	93.5	-	-	92.9	100.0	-	100.0	-	-	100.0	100.0	-	94.7	-	-	97.0
Buses	0	7	0	0	-	7	0	8	0	0	-	8	0	0	0	0	-	0	0	0	0	0	-	0
% Buses	0.0	2.1	0.0	-	-	2.0	0.0	3.6	0.0	-	-	3.2	0.0	-	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0
Single-Unit Trucks	1	7	0	0	-	8	0	3	1	0	-	4	0	0	0	0	-	0	0	0	1	0	-	1
% Single-Unit Trucks	5.6	2.1	0.0	-	-	2.3	0.0	1.4	3.2	-	-	1.6	0.0	-	0.0	-	-	0.0	0.0	-	5.3	-	-	3.0
Articulated Trucks	0	4	0	0	-	4	0	5	1	0	-	6	0	0	0	0	-	0	0	0	0	0	-	0
% Articulated Trucks	0.0	1.2	0.0	-	-	1.2	0.0	2.3	3.2	-	-	2.4	0.0	-	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-



Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
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Count Name: Queensway West & Hunt Street
Site Code: 220786
Start Date: 01/11/2023
Page No: 8

Turning Movement Peak Hour Data (3:30 PM)

Start Time	Queensway W Eastbound				Queensway W Westbound				Hunt Street Northbound				Hunt Street Southbound							
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Int. Total	
3:30 PM	3	79	0	0	0	82	2	115	7	0	0	124	0	0	4	0	0	1	4	231
3:45 PM	5	84	0	0	0	89	5	105	6	0	0	116	0	0	3	0	0	0	3	222
4:00 PM	4	104	0	0	0	108	4	101	8	0	0	113	0	0	2	0	0	0	2	235
4:15 PM	2	86	0	0	0	88	0	103	5	0	0	108	0	0	0	0	0	0	0	212
Total	14	353	0	0	0	367	11	424	26	0	0	461	0	0	9	0	0	1	9	900
Approach %	3.8	96.2	0.0	0.0	-	-	2.4	92.0	5.6	0.0	-	-	0.0	0.0	100.0	0.0	-	-	-	-
Total %	1.6	39.2	0.0	0.0	-	40.8	1.2	47.1	2.9	0.0	-	51.2	0.0	0.0	1.0	0.0	-	-	1.0	7.0
PHF	0.700	0.849	0.000	0.000	-	0.850	0.550	0.922	0.813	0.000	-	0.929	0.000	0.000	0.563	0.000	-	-	0.563	0.957
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	0
% Motorcycles	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	-	-	0.0	-	-	-	0.0	0.0
Cars & Light Goods	10	347	0	0	-	357	9	409	25	0	-	443	0	0	8	0	0	0	8	865
% Cars & Light Goods	71.4	98.3	-	-	-	97.3	81.8	96.5	96.2	-	-	96.1	-	-	88.9	-	-	-	88.9	96.1
Buses	1	2	0	0	-	3	0	5	0	0	-	5	0	0	0	0	0	0	0	10
% Buses	7.1	0.6	-	-	-	0.8	0.0	1.2	0.0	-	-	1.1	-	-	0.0	-	-	-	0.0	2
Single-Unit Trucks	3	2	0	0	-	5	2	5	0	0	-	7	0	0	1	0	0	0	1	1.1
% Single-Unit Trucks	21.4	0.6	-	-	-	1.4	18.2	1.2	0.0	-	-	1.5	-	-	11.1	-	-	-	11.1	3.2
Articulated Trucks	0	2	0	0	-	2	0	5	1	0	-	6	0	0	0	0	0	0	0	1.6
% Articulated Trucks	0.0	0.6	-	-	-	0.5	0.0	1.2	3.8	-	-	1.3	-	-	0.0	-	-	-	0.0	4.8
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	0	1
% Bicycles on Road	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	-	-	0.0	-	-	0.0	-	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	1
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	0.0
Pedestrians	-	-	-	0	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	100.0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Appendix C

Existing Traffic Operations Reports



Lanes, Volumes, Timings
 3: Hunt Street & Queensway West

(220786) 395 Queensway West, Simcoe TIS

Existing AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	18	326	3	1	221	31	1	0	6	14	0	19
Traffic Volume (vph)	18	326	3	1	221	31	1	0	6	14	0	19
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.999											
Ped Bike Factor	0.981											
Frt	0.997											
Flt Protected	0.994											
Satd. Flow (prot)	0.994											
Flt Permitted	0.994											
Satd. Flow (perm)	0.994											
Link Speed (ft/h)	50											
Link Distance (m)	300.1											
Travel Time (s)	244.2											
Confl. Peds. (#/hr)	21.6											
Peak Hour Factor	0.92											
Heavy Vehicles (%)	6%											
Adj. Flow (vph)	20											
Shared Lane Traffic (%)	0											
Lane Group Flow (vph)	377											
Sign Control	Free											

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	31.5%
Analysis Period (min)	15

ICU Level of Service A

HCM 6th TWSC
 3: Hunt Street & Queensway West

(220786) 395 Queensway West, Simcoe TIS

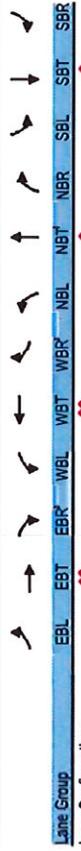
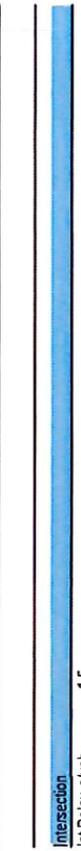
Existing AM Peak Hour

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Int Delay, s/vch	0.9											
Movement	183	26	3	1	221	31	1	0	6	14	0	19
Lane Configurations	18	326	3	1	221	31	1	0	6	14	0	19
Traffic Vol, veh/h	18	326	3	1	221	31	1	0	6	14	0	19
Future Vol, veh/h	1	0	0	0	0	0	1	0	1	1	0	0
Conflating Peds. #/hr	1											
Sign Control	Free											
RT Channelized	None											
Storage Length	None											
Veh in Median Storage, #	0											
Grade, %	0											
Peak Hour Factor	0.92											
Heavy Vehicles, %	3											
Mvmt Flow	20											

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	275	0	0	357
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.22	-	-	-
Critical Hdwy Sig 1	-	-	-	-
Critical Hdwy Sig 2	-	-	-	-
Follow-up Hdwy	2.26	-	-	-
Pot Cap-1 Maneuver	1255	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1255	-	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	9.9	11
HCM LOS	A	A	A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	WBRn1	WBRn2
Capacity (veh/h)	736	1255	-	-	-	-	-
HCM Lane V/C Ratio	0.01	0.016	-	-	-	-	-
HCM Control Delay (s)	9.9	7.9	0.1	-	8	0	-
HCM Lane LOS	A	A	A	A	A	A	B
HCM 95th %ile C(veh)	0	0	-	-	0	-	-



Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4+1	4+1	0	11	424	26	0	0	9	33	0	30
Traffic Vol, veh/h	14	353	0	11	424	26	0	0	9	33	0	30
Future Vol, veh/h	14	353	0	11	424	26	0	0	9	33	0	30
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	None	Free	Free	Free	None	None	None	None	None	None
RT Channelized	-	-	-	-	-	-	-	-	-	-	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	21	1	0	18	2	4	0	0	11	0	0	13
Mvmt Flow	15	384	0	12	461	28	0	0	10	36	0	33

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	490	0	0	670
Stage 1	-	-	-	415
Stage 2	-	-	-	235
Critical Hdwy	4.52	-	4.46	-
Critical Hdwy Stp 1	-	-	-	6.5
Critical Hdwy Stp 2	-	-	-	6.5
Follow-up Hdwy	2.41	-	2.38	-
Pot Cap-1 Maneuver	947	-	1063	-
Stage 1	-	-	-	591
Stage 2	-	-	-	733
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	946	-	1062	-
Mov Cap-2 Maneuver	-	-	-	322
Stage 1	-	-	-	579
Stage 2	-	-	-	689

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	9.6	15.2
HCM LOS	A	A	C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	WBR	NBLn2	WBR	SBLn1
Capacity (veh/h)	788	946	-	-	1062	-	-	-	421
HCM Lane V/C Ratio	0.012	0.016	-	-	0.011	-	-	-	0.163
HCM Control Delay (s)	9.6	8.9	0.1	-	8.4	0.1	-	-	15.2
HCM Lane LOS	A	A	A	-	A	A	-	-	C
HCM 95th %ile Q(veh)	0	0	-	-	0	-	-	-	0.6

Area Type:	Other
Control Type: Unsignalized	ICU Level of Service A
Intersection Capacity Utilization	37.5%
Analysis Period (min)	15

Intersection Summary	Other
Area Type: Unsignalized	ICU Level of Service A
Intersection Capacity Utilization	37.5%
Analysis Period (min)	15

Appendix D

Internal Trip Capture



NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	220786 (395 Queensway)	Organization:	Paradigm
Project Location:	Simcoe	Performed By:	
Scenario Description:	Total Traffic	Date:	11-Jan-23
Analysis Year:	2025	Checked By:	
Analysis Period:	AM Street Peak Hour	Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	822	29,213		69	41	28
Restaurant				0		
Cinema/Entertainment				0		
Residential	215, 221		114	53	13	40
Hotel				0		
All Other Land Uses ²				0		
Total				122	54	68

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.00			1.00		
Retail	1.00			1.00		
Restaurant						
Cinema/Entertainment						
Residential	1.00			1.00		
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	122	54	68
Internal Capture Percentage	0%	0%	0%
External Vehicle-Trips ³	122	54	68
External Transit-Trips ⁴	0	0	0
External Non-Motorized Trips ⁴	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	0%	0%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	0%	0%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

³Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

⁴Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Project Name:	220786 (395 Queensway)
Analysis Period:	AM Street Peak Hour

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	41	41	1.00	28	28
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	13	13	1.00	40	40
Hotel	1.00	0	0	1.00	0	0

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	8		4	0	4	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	0	8	0		0
Hotel	0	0	0	0	0	

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		13	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	3		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	7	0	0		0
Hotel	0	2	0	0	0	

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	0	41	41	41	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	13	13	13	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	0	28	28	28	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	40	40	40	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A
²Person-Trips
³Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
*Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	220786 (395 Queensway)	Organization:	Paradigm
Project Location:	Simcoe	Performed By:	
Scenario Description:	Total Traffic	Date:	11-Jan-23
Analysis Year:	2025	Checked By:	
Analysis Period:	PM Street Peak Hour	Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	822	29,213		167	84	83
Restaurant				0		
Cinema/Entertainment				0		
Residential	215, 221		114	63	38	25
Hotel				0		
All Other Land Uses ²				0		
Total				230	122	108

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.00			1.00		
Retail	1.00			1.00		
Restaurant						
Cinema/Entertainment						
Residential	1.00			1.00		
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail					0	
Restaurant						
Cinema/Entertainment						
Residential		0				
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	17	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	8	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	230	122	108
Internal Capture Percentage	22%	20%	23%
External Vehicle-Trips ³	180	97	83
External Transit-Trips ⁴	0	0	0
External Non-Motorized Trips ⁴	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	10%	20%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	45%	32%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

³Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

⁴Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Project Name:	220786 (395 Queensway)
Analysis Period:	PM Street Peak Hour

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	84	84	1.00	83	83
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	38	38	1.00	25	25
Hotel	1.00	0	0	1.00	0	0

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	2		24	3	22	4
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	11	5	0		1
Hotel	0	0	0	0	0	

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		7	0	0	2	0
Retail	0		0	0	17	0
Restaurant	0	42		0	6	0
Cinema/Entertainment	0	3	0		2	0
Residential	0	8	0	0		0
Hotel	0	2	0	0	0	

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	8	76	84	76	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	17	21	38	21	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	17	66	83	66	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	8	17	25	17	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
² Person-Trips
³ Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator
*Indicates computation that has been rounded to the nearest whole number.

Appendix E

2025 Background Traffic Operations Reports



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	19	346	3	1	235	33	1	0	6	15	0	20
Traffic Volume (vph)	19	346	3	1	235	33	1	0	6	15	0	20
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.999	0.997	0.982	0.982	0.982	0.982	0.882	0.882	0.922	0.922	0.979	0.922
Ped Bike Factor	0	3466	0	0	3401	0	0	1666	0	0	1667	0
Flt Protected	0	3466	0	0	3401	0	0	1666	0	0	1667	0
Satd. Flow (prot)	0	3466	0	0	3401	0	0	1666	0	0	1667	0
Flt Permitted	0	3466	0	0	3401	0	0	1666	0	0	1667	0
Satd. Flow (perm)	50	50	50	50	50	50	50	50	50	50	50	50
Link Speed (km/h)	300.1	244.2	114.2	114.2	114.2	114.2	114.2	114.2	114.2	114.2	114.2	114.2
Link Distance (m)	21.6	17.6	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
Travel Time (s)	1	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Confl. Peds. (#/hr)	0.92	3%	0%	0%	4%	6%	0%	0%	0%	0%	0%	5%
Peak Hour Factor	21	376	3	1	255	36	1	0	7	16	0	22
Heavy Vehicles (%)	0	400	0	0	292	0	0	8	0	0	0	38
Adj. Flow (vph)	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Shared Lane Traffic (%)	0	400	0	0	292	0	0	8	0	0	0	38
Lane Group Flow (vph)	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Int Delay, s/veh	1	1	1	1	1	1	1	1	1	1	1	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	19	346	3	1	235	33	1	0	6	15	0	20
Traffic Vol, veh/h	19	346	3	1	235	33	1	0	6	15	0	20
Future Vol, veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Confl. Peds. #/hr	1	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	None	None	None	None	None	None
RT Channelized	-	-	-	-	-	-	-	-	-	-	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	-	-	-	-	-	-	-	-
Grade, %	-	-	-	-	-	-	-	-	-	-	-	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	3	0	0	4	6	0	0	0	0	0	5
Mvmt Flow	21	376	3	1	255	36	1	0	7	16	0	22

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	292	0	0	550
Stage 1	-	-	-	420
Stage 2	-	-	-	130
Critical Hdwy	4.22	-	4.1	-
Critical Hdwy Stg 1	-	-	-	7.5
Critical Hdwy Stg 2	-	-	-	6.5
Follow-up Hdwy	2.26	-	2.2	-
Pot Cap-1 Maneuver	1238	-	1191	-
Stage 1	-	-	-	587
Stage 2	-	-	-	666
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1237	-	1191	-
Mov Cap-2 Maneuver	-	-	-	404
Stage 1	-	-	-	574
Stage 2	-	-	-	843
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	10.1	11.3
HCM LOS	B	B	B	B

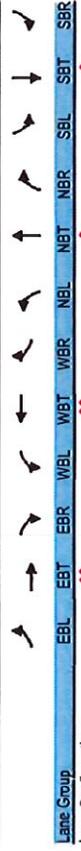
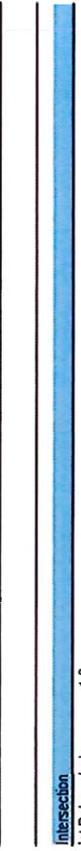
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	717	1237	-	-	1191	-	-	612
HCM Lane V/C Ratio	0.011	0.017	-	-	0.001	-	-	0.062
HCM Control Delay (s)	10.1	8	0.1	8	0	0	11.3	
HCM Lane LOS	B	A	A	A	A	A	B	
HCM 95th %ile Q(veh)	0	0.1	-	-	0	-	-	0.2

HCM 6th TWSC
 3: Hunt Street & Queensway West

Lanes, Volumes, Timings
 3: Hunt Street & Queensway West

2025 Background PM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

2025 Background PM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS



Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	SBR
Lane Configurations	15	375	0	12	450	28	0	0	10	35	0	32
Traffic Vol, veh/h	15	375	0	12	450	28	0	0	10	35	0	32
Future Vol, veh/h	15	375	0	12	450	28	0	0	10	35	0	32
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	None	None	None	None	None	None
RT Channelized	-	-	-	-	-	-	-	-	-	-	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	0	0	0	0	0	0	0	0	0	0	0
Grade, %	-	-	-	-	-	-	-	-	-	-	-	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	21	1	0	18	2	4	0	0	11	0	0	13
Mvmt Flow	16	408	0	13	489	30	0	0	11	38	0	35

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	SBR
Lane Configurations	15	375	0	12	450	28	0	0	10	35	0	32
Traffic Volume (vph)	15	375	0	12	450	28	0	0	10	35	0	32
Future Volume (vph)	15	375	0	12	450	28	0	0	10	35	0	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bkte Factor	-	-	-	-	-	-	-	-	-	-	-	-
Frt	-	-	-	-	-	-	-	-	-	-	-	-
Flt Protected	0.998	0.998	0.999	0.999	0.999	0.999	0.865	0.865	0.935	0.975	0.975	0.975
Satd. Flow (prot)	0	3541	0	3480	0	0	1481	0	0	1630	0	1630
Flt Permitted	0.998	0.998	0.999	0.999	0.999	0.999	0.999	0.999	0.999	0.975	0.975	0.975
Satd. Flow (perm)	0	3541	0	3490	0	0	1481	0	0	1630	0	1630
Link Speed (vph)	50	50	50	50	50	50	50	50	50	50	50	50
Link Distance (m)	300.1	244.2	244.2	244.2	244.2	244.2	114.2	114.2	226.6	226.6	226.6	226.6
Travel Time (s)	21.6	17.6	17.6	17.6	17.6	17.6	8.2	8.2	16.3	16.3	16.3	16.3
Confl. Peds. (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	21%	1%	0%	18%	2%	4%	0%	0%	11%	0%	0%	13%
Adj. Flow (vph)	16	408	0	13	489	30	0	0	11	38	0	35
Shared Lane Traffic (%)	-	-	-	-	-	-	-	-	-	-	-	-
Lane Group Flow (vph)	0	424	0	0	532	0	0	11	0	0	0	73
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	520	0	712	987
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.52	-	4.46	-
Critical Hdwy Sig 1	-	-	-	-
Critical Hdwy Sig 2	-	-	-	-
Follow-up Hdwy	2.41	-	2.38	-
Pol Cap-1 Maneuver	921	-	1040	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	920	-	1039	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Area Type:	Other
Control Type: Unsignalized	-
Intersection Capacity Utilization 39.3%	-
Analysis Period (min) 15	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	9.7	16.2
HCM LOS	A	A	A	C

Minor Lane/Minor Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBRn1
Capacity (veh/h)	773	920	-	-	1039	-	-	395	-
HCM Lane V/C Ratio	0.014	0.018	-	-	0.013	-	-	0.184	-
HCM Control Delay (s)	9.7	9	0.1	-	8.5	0.1	-	16.2	-
HCM Lane LOS	A	A	A	-	A	A	-	C	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.7	-

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	520	0	409	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.52	-	4.46	-
Critical Hdwy Sig 1	-	-	-	-
Critical Hdwy Sig 2	-	-	-	-
Follow-up Hdwy	2.41	-	2.38	-
Pol Cap-1 Maneuver	921	-	1040	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	920	-	1039	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	9.7	16.2
HCM LOS	A	A	A	C

Appendix F

2025 Total Traffic Operations Reports



Lanes, Volumes, Timings
1: Hunt Street & Access A

2025 Total AM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	1	5	2	55	37	0
Traffic Volume (vph)	1	5	2	55	37	0
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpb)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.887					
Flt Protected	0.992		0.998			
Satd. Flow (prot)	1639	0	0	1859	1863	0
Flt Permitted	0.992		0.998			
Satd. Flow (perm)	1639	0	0	1859	1863	0
Link Speed (k/h)	50		50		50	
Link Distance (m)	84.9		63.3		137.5	
Travel Time (s)	6.1		4.5		9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	5	2	60	40	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	62	40	0
Sign Control	Stop		Free		Free	

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 14.5%
Analysis Period (min) 15
ICU Level of Service A

HCM 6th TWSC
1: Hunt Street & Access A

2025 Total AM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

Intersection	EBL	EBR	NBL	NBT	SBT	SBR
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	1	5	2	55	37	0
Traffic Vol, veh/h	1	5	2	55	37	0
Future Vol, veh/h	1900	1900	1900	1900	1900	1900
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Free	Free	Free	Free	Free
RT Channelized	- None					
Storage Length	0					
Veh in Median Storage, #	0					
Grade, %	0					
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	5	2	60	40	0
Minor/Minor	Minor2	Major1	Major2	Minor2	Major2	Minor2
Conflicting Flow All	104	40	40	0	0	0
Stage 1	40					
Stage 2	64					
Critical Hdwy	6.42	6.22	4.12			
Critical Hdwy Sig 1	5.42					
Critical Hdwy Sig 2	5.42					
Follow-up Hdwy	3.518	3.318	2.218			
Pot Cap-1 Maneuver	894	1031	1570			
Stage 1	982					
Stage 2	959					
Platoon blocked, %						
Mov Cap-1 Maneuver	893	1031	1570			
Mov Cap-2 Maneuver	893					
Stage 1	981					
Stage 2	959					
Approach	EB	NB	SB			
HCM Control Delay, s	8.6	0.3	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1570	-	1005	-	-	
HCM Lane V/C Ratio	0.001	-	0.006	-	-	
HCM Control Delay (s)	7.3	0	8.6	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Lanes, Volumes, Timings
2: Hunt Street & Access B

HCM 6th TWSC
2: Hunt Street & Access B

2025 Total AM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

2025 Total AM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	3	16	13	54	40	2
Traffic Volume (vph)	3	16	13	54	40	2
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.885					
Fit	0.993			0.991		0.994
Fit Protected	0.993			0.991		0.991
Satd. Flow (prot)	1637	0	0	1846	1852	0
Fit Permitted	0.993			0.991		0.991
Satd. Flow (perm)	1637	0	0	1846	1852	0
Link Speed (v/h)	50			50	50	50
Link Distance (m)	90.5			93.2	63.3	
Travel Time (s)	6.5			6.7	4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	17	14	59	43	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	0	0	73	45	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	20.2%					
Analysis Period (min)	15					
	ICU Level of Service A					

Intersection	EBL	EBR	NBL	NBT	SBT	SBR
Int. Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	3	16	13	54	40	2
Traffic Vol, veh/h	3	16	13	54	40	2
Future Vol, veh/h	3	16	13	54	40	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt. Flow	3	17	14	59	43	2
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	131	44	45	0	-	0
Stage 1	44	-	-	-	-	-
Stage 2	87	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Sg 1	5.42	-	-	-	-	-
Critical Hdwy Sg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	863	1026	1563	-	-	-
Stage 1	978	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	855	1026	1563	-	-	-
Mov Cap-2 Maneuver	855	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	8.7	1.4	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1563	-	995	-	-	-
HCM Lane V/C Ratio	0.009	-	0.021	-	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-	-
HCM Lane LOS	A	A	A	-	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-	-

Lanes, Volumes, Timings
 3: Hunt Street & Queensway West

2025 Total AM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	19	362	3	1	250	48	1	0	6	36	0	20
Traffic Volume (vph)	19	362	3	1	250	48	1	0	6	36	0	20
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.999	0.997	0.976	0.882	0.994	0.969	0.951					
Ped Bike Factor	0	3466	0	0	3378	0	0	1666	0	0	1720	0
Flt Protected	0	0.997	0	0	0.994	0.969	0.951					
Satd. Flow (prot)	0	3466	0	0	3378	0	0	1666	0	0	1720	0
Flt Permitted	0	3466	0	0	3378	0	0	1666	0	0	1720	0
Satd. Flow (perm)	50	50	50	50	50	50	50	50	50	50	50	50
Link Speed (ft/h)	125.2	244.2	114.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
Link Distance (m)	9.0	17.6	1	1	1	1	1	1	1	1	1	1
Travel Time (s)	1	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Confl. Peds. (#/hr)	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Peak Hour Factor	6%	3%	0%	4%	6%	0%	0%	0%	0%	0%	0%	5%
Heavy Vehicles (%)	21	393	3	1	272	52	1	0	7	39	0	22
Adj. Flow (vph)	0	417	0	0	325	0	0	8	0	0	0	61
Shared Lane Traffic (%)	Free	Free	Free	Free	Free	Free						
Lane Group Flow (vph)	0	417	0	0	325	0	0	8	0	0	0	61
Sign Control	Free	Free	Free	Free	Free	Free						

Intersection Summary
 Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 39.2%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
 3: Hunt Street & Queensway West

2025 Total AM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Int Delay, s/veh	1.3											
Movement	477	477	477	477	477	477	477	477	477	477	477	477
Lane Configurations	19	362	3	1	250	48	1	0	6	36	0	20
Traffic Vol, veh/h	19	362	3	1	250	48	1	0	6	36	0	20
Future Vol, veh/h	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Confl. Peds. #/hr	1	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free											
RT Channelized	-	-	-	-	-	-	-	-	-	-	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	-	-	-	-	-	-	-	-
Grade, %	-	-	-	-	-	-	-	-	-	-	-	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	3	0	0	4	6	0	0	0	0	0	5
Mvmt Flow	21	393	3	1	272	52	1	0	7	39	0	22

Major/Minor Major1 Minor1 Minor2
 Conflicting Flow All 325 0 0 396 0 0 575 764 199 541 739 163
 Stage 1 - - - - - 437 437 - 301 301 -
 Stage 2 - - - - - 138 327 - 240 438 -
 Critical Hdwy 4.22 - - 4.1 - - 7.5 6.5 6.9 7.5 6.5 7
 Critical Hdwy Sig 1 - - - - - 6.5 5.5 - 6.5 5.5 -
 Critical Hdwy Sig 2 - - - - - 6.5 5.5 - 6.5 5.5 -
 Follow-up Hdwy 2.26 - - 2.2 - - 3.5 4 3.3 3.5 4 3.35
 Pot Cap-1 Maneuver 1203 - - 1174 - - 405 336 815 429 347 844
 Stage 1 - - - - - 574 583 - 669 669 -
 Stage 2 - - - - - 857 651 - 748 582 -
 Platoon blocked, %
 Mov Cap-1 Maneuver 1202 - - 1174 - - 388 328 814 417 339 843
 Mov Cap-2 Maneuver - - - - - 388 328 - 417 339 -
 Stage 1 - - - - - 561 570 - 673 668 -
 Stage 2 - - - - - 834 650 - 725 569 -



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	4↑	4↑	1↑	1↑	1	1
Traffic Volume (vph)	22	368	256	15	16	27
Future Volume (vph)	22	368	256	15	16	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fit					0.915	
Fit Protected		0.997			0.982	
Satd. Flow (prot)	0	3529	3511	0	1674	0
Fit Permitted		0.997			0.982	
Satd. Flow (perm)	0	3529	3511	0	1674	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		174.9	125.2		119.9	
Travel Time (s)		12.6	9.0		8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	400	278	16	17	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	424	294	0	46	0
Sign Control		Free	Free		Slop	

Intersection Summary
 Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 31.7%
 Analysis Period (min) 15
 ICU Level of Service A

Intersection	EBL	EBT	WBT	WBR	SBL	SBR
Int Delay, s/veh						0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	4↑	4↑	1↑	1↑	1	1
Traffic Vol, veh/h	22	368	256	15	16	27
Future Vol, veh/h	22	368	256	15	16	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Slop	Slop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	0	0	-
Grade, %	-	0	0	0	0	-
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	400	278	16	17	29

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	294	0	534
Stage 1	-	-	286
Stage 2	-	-	248
Critical Hdwy	4.14	-	6.84
Critical Hdwy Sig 1	-	-	5.84
Critical Hdwy Sig 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	1264	-	476
Stage 1	-	-	737
Stage 2	-	-	770
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1264	-	465
Mov Cap-2 Maneuver	-	-	465
Stage 1	-	-	719
Stage 2	-	-	770

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBL1	SBR1
Capacity (veh/h)	1264	-	-	-	-	658
HCM Lane V/C Ratio	0.019	-	-	-	-	0.071
HCM Control Delay (s)	7.9	0.1	-	-	-	10.9
HCM Lane LOS	A	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.2

Lanes, Volumes, Timings
1: Hunt Street & Access A

2025 Total PM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

EBL	EBR	NBL	NBT	SBT	SBR
↖	↗	↙	↘	↑	↓
0	4	6	46	72	1
0	4	6	46	72	1
1900	1900	1900	1900	1900	1900
1.00	1.00	1.00	1.00	1.00	1.00
0.865				0.998	
FIT Protected					
Satd. Flow (prot)	1611	0	0	1852	1859
FIT Permitted					
Satd. Flow (perm)	1611	0	0	1852	1859
Link Speed (kph)	50			50	50
Link Distance (m)	84.9			63.3	137.5
Travel Time (s)	6.1			4.6	9.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	4	7	50	78
Shared Lane Traffic (%)					
Lane Group Flow (vph)	4	0	0	57	79
Sign Control	Stop			Free	Free

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 17.5%
Analysis Period (min) 15

HCM 6th TWSC
1: Hunt Street & Access A

2025 Total PM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

EBL	EBR	NBL	NBT	SBT	SBR
↖	↗	↙	↘	↑	↓
0	4	6	46	72	1
0	4	6	46	72	1
1900	1900	1900	1900	1900	1900
1.00	1.00	1.00	1.00	1.00	1.00
0.865				0.998	
FIT Protected					
Satd. Flow (prot)	1611	0	0	1852	1859
FIT Permitted					
Satd. Flow (perm)	1611	0	0	1852	1859
Link Speed (kph)	50			50	50
Link Distance (m)	84.9			63.3	137.5
Travel Time (s)	6.1			4.6	9.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	4	7	50	78
Shared Lane Traffic (%)					
Lane Group Flow (vph)	4	0	0	57	79
Sign Control	Stop			Free	Free

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 17.5%
Analysis Period (min) 15

Lanes, Volumes, Timings
 2: Hunt Street & Access B

HCM 6th TWSC
 2: Hunt Street & Access B

2025 Total PM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

2025 Total PM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

EBL	EBR	NBL	NBT	SBT	SBR
4	20	24	48	71	5
4	20	24	48	71	5
1900	1900	1900	1900	1900	1900
1.00	1.00	1.00	1.00	1.00	1.00
0.886				0.992	
0.992			0.984		
1637	0	0	1833	1848	0
0.992			0.984		
1637	0	0	1833	1848	0
50			50	50	
90.5			93.2	63.3	
6.5			6.7	4.6	
0.92	0.92	0.92	0.92	0.92	0.92
4	22	26	52	77	5
26	0	0	78	82	0
Stop			Free	Free	

EBL	EBR	NBL	NBT	SBT	SBR
4	20	24	48	71	5
4	20	24	48	71	5
4	20	24	48	71	5
0	0	0	0	0	0
Stop	None	Free	Free	Free	Free
0	-	-	-	-	-
0	-	-	-	-	-
0	-	-	-	-	-
0	-	-	-	-	-
92	92	92	92	92	92
2	2	2	2	2	2
4	22	26	52	77	5

Minor/Minor	Minor2	Major1	Major2
184	80	82	0
80	-	-	-
104	-	-	-
6.42	6.22	4.12	-
5.42	-	-	-
5.42	-	-	-
3.518	3.318	2.218	-
805	980	1515	-
943	-	-	-
920	-	-	-
791	980	1515	-
791	-	-	-
926	-	-	-
920	-	-	-

EB	NB	SB
8.9	2.5	0
A		
NBL	NBT	EBLn1
1515	-	942
0.017	-	0.028
7.4	0	8.9
A	A	A
0.1	-	0.1

Lanes, Volumes, Timings
3: Hunt Street & Queensway West

2025 Total PM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	15	397	0	12	474	58	0	0	10	59	0	32
Traffic Volume (vph)	15	397	0	12	474	58	0	0	10	59	0	32
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor												
Ped Bike Factor												
Flt								0.965				0.952
Flt Protected								0.999				0.969
Satd. Flow (prop)	0	3542	0	0	3460	0	0	1481	0	0	0	1676
Flt Permitted								0.999				0.969
Satd. Flow (perm)	0	3542	0	0	3460	0	0	1481	0	0	0	1676
Link Speed (ft/h)								50				50
Link Distance (m)								125.2				93.2
Travel Time (s)								244.2				114.2
Confl. Peds. (#/hr)	1	9.0	1	1	17.6	1		8.2				6.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	21%	1%	0%	18%	2%	4%	0%	0%	11%	0%	0%	13%
Adj. Flow (vph)	16	432	0	13	515	63	0	0	11	64	0	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	448	0	0	591	0	0	11	0	0	0	99
Sign Control		Free			Free			Stop				Stop

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 42.2%
Analysis Period (min) 15
ICU Level of Service A

HCM 6th TWSC
3: Hunt Street & Queensway West

2025 Total PM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Int Delay, s/veh	2.2											
Movement	15	397	0	12	474	58	0	0	10	59	0	32
Lane Configurations	15	397	0	12	474	58	0	0	10	59	0	32
Traffic Vol, veh/h	15	397	0	12	474	58	0	0	10	59	0	32
Future Vol, veh/h	15	397	0	12	474	58	0	0	10	59	0	32
Confl. Peds. #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control		Free		Free	Free	Free	None	None	None	None	None	None
RT Channelized												
Storage Length												
Veh in Median Storage, #		0			0							
Grade, %		0			0							
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	21	1	0	18	2	4	0	0	11	0	0	13
Mvmt Flow	16	432	0	13	515	63	0	0	11	64	0	35

Major/Minor Major1 Major2 Major3 Minor1 Minor2
 Conflicting Flow All 579 0 0 433 0 0 749 1070 217 822 1039 290
 Stage 1 - - - - - - - 465 465 - 574 574 -
 Stage 2 - - - - - - - 284 805 - 248 465 -
 Critical Hdwy 4.52 - - - 4.46 - - - 6.5 6.5 7.12 7.5 6.5 7.16
 Critical Hdwy Stg 1 - - - - - - - 6.5 5.5 - 6.5 5.5 -
 Critical Hdwy Stg 2 - - - - - - - 6.5 5.5 - 6.5 5.5 -
 Follow-up Hdwy 2.41 - - - 2.38 - - - 3.5 4 3.41 3.5 4 3.43
 Pot Cap-1 Maneuver 871 - - - 1017 - - - 304 223 760 269 232 675
 Stage 1 - - - - - - - 552 566 - 476 506 -
 Stage 2 - - - - - - - 705 491 - 740 566 -
 Platoon blocked, % - - - - - - - - - - - - - -
 Mov Cap-1 Maneuver 870 - - - 1016 - - - 279 213 759 256 222 674
 Mov Cap-2 Maneuver - - - - - - - 279 213 - 256 222 -
 Stage 1 - - - - - - - 538 552 - 464 496 -
 Stage 2 - - - - - - - 656 481 - 712 552 -

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕	↕
Traffic Volume (vph)	37	389	482	24	22	33
Future Volume (vph)	37	389	482	24	22	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Flt		0.993			0.919	
Flt Protected		0.996			0.980	
Satd. Flow (prot)	0	3525	3514	0	1678	0
Flt Permitted		0.996			0.980	
Satd. Flow (perm)	0	3525	3514	0	1678	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		174.9	125.2		119.9	
Travel Time (s)		12.6	9.0		8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	423	524	26	24	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	463	550	0	60	0
Sign Control		Free	Free		Stop	

Intersection Summary
 Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 39.2%
 Analysis Period (min) 15
 ICU Level of Service A

Intersection	EBL	EBT	WBT	WBR	SBL	SBR
Int Delay, s/veh		1.2				
Movement		↕↕	↕↕		↕	↕
Lane Configurations		↕↕	↕↕		↕	↕
Traffic Vol, veh/h	37	389	482	24	22	33
Future Vol, veh/h	37	389	482	24	22	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control		Free	Free		Free	Stop
RT Channelized		-	-	-	-	-
Storage Length		-	-	-	-	-
Veh. in Median Storage, #		0	0	0	0	0
Grade, %		-	0	0	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	423	524	26	24	36

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	550	0	0	829 275
Stage 1	-	-	-	537
Stage 2	-	-	-	292
Critical Hdwy	4.14	-	-	6.84 6.94
Critical Hdwy Sp 1	-	-	-	5.84
Critical Hdwy Sp 2	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	3.52 3.32
Pot Cap-1 Maneuver	1016	-	-	309 722
Stage 1	-	-	-	560
Stage 2	-	-	-	732
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1016	-	-	293 722
Mov Cap-2 Maneuver	-	-	-	293
Stage 1	-	-	-	522
Stage 2	-	-	-	732

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1016	-	-	-	455
HCM Lane V/C Ratio	0.04	-	-	-	0.131
HCM Control Delay (s)	8.7	0.2	-	-	14.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Appendix G

2030 Background Traffic Operations Reports



Lanes, Volumes, Timings
 3: Hunt Street & Queensway West

2030 Background AM Peak Hour
 (220786)395 Queensway West, Simcoe TIS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	4	1	259	36	1	0	7	16	0	22
Traffic Volume (vph)	21	382	4	1	259	36	1	0	7	16	0	22
Future Volume (vph)	21	382	4	1	259	36	1	0	7	16	0	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Fit	0.999			0.982			0.880				0.921	
Flt Protected		0.997			0.994		0.994				0.980	
Satd. Flow (prot)	0	3466	0	0	3401	0	0	1662	0	0	1666	0
Flt Permitted		0.997			0.994		0.994				0.980	
Satd. Flow (perm)	0	3466	0	0	3401	0	0	1662	0	0	1666	0
Link Speed (ft/h)		50		50			50				50	
Link Distance (m)		300.1		244.2			114.2				226.6	
Travel Time (s)		21.6		17.6			8.2				16.3	
Confl. Peds. (#/hr)	1			1			1		1		1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	3%	0%	0%	4%	6%	0%	0%	0%	0%	0%	5%
Adj. Flow (vph)	23	415	4	1	282	39	1	0	8	17	0	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	442	0	0	322	0	0	9	0	0	41	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	35.4%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM 6th TWSC
 3: Hunt Street & Queensway West

2030 Background AM Peak Hour
 (220786)395 Queensway West, Simcoe TIS

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Int Delay, s/vch	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	4	1	259	36	1	0	7	16	0	22
Traffic Vol, veh/h	21	382	4	1	259	36	1	0	7	16	0	22
Future Vol, veh/h	21	382	4	1	259	36	1	0	7	16	0	22
Conflating Peds, #/hr	1	0	0	0	0	0	1	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	None	None	None	None	None	None
RT Channelized	-	-	-	-	-	-	-	-	-	-	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	3	0	0	4	6	0	0	0	0	0	5
Mvmt Flow	23	415	4	1	282	39	1	0	8	17	0	24
Major/Minor												
Major1	322	0	0	419	0	0	606	787	211	560	770	162
Minor1	-	-	-	-	-	-	-	-	-	-	-	-
Major2	-	-	-	-	-	-	-	-	-	-	-	-
Minor2	-	-	-	-	-	-	-	-	-	-	-	-
Conflicting Flow All	463	463	463	463	463	463	463	463	463	463	463	463
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.22	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	7
Critical Hdwy Sig 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Sig 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.26	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.35
Pot Cap-1 Maneuver	1206	-	-	1151	-	-	385	326	801	415	333	845
Stage 1	-	-	-	-	-	-	554	568	-	665	666	-
Stage 2	-	-	-	-	-	-	851	653	-	733	566	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1205	-	-	1151	-	-	367	317	800	402	324	844
Mov Cap-2 Maneuver	-	-	-	-	-	-	367	317	-	402	324	-
Stage 1	-	-	-	-	-	-	540	554	-	667	665	-
Stage 2	-	-	-	-	-	-	826	652	-	707	552	-
Approach												
EB	0.5			WB	0		WB	10.2		SB	11.7	
HCM Control Delay, s	0.5			0			10.2		11.7			
HCM LOS	B			B			B		B			
Minor Lane/Major Mvmt												
NBLn1	697	1205	-	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	577	-
Capacity (veh/h)	0.012	0.019	-	-	-	-	1151	-	-	-	-	-
HCM Lane V/C Ratio	10.2	8	0.1	8.1	0	-	0.072	-	-	-	-	-
HCM Control Delay (s)	B	A	A	A	A	A	A	A	A	A	A	B
HCM Lane LOS	0	0.1	-	-	-	-	0	-	-	-	-	0.2
HCM 95th %ile C(veh)												

HCM 6th TWSC
 3: Hunt Street & Queensway West
 2030 Background PM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4+T											
Traffic Vol, veh/h	16	414	0	13	497	30	0	0	11	39	0	35
Future Vol, veh/h	16	414	0	13	497	30	0	0	11	39	0	35
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	None	None	None	None	None	None
RT Channelized	-	-	-	-	-	-	-	-	-	-	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	21	1	0	18	2	4	0	0	11	0	0	13
Mvmt Flow	17	450	0	14	540	33	0	0	12	42	0	38

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	574	0	0	763
Stage 1	-	-	-	1087
Stage 2	-	-	-	226
Critical Hdwy	4.52	-	-	845
Critical Hdwy Stg 1	-	-	-	1071
Critical Hdwy Stg 2	-	-	-	288
Follow-up Hdwy	2.41	-	-	485
Pot Cap-1 Maneuver	875	-	-	586
Stage 1	-	-	-	586
Stage 2	-	-	-	259
Platoon blocked, %	-	-	-	485
Mov Cap-1 Maneuver	874	-	-	586
Mov Cap-2 Maneuver	-	-	-	586
Stage 1	-	-	-	586
Stage 2	-	-	-	586

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	9.9	18.2
HCM LOS	A	A	A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	NBLn1	WBR	SBLn1
Capacity (veh/h)	749	874	-	-	999	-	-	-	-	352
HCM Lane V/C Ratio	0.016	0.02	-	-	0.014	-	-	-	-	0.229
HCM Control Delay (s)	9.9	9.2	0.1	-	8.7	0.1	-	-	-	18.2
HCM Lane LOS	A	A	A	-	A	A	-	-	-	C
HCM 95th %ile Q(veh)	0	0.1	-	-	0	-	-	-	-	0.9

Lanes, Volumes, Timings
 3: Hunt Street & Queensway West
 2030 Background PM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4+T											
Traffic Volume (vph)	16	414	0	13	497	30	0	0	11	39	0	35
Future Volume (vph)	16	414	0	13	497	30	0	0	11	39	0	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	-	-	-	-	-	-	-	-	-	-	-	-
Fit	-	-	-	-	-	-	-	-	-	-	-	-
Fit Protected	0.998	0.998	0.998	0.998	0.998	0.998	0.865	0.865	0.865	0.936	0.936	0.936
Satd. Flow (prot)	0	3542	0	0	3490	0	0	1481	0	1631	0	1631
Fit Permitted	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.974	0.974	0.974
Satd. Flow (perm)	0	3542	0	0	3490	0	0	1481	0	1631	0	1631
Link Speed (k/h)	50	50	50	50	50	50	50	50	50	50	50	50
Link Distances (m)	300.1	300.1	300.1	300.1	300.1	300.1	114.2	114.2	114.2	226.6	226.6	226.6
Travel Time (s)	21.6	21.6	21.6	21.6	21.6	21.6	8.2	8.2	8.2	16.3	16.3	16.3
Conf. Peds. (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	21%	1%	0%	18%	2%	4%	0%	0%	11%	0%	0%	13%
Adj. Flow (vph)	17	450	0	14	540	33	0	0	12	42	0	38
Shared Lane Traffic (%)	-	-	-	-	-	-	-	-	-	-	-	-
Lane Group Flow (vph)	0	467	0	0	587	0	0	12	0	0	0	80
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary	Other
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	41.7%
Analysis Period (min)	15
ICU Level of Service	A

Appendix H

2030 Total Traffic Operations Reports



Lanes, Volumes, Timings
1: Hunt Street & Access A

2030 Total AM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

EBL	EBR	NBL	NBT	SBT	SBR
1	5	2	60	41	0
1900	1900	1900	1900	1900	1900
1.00	1.00	1.00	1.00	1.00	1.00
0.887					
0.992			0.999		
1639	0	0	1861	1863	0
0.992			0.999		
1639	0	0	1861	1863	0
50			50	50	
84.9			63.3	137.5	
6.1			4.6	9.9	
0.92	0.92	0.92	0.92	0.92	0.92
1	5	2	65	45	0
6	0	0	67	45	0
Stop			Free	Free	

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 14.8%
Analysis Period (min) 15

HCM 6th TWSC
1: Hunt Street & Access A

2030 Total AM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

EBL	EBR	NBL	NBT	SBT	SBR
1	5	2	60	41	0
1	5	2	60	41	0
1	5	2	60	41	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
92	92	92	92	92	92
2	2	2	2	2	2
1	5	2	65	45	0

Minor	Major1	Major2
114	45	45
45	-	-
69	-	-
6.42	6.22	4.12
5.42	-	-
5.42	-	-
3.518	3.318	2.218
882	1025	1563
977	-	-
954	-	-
881	1025	1563
881	-	-
976	-	-
954	-	-

EB	NB	SB
8.6	0.2	0
A		

Lanes, Volumes, Timings
2: Hunt Street & Access B

HCM 6th TWSC
2: Hunt Street & Access B

2030 Total AM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

2030 Total AM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

Area Type:	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	3	16	13	59	44	2
Traffic Volume (vph)	3	16	13	59	44	2
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.885			0.995		
Flt Protected	0.993			0.991		
Satd. Flow (prot)	1637	0	0	1846	1853	0
Flt Permitted	0.993			0.991		
Satd. Flow (perm)	1637	0	0	1846	1853	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	90.5			93.2	63.3	
Travel Time (s)	6.5			6.7	4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	17	14	64	48	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	0	0	78	50	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type: Other						
Control Type: Unsignalized						
Intersection Capacity Utilization 20.5%						
Analysis Period (min) 15						
ICU Level of Service A						

Intersection	EBL	EBR	NBL	NBT	SBT	SBR
Int. Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	3	16	13	59	44	2
Traffic Vol, veh/h	3	16	13	59	44	2
Future Vol, veh/h	3	16	13	59	44	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	17	14	64	48	2
Major/Minor						
Minor2	Minor1	Major1	Major2			
Conflicting Flow All	141	49	50	0	-	0
Stage 1	49	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stp 1	5.42	-	-	-	-	-
Critical Hdwy Stp 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	852	1020	1557	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	932	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	844	1020	1557	-	-	-
Mov Cap-2 Maneuver	844	-	-	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	932	-	-	-	-	-
Approach						
EB	NB	SB				
HCM Control Delay, s	8.7	1.3	0			
HCM LOS	A					
Minor Lane/Major Mvmt						
NBL	NBT	EBLn1	SBT	SBR		
Capacity (veh/h)	1557	-	987	-	-	-
HCM Lane V/C Ratio	0.009	-	0.021	-	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-	-
HCM Lane LOS	A	A	A	-	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-	-

Lanes, Volumes, Timings
 3: Hunt Street & Queensway West

2030 Total AM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	4	1	274	51	1	0	7	37	0	22
Traffic Volume (vph)	21	398	4	1	274	51	1	0	7	37	0	22
Future Volume (vph)	21	398	4	1	274	51	1	0	7	37	0	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Ft	0.999			0.977			0.880				0.949	
Flt Protected							0.984				0.970	
Satd. Flow (prot)	0	3490	0	3382	0	0	1662	0	0	1717	0	0
Flt Permitted							0.994				0.970	
Satd. Flow (perm)	0	3490	0	3382	0	0	1662	0	0	1717	0	0
Link Speed (km/h)	50			50			50				50	
Link Distance (m)	125.2			244.2			114.2				93.2	
Travel Time (s)	9.0			17.6			8.2				6.7	
Confl. Peds. (#/hr)	1			1			1			1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	3%	0%	0%	4%	6%	0%	0%	0%	0%	0%	5%
Adj. Flow (vph)	23	433	4	1	298	55	1	0	8	40	0	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	460	0	0	354	0	0	9	0	0	64	0
Sign Control	Free			Free			Stop				Stop	

Intersection Summary
 Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 41.2%
 Analysis Period (min): 15
 ICU Level of Service A

HCM 6th TWSC
 3: Hunt Street & Queensway West

2030 Total AM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

Intersection	1.4											
Int Delay, s/veh	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	4	4	4	1	274	51	1	0	7	37	0	22
Lane Configurations	4	4	4	1	274	51	1	0	7	37	0	22
Traffic Vol. veh/h	21	398	4	1	274	51	1	0	7	37	0	22
Future Vol. veh/h	21	398	4	1	274	51	1	0	7	37	0	22
Conflicting Peds. #/hr	1	0	0	0	0	0	1	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	None	None	None	None	None	None
RT Channelized	-	-	-	-	-	-	-	-	-	-	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	0	0	0	0	0	0	0	0	0	0	0
Grade, %	-	-	-	-	-	-	-	-	-	-	-	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	3	0	0	4	6	0	0	0	0	0	5
Mvmt Flow	23	433	4	1	298	55	1	0	8	40	0	24

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	354	0	0	632
Stage 1	-	-	-	481
Stage 2	-	-	-	329
Critical Hdwy	4.22	-	4.1	151
Critical Hdwy Sig 1	-	-	-	6.5
Critical Hdwy Sig 2	-	-	-	6.5
Follow-up Hdwy	2.26	-	2.2	3.5
Pot Cap-1 Maneuver	1173	-	1134	369
Stage 1	-	-	-	540
Stage 2	-	-	-	842
Platoon blocked, %	-	-	-	633
Mov Cap-1 Maneuver	1172	-	1134	351
Mov Cap-2 Maneuver	-	-	-	351
Stage 1	-	-	-	526
Stage 2	-	-	-	817

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	10.3	13.7
HCM LOS	B	B	B	B

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	22	407	282	15	16	27
Future Volume (vph)	22	407	282	15	16	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Flt Protected	0.997				0.915	
Satd. Flow (prot)	0	3529	3514	0	1674	0
Flt Permitted	0.997				0.982	
Satd. Flow (perm)	0	3529	3514	0	1674	0
Link Speed (km/h)	50	50	50	50	50	50
Link Distance (m)	174.9	125.2	119.9			
Travel Time (s)	12.6	9.0	8.6			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	442	307	16	17	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	466	323	0	46	0
Sign Control	Free	Free	Free	Stop	Stop	Stop
Intersection Summary	Other					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	33.5%					
Analysis Period (min)	15					
	ICU Level of Service A					

Intersection	EBL	EBT	WBT	WBR	SBL	SBR
Int Delay, s/veh	0.9					
Movement	↔	↔	↔	↔	↔	↔
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	22	407	282	15	16	27
Future Vol, veh/h	22	407	282	15	16	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	-	-	-	-
Storage Length	-	-	-	-	-	-
Veh. in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt. Flow	24	442	307	16	17	29
Major/Minor	Major1	Major2	Minor2	Minor2		
Conflicting Flow All	323	0	0	584	162	
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	269	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Sg 1	-	-	-	-	5.84	-
Critical Hdwy Sg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1234	-	-	-	443	854
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	752	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1234	-	-	-	431	854
Mov Cap-2 Maneuver	-	-	-	-	431	-
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	752	-
Approach	EB	WB	SB	SB		
HCM Control Delay, s	0.5	0	11.2			
HCM LOS			B			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBL	SBR
Capacity (veh/h)	1234	-	-	-	-	626
HCM Lane V/C Ratio	0.019	-	-	-	-	0.075
HCM Control Delay (s)	B	0.1	-	-	-	11.2
HCM Lane LOS	A	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.2

Lanes, Volumes, Timings
1: Hunt Street & Access A

2030 Total PM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y					
Traffic Volume (vph)	0	4	6	51	79	1
Future Volume (vph)	0	4	6	51	79	1
Ideal Flow (vphpb)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ft	0.865			0.998		
Flt Protected				0.994		
Satd. Flow (prot)	1611	0	0	1852	1859	0
Flt Permitted				0.994		
Satd. Flow (perm)	1611	0	0	1852	1859	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	84.9			63.3	137.5	
Travel Time (s)	6.1			4.6	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	4	7	55	86	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	0	62	87	0
Sign Control	Stop			Free	Free	
Intersection Summary	ICU Level of Service A					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.7%					
Analysis Period (min)	15					

HCM 6th TWSC
1: Hunt Street & Access A

2030 Total PM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

Intersection	EBL	EBR	NBL	NBT	SBT	SBR
Int Delay, s/veh	0.6					
Movement	Y					
Lane Configurations	Y					
Traffic Vol. veh/h	0	4	6	51	79	1
Future Vol. veh/h	0	4	6	51	79	1
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage. #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	7	55	86	1
Major/Minor	Minor2	Major1	Major2	Major2	Major2	Major2
Conflicting Flow All	156	87	87	0	-	0
Stage 1	87	-	-	-	-	-
Stage 2	69	-	-	-	-	-
Critical Hwy	6.42	6.22	4.12	-	-	-
Critical Hwy Sig 1	5.42	-	-	-	-	-
Critical Hwy Sig 2	5.42	-	-	-	-	-
Follow-up Hwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	835	971	1509	-	-	-
Stage 1	936	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	831	971	1509	-	-	-
Mov Cap-2 Maneuver	831	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Approach	EB	NB	SB	SB	SB	SB
HCM Control Delay, s	8.7	0.8	0.8	0	0	0
HCM LOS	A	A	A	A	A	A
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	SBR
Capacity (veh/h)	1509	-	971	-	-	-
HCM Lane V/C Ratio	0.004	-	0.004	-	-	-
HCM Control Delay (s)	7.4	0	8.7	-	-	-
HCM Lane LOS	A	A	A	A	A	A
HCM 95th %ile Q(veh)	0	-	0	-	-	-

Lanes, Volumes, Timings
 2: Hunt Street & Access B
 2030 Total PM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

EBL	EBR	NBL	NBT	SBT	SBR
4	20	24	53	78	5
4	20	24	53	78	5
1900	1900	1900	1900	1900	1900
1.00	1.00	1.00	1.00	1.00	1.00
0.886				0.992	
0.992			0.985		
1637	0	0	1835	1848	0
0.992			0.985		
1637	0	0	1835	1848	0
50			50	50	
90.5			93.2	63.3	
6.5			6.7	4.6	
0.92	0.92	0.92	0.92	0.92	0.92
4	22	26	58	85	5
25	0	0	84	90	0
Stop			Free	Free	

ICU Level of Service A

HCM 6th TWSC
 2: Hunt Street & Access B
 2030 Total PM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

EBL	EBR	NBL	NBT	SBT	SBR
4	20	24	53	78	5
4	20	24	53	78	5
4	20	24	53	78	5
0	0	0	0	0	0
Stop	Free	Free	Free	Free	Free
-	None	-	None	-	None
0					
0			0	0	
92	92	92	92	92	92
2	2	2	2	2	2
4	22	26	58	85	5

Minor2	Major1	Major2
198	88	90
88		
110		
6.42	6.22	4.12
5.42		
5.42		
3.518	3.318	2.218
791	970	1505
835		
915		
777	970	1505
777		
918		
915		

EB	NB	SB
9	2.3	0
A		

Minor Lane/Minor Mvmt	NBL	NBT	EBLN1	SBT	SBR
Capacity (veh/h)	1505	-	931	-	-
HCM Lane V/C Ratio	0.017	-	0.028	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Lanes, Volumes, Timings
 3: Hunt Street & Queensway West

2030 Total PM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	16	436	0	13	521	60	0	0	11	63	0	35
Traffic Volume (vph)	16	436	0	13	521	60	0	0	11	63	0	35
Future Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.865											
Ped Bike Factor	0.985											
Flt	0.999											
Flt Protected	0.999											
Satd. Flow (prot)	0	3543	0	0	3464	0	0	1481	0	0	1675	0
Flt Permitted	0.998											
Satd. Flow (perm)	0	3543	0	0	3464	0	0	1481	0	0	1675	0
Link Speed (ft/h)	50											
Link Distance (m)	125.2											
Travel Time (s)	9.0											
Contnl. Peds. (#/hr)	17.6											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	21%	1%	0%	18%	2%	4%	0%	0%	11%	0%	0%	13%
Adj. Flow (vph)	17	474	0	14	566	65	0	0	12	68	0	38
Shared Lane Traffic (%)	0											
Lane Group Flow (vph)	0	491	0	0	645	0	0	12	0	0	106	0
Sign Control	Free											

Intersection Summary
 Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 44.7%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
 3: Hunt Street & Queensway West

2030 Total PM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Int Delay, s/veh	2.5											
Movement	16	436	0	13	521	60	0	0	11	63	0	35
Lane Configurations	16	436	0	13	521	60	0	0	11	63	0	35
Traffic Vol, veh/h	16	436	0	13	521	60	0	0	11	63	0	35
Future Vol, veh/h	16	436	0	13	521	60	0	0	11	63	0	35
Conflicting Peds. #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free											
RT Channelized	None											
Storage Length	None											
Veh in Median Storage, #	0											
Grade, %	0											
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	21	1	0	18	2	4	0	0	11	0	0	13
Mvmt Flow	17	474	0	14	566	65	0	0	12	68	0	38

Major/Minor	Major1	Major2	Minor1	Minor2				
Conflicting Flow All	632	0	0	820				
Stage 1	509	509	509	509				
Stage 2	311	660	311	660				
Critical Hdwy	4.52	4.46	7.5	6.5				
Critical Hdwy Stg 1	6.5	6.5	6.5	6.5				
Critical Hdwy Stg 2	6.5	6.5	6.5	6.5				
Follow-up Hdwy	2.41	2.38	3.5	4				
Pot Cap-1 Maneuver	829	979	270	195				
Stage 1	520	541	442	479				
Stage 2	660	463	717	541				
Platoon blocked, %	0							
Mov Cap-1 Maneuver	828	978	244	185				
Mov Cap-2 Maneuver	244	185	224	193				
Stage 1	505	525	429	468				
Stage 2	626	452	686	525				
Approach	EB	WB	NB	SB				
HCM Control Delay, s	0.4	0.3	10	24.2				
HCM LOS	B	B	C	C				
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	735	828	-	-	978	-	-	292
HCM Lane V/C Ratio	0.016	0.021	-	-	0.014	-	-	0.365
HCM Control Delay (s)	10	9.4	0.1	-	8.7	0.1	-	24.2
HCM Lane LOS	B	A	A	-	A	-	-	C
HCM 95th %ile Q(veh)	0.1	0.1	-	-	0	-	-	1.6

Lanes, Volumes, Timings
4: Queensway West & Access C

HCM 6th TWSC
4: Queensway West & Access C

2030 Total PM Peak Hour
(220766) 395 Queensway West, Simcoe TIS

2030 Total PM Peak Hour
(220766) 395 Queensway West, Simcoe TIS

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↕↕	↕↕	↕↕	↕↕	↕↕	↕↕
Traffic Volume (vph)	37	430	532	24	22	33
Future Volume (vph)	37	430	532	24	22	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr	0.994	0.994	0.994	0.994	0.919	0.919
Flt Protected	0	0.996	0.996	0	0.980	0.980
Satd. Flow (prot)	0	3525	3518	0	1678	0
Flt Permitted	0	0.996	0.996	0	0.980	0.980
Satd. Flow (perm)	0	3525	3518	0	1678	0
Link Speed (v/h)	50	50	50	50	50	50
Link Distance (m)	174.9	125.2	119.9	119.9	119.9	119.9
Travel Time (s)	12.6	9.0	8.6	8.6	8.6	8.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	467	578	26	24	36
Shared Lane Traffic (%)	0	507	604	0	60	0
Lane Group Flow (vph)	Free	Free	Free	Free	Stop	Stop
Sign Control	Free	Free	Free	Free	Stop	Stop
Intersection Summary	ICU Level of Service A					
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	41.8%					
Analysis Period (min)	15					

Intersection	EBL	EBT	WBT	WBR	SBL	SBR
Int Delay, s/veh	1.2					
Movement	↕↕	↕↕	↕↕	↕↕	↕↕	↕↕
Lane Configurations	↕↕	↕↕	↕↕	↕↕	↕↕	↕↕
Traffic Vol, veh/h	37	430	532	24	22	33
Future Vol, veh/h	37	430	532	24	22	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	-	-
Grade, %	-	0	0	-	-	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	467	578	26	24	36
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	604	0	0	905	302	
Stage 1	-	-	-	591	-	-
Stage 2	-	-	-	314	-	-
Critical Hdwy	4.14	-	-	6.84	6.94	-
Critical Hdwy Sg 1	-	-	-	5.84	-	-
Critical Hdwy Sg 2	-	-	-	5.84	-	-
Follow-up Hdwy	2.22	-	-	3.52	3.32	-
Pot Cap-1 Maneuver	970	-	-	276	694	-
Stage 1	-	-	-	516	-	-
Stage 2	-	-	-	714	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	970	-	-	261	694	-
Mov Cap-2 Maneuver	-	-	-	261	-	-
Stage 1	-	-	-	487	-	-
Stage 2	-	-	-	714	-	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.9	0	15.1			
HCM LOS			C			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBL	SBR
Capacity (veh/h)	970	-	-	-	-	417
HCM Lane V/C Ratio	0.041	-	-	-	-	0.143
HCM Control Delay (s)	8.9	0.2	-	-	-	15.1
HCM Lane LOS	A	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.5

Appendix I

2035 Background Traffic Operations Reports



Lanes, Volumes, Timings
 3: Hunt Street & Queensway West

2035 Background AM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	0	0	0	8	18	0
Traffic Volume (vph)	23	422	4	1	286	40	1	0	8	18	0	25
Future Volume (vph)	23	422	4	1	286	40	1	0	8	18	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Ft	0.999		0.982				0.878				0.922	
Flt Protected	0.997						0.995				0.979	
Satd. Flow (prot)	0	3466	0	0	3401	0	0	1660	0	0	1667	0
Flt Permitted	0.997						0.995				0.979	
Satd. Flow (perm)	0	3466	0	0	3401	0	0	1660	0	0	1667	0
Link Speed (k/h)	50		50				50				50	
Link Distance (m)	300.1		244.2				114.2				226.6	
Travel Time (s)	21.6		17.6				8.2				16.3	
Confl. Peds. (#/hr)	1											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	3%	0%	0%	4%	6%	0%	0%	0%	0%	0%	5%
Adj. Flow (vph)	25	459	4	1	311	43	1	0	9	20	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	488	0	0	355	0	0	10	0	0	47	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Intersection Summary
 Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 38.5%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
 3: Hunt Street & Queensway West

2035 Background AM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

Intersection	1
Int Delay, s/Veh	
Movement	EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR
Lane Configurations	4 4 4 4 4 4 0 0 0 8 18 0 25
Traffic Vol, veh/h	23 422 4 1 286 40 1 0 8 18 0 25
Future Vol, veh/h	23 422 4 1 286 40 1 0 8 18 0 25
Conflicting Peds. #/hr	1 0 0 0 0 0 1 0 0 1 1 0 0
Sign Control	Free Free Free Free Free Free None None None None None
RT Channelized	- - - - - - - - - - - - -
Storage Length	- - - - - - - - - - - - -
Veh in Median Storage, #	- 0 - - - 0 - - - 0 - - - 0 -
Grade, %	- 0 - - - 0 - - - 0 - - - 0 -
Peak Hour Factor	92 92 92 92 92 92 92 92 92 92 92 92
Heavy Vehicles, %	6 3 0 0 4 6 0 0 0 0 0 0 5
Mvmt Flow	25 459 4 1 311 43 1 0 9 20 0 27

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	355	0	0	669
Stage 1	-	-	-	511
Stage 2	-	-	-	336
Critical Hdwy	4.22	-	158	357
Critical Hdwy Sig 1	-	4.1	7.5	6.9
Critical Hdwy Sig 2	-	-	6.5	5.5
Follow-up Hdwy	2.26	-	3.5	4
Pot Cap-1 Maneuver	1172	-	347	293
Stage 1	-	-	519	540
Stage 2	-	-	834	632
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1171	-	328	284
Mov Cap-2 Maneuver	-	-	328	284
Stage 1	-	-	504	524
Stage 2	-	-	806	631
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	10.4	12.3
HCM LOS	B	B	B	B

Int Delay, s/veh	EBL		EBT		EBR		WBL		WBT		WBR		NBL		NBT		NBR		SBL		SBR	
2	18	457	0	14	548	34	0	0	12	43	0	12	43	0	12	43	0	12	43	0	39	39
Lane Configurations	18	457	0	14	548	34	0	0	12	43	0	12	43	0	12	43	0	12	43	0	39	39
Traffic Vol, veh/h	18	457	0	14	548	34	0	0	12	43	0	12	43	0	12	43	0	12	43	0	39	39
Future Vol, veh/h	18	457	0	14	548	34	0	0	12	43	0	12	43	0	12	43	0	12	43	0	39	39
Conflicting Peds, #/hr	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0
Sign Control	Free																					
RT Channelized	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh. in Median Storage, #	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grade, %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	21	1	0	18	2	4	0	0	0	11	0	0	11	0	0	13	47	0	42	0	0	42
Mvmt Flow	20	497	0	15	596	37	0	0	13	47	0	13	47	0	13	47	0	13	47	0	89	89

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	634	0	0	866
Stage 1	-	-	-	538
Stage 2	-	-	-	328
Critical Hdwy	4.52	4.46	7.5	6.5
Critical Hdwy Sg 1	-	-	6.5	5.5
Critical Hdwy Sg 2	-	-	6.5	5.5
Follow-up Hdwy	2.41	2.38	3.5	4
Pot Cap-1 Maneuver	827	958	250	186
Stage 1	-	-	500	526
Stage 2	-	-	664	461
Platoon blocked, %	-	-	-	-
Max Cap-1 Maneuver	826	957	223	175
Max Cap-2 Maneuver	-	-	223	175
Stage 1	-	-	483	508
Stage 2	-	-	605	449

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	10.1	21.4
HCM LOS	B	B	C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBLn1	WBT	WBR	SBLn1
Capacity (veh/h)	722	826	-	-	957	-	-	308
HCM Lane V/C Ratio	0.018	0.024	-	-	0.016	-	-	0.289
HCM Control Delay (s)	10.1	9.5	0.1	-	8.8	0.1	-	21.4
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %ile Q(veh)	0.1	0.1	-	-	0	-	-	1.2

Appendix J

2035 Total Traffic Operations Reports



Lanes, Volumes, Timings
1: Hunt Street & Access A

2035 Total AM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	1	5	2	66	45	0
Traffic Volume (vph)	1	5	2	66	45	0
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.887					
Flt Protected	0.992			0.999		
Satd. Flow (prot)	1639	0	0	1861	1863	0
Flt Permitted	0.992			0.999		
Satd. Flow (perm)	1639	0	0	1861	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	84.9			63.3	137.5	
Travel Time (s)	6.1			4.6	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	5	2	72	49	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	0	74	49	0
Sign Control	Stop			Free	Free	

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 15.1%
Analysis Period (min) 15

HCM 6th TWSC
1: Hunt Street & Access A

2035 Total AM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

Intersection	EBL	EBR	NBL	NBT	SBT	SBR
Int Delay, s/veh	0.6					
Movement	1	5	2	66	45	0
Lane Configurations	1	5	2	66	45	0
Traffic Vol, veh/h	1	5	2	66	45	0
Future Vol, veh/h	1900	1900	1900	1900	1900	1900
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- None					
Storage Length	0					
Veh in Median Storage, #	0			0	0	
Grade, %	0			0	0	
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	5	2	72	49	0

Major/Minor
Conflicting Flow All
Stage 1
Stage 2
Critical Hdwy
Critical Hdwy Sig 1
Critical Hdwy Sig 2
Follow-up Hdwy
Stage 1
Stage 2
Platoon blocked, %
Mov Cap-1 Maneuver
Mov Cap-2 Maneuver
Stage 1
Stage 2

Approach
HCM Control Delay, s
HCM LOS

Minor Lane/Major Mvmt
Capacity (veh/h)
HCM Lane V/C Ratio
HCM Control Delay (s)
HCM Lane LOS
HCM 95th %ile C(veh)

Lanes, Volumes, Timings
 2: Hunt Street & Access B

HCM 6th TWSC
 2: Hunt Street & Access B

2035 Total AM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

2035 Total AM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

EBL	EBR	NBL	NBT	SBT	SBR
3	16	13	65	48	2
3	16	13	65	48	2
1900	1900	1900	1900	1900	1900
1.00	1.00	1.00	1.00	1.00	1.00
0.885				0.995	
0.993			0.992		
1637	0	0	1848	1853	0
0.993			0.992		
1637	0	0	1848	1853	0
50			50	50	
90.5			93.2	63.3	
6.5			6.7	4.6	
0.92	0.92	0.92	0.92	0.92	0.92
3	17	14	71	52	2
20	0	0	85	54	0
Stop			Free	Free	

Minor2	Major1	Major2
152	53	54
53		
99		
6.42	6.22	4.12
5.42		
5.42		
3.518	3.318	2.218
840	1014	1551
970		
925		
832	1014	1551
832		
961		
925		

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 20.8%
 Analysis Period (min) 15
 ICU Level of Service A

EBL	EBR	NBL	NBT	SBT	SBR
3	16	13	65	48	2
3	16	13	65	48	2
3	16	13	65	48	2
0	0	0	0	0	0
Stop	Free	Free	Free	Free	Free
- None			- None		
0					
0			0	0	0
0			0	0	0
92	92	92	92	92	92
2	2	2	2	2	2
3	17	14	71	52	2

Minor2	Major1	Major2
152	53	54
53		
99		
6.42	6.22	4.12
5.42		
5.42		
3.518	3.318	2.218
840	1014	1551
970		
925		
832	1014	1551
832		
961		
925		

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 20.8%
 Analysis Period (min) 15
 ICU Level of Service A

Lanes, Volumes, Timings
 3: Hunt Street & Queensway West

2035 Total AM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	1	301	55	1	0	8	39	0	25		
Traffic Volume (vph)	23	438	4	1	301	55	1	0	8	39	0	25
Future Volume (vph)	23	438	4	1	301	55	1	0	8	39	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Ft	0.999		0.977				0.878			0.947		
Ft Protected	0.998						0.985			0.970		
Satd. Flow (prot)	0	3490	0	0	3382	0	0	1660	0	1712	0	
Ft Permitted	0.998						0.995			0.970		
Satd. Flow (perm)	0	3490	0	0	3382	0	0	1660	0	1712	0	
Link Speed (km/h)	50		50				50			50		
Link Distance (m)	125.2		244.2				114.2			93.2		
Travel Time (s)	9.0		17.6				8.2			6.7		
Confl. Peds. (#/hr)	1											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	3%	0%	0%	4%	5%	0%	0%	0%	0%	0%	5%
Adj. Flow (vph)	25	476	4	1	327	60	1	0	9	42	0	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	505	0	0	388	0	0	10	0	0	0	69
Sign Control	Free		Free		Free		Stop		Stop			Stop

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 43.5%
 Analysis Period (min) 15
 ICU Level of Service A

HCM 6th TWSC
 3: Hunt Street & Queensway West

2035 Total AM Peak Hour
 (220786) 395 Queensway West, Simcoe TIS

Intersection	1.4											
Int Delay, s/veh	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	1	301	55	1	0	8	39	0	25		
Traffic Vol, veh/h	23	438	4	1	301	55	1	0	8	39	0	25
Future Vol, veh/h	23	438	4	1	301	55	1	0	8	39	0	25
Conflicting Peds, #/hr	1	0	0	0	0	0	1	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	None	None	None	None	None	None
RT Channelized	-	-	-	-	-	-	-	-	-	-	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	0	0	0	0	0	0	0	0	0	0	0
Grade, %	-	-	-	-	-	-	-	-	-	-	-	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	3	0	0	4	6	0	0	0	0	0	5
Mvmt Flow	25	476	4	1	327	60	1	0	9	42	0	27

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	388	0	0	694
Stage 1	-	-	-	528
Stage 2	-	-	-	360
Critical Hwy	4.22	-	4.1	-
Critical Hwy Stg 1	-	-	-	166
Critical Hwy Stg 2	-	-	-	390
Follow-up Hwy	2.26	-	2.2	-
Pot Cap-1 Maneuver	1139	-	1093	-
Stage 1	-	-	-	333
Stage 2	-	-	-	274
Platoon blocked, %	-	-	-	766
Mov Cap-1 Maneuver	1138	-	1093	-
Mov Cap-2 Maneuver	-	-	-	314
Stage 1	-	-	-	265
Stage 2	-	-	-	346

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	10.5	14.6
HCM LOS	B	B	B	B



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕	↕
Traffic Volume (vph)	22	449	312	15	16	27
Future Volume (vph)	22	449	312	15	16	27
Ideal Flow (Vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Flt Protected		0.998		0.993	0.915	
Satd. Flow (prot)	0	3532	3514		1674	0
Flt Permitted		0.998		0.982	0.982	
Satd. Flow (perm)	0	3532	3514	0	1674	0
Link Speed (km/h)		50	50		50	
Link Distance (m)		174.9	125.2		119.9	
Travel Time (s)		12.6	9.0		8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	488	339	16	17	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	512	355	0	46	0
Sign Control		Free	Free		Stop	

Intersection Summary
 Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 35.5%
 Analysis Period (min) 15
 ICU Level of Service A

Intersection	EBL	EBT	WBT	WBR	SBL	SBR
Int Delay, s/veh						0.9
Movement		↕↕	↕↕		↕	↕
Lane Configurations		↕↕	↕↕		↕	↕
Traffic Vol, veh/h	22	449	312	15	16	27
Future Vol, veh/h	22	449	312	15	16	27
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	488	339	16	17	29

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	355	0	0
Stage 1	-	-	639
Stage 2	-	-	178
Critical Hdwy	4.14	-	347
Critical Hdwy Stg 1	-	-	292
Critical Hdwy Stg 2	-	-	6.94
Follow-up Hdwy	2.22	-	5.84
Pot Cap-1 Maneuver	1200	-	5.84
Stage 1	-	-	3.52
Stage 2	-	-	3.32
Platoon blocked, %	-	-	408
Mov Cap-1 Maneuver	1200	-	687
Mov Cap-2 Maneuver	-	-	732
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBRn1
Capacity (veh/h)	1200	-	-	-	-	592
HCM Lane VC Ratio	0.02	-	-	-	-	0.079
HCM Control Delay (s)	8.1	0.1	-	-	-	11.6
HCM Lane LOS	A	A	-	-	-	B
HCM 95th %ile Cl(veh)	0.1	-	-	-	-	0.3

Lanes, Volumes, Timings
1: Hunt Street & Access A

2035 Total PM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	0	4	6	56	86	1
Traffic Volume (vph)	0	4	6	56	86	1
Future Volume (vph)	0	4	6	56	86	1
Ideal Flow (vphpl)	1800	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865			0.995		
Flt Protected				0.995		
Satd. Flow (prot)	1611	0	0	1853	1861	0
Flt Permitted				0.995		
Satd. Flow (perm)	1611	0	0	1853	1861	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	84.9			63.3	137.5	
Travel Time (s)	6.1			4.8	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	4	7	61	93	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	0	68	94	0
Sign Control	Slop			Free	Free	

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 17.9%
Analysis Period (min) 15
ICU Level of Service A

HCM 6th TWSC
1: Hunt Street & Access A

2035 Total PM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

Intersection	EBL	EBR	NBL	NBT	SBT	SBR
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	0	4	6	56	86	1
Traffic Vol, veh/h	0	4	6	56	86	1
Future Vol, veh/h	0	4	6	56	86	1
Conflating Peds. #/hr	0	0	0	0	0	0
Sign Control	Slop		Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0					
Veh in Median Storage, #	0					
Grade, %	0					
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	7	61	93	1

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	169	94	94
Stage 1	94	-	-
Stage 2	75	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Sig 1	5.42	-	-
Critical Hdwy Sig 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	821	963	1500
Stage 1	930	-	-
Stage 2	948	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	817	963	1500
Mov Cap-2 Maneuver	817	-	-
Stage 1	925	-	-
Stage 2	948	-	-

Lanes, Volumes, Timings
2: Hunt Street & Access B

2035 Total PM Peak Hour
(220786) 395 Queensway West, Simcoe TIS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			←	↑	↘
Traffic Volume (vph)	4	20	24	58	85	5
Future Volume (vph)	4	20	24	58	85	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.886				0.993	
Flt Protected	0.992			0.986		
Satd. Flow (prot)	1637	0	0	1837	1850	0
Flt Permitted	0.992			0.986		
Satd. Flow (perm)	1637	0	0	1837	1850	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	90.5			93.2	63.3	
Travel Time (s)	6.5			6.7	4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	22	26	63	92	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	0	0	89	97	0
Sign Control	Stop			Free	Free	

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.0%
Analysis Period (min) 15
ICU Level of Service A

HCM 6th TWSC
2: Hunt Street & Access B

2035 Total PM Peak Hour
(220786) 395 Queensway West, Simcoe TIS

Intersection	EBL	EBR	NBL	NBT	SBT	SBR
Int Delay, s/veh						2
Movement	Y			←	↑	↘
Lane Configurations	Y			←	↑	↘
Traffic Vol, veh/h	4	20	24	58	85	5
Future Vol, veh/h	4	20	24	58	85	5
Conflicting Pests, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	22	26	63	92	5

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	210	95	97
Stage 1	95	-	-
Stage 2	115	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Sig 1	5.42	-	-
Critical Hdwy Sig 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Platoon blocked, %	778	962	1496
Stage 1	929	-	-
Stage 2	910	-	-
Mov Cap-1 Maneuver	764	962	1496
Mov Cap-2 Maneuver	764	-	-
Stage 1	912	-	-
Stage 2	910	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	2.2	0
HCM LOS	A		

Minor Lane/Minor Mvmt	NBL	NBT	EBL1	SBT	SBR
Capacity (veh/h)	1496	-	922	-	-
HCM Lane V/C Ratio	0.017	-	0.028	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %ile Q(veh)	0.1	-	0.1	-	-

Int Delay, s/veh	3											
Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	18	479	0	14	572	64	0	0	12	67	0	39
Traffic Vol, veh/h	18	479	0	14	572	64	0	0	12	67	0	39
Future Vol, veh/h	18	479	0	14	572	64	0	0	12	67	0	39
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	0	0	0	0
Sign Control	Free											
RT Channelized	None											
Storage Length	-											
Veh in Median Storage, #	-											
Grade, %	-											
Peak Hour Factor	0.92											
Heavy Vehicles, %	21											
Mvmt Flow	20 521 0 15 622 70 0 0 13 73 0 42											

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	693	0	0	903
Stage 1	-	-	-	562
Stage 2	-	-	-	341
Critical Hdwy	4.52	-	4.46	-
Critical Hdwy Sig 1	-	-	-	7.5
Critical Hdwy Sig 2	-	-	-	6.5
Follow-up Hdwy	2.41	-	2.38	-
Pot Cap-1 Maneuver	782	-	937	-
Stage 1	-	-	-	484
Stage 2	-	-	-	653
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	781	-	936	-
Mov Cap-2 Maneuver	-	-	-	209
Stage 1	-	-	-	466
Stage 2	-	-	-	592

Approach	EB	WB	WB	EB	EBT	EBR	WBL	WBT	WBR	SBLn1	SB
HCM Control Delay, s	0.5	0.3	0.3	10.2	10.2	10.2	30.1	30.1	30.1	30.1	D
HCM LOS	B										
Minor Lane/Major Mvmt	NBLn1	EB	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)	709	781	-	-	836	-	-	256			
HCM Lane V/C Ratio	0.018	0.025	-	-	0.016	-	-	0.45			
HCM Control Delay (s)	10.2	9.7	0.2	-	8.9	0.1	-	30.1			
HCM Lane LOS	B	A	A	-	A	-	-	D			
HCM 95th %tile C(veh)	0.1	0.1	-	-	0.1	-	-	2.2			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	18	479	0	14	572	64	0	0	12	67	0	39
Traffic Volume (vph)	18	479	0	14	572	64	0	0	12	67	0	39
Future Volume (vph)	18	479	0	14	572	64	0	0	12	67	0	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.865											
Ft	0.985											
Flt Protected	0.999											
Satd. Flow (prot)	0	3541	0	0	3464	0	0	1481	0	0	1672	0
Flt Permitted	0.999											
Satd. Flow (perm)	0	3541	0	0	3464	0	0	1481	0	0	1672	0
Link Speed (k/h)	50											
Link Distance (m)	125.2											
Travel Time (s)	9.0											
Confl. Peds. (#/hr)	17.6											
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	21%	1%	0%	18%	2%	4%	0%	0%	11%	0%	0%	13%
Adj. Flow (vph)	20	521	0	15	622	70	0	0	13	73	0	42
Shared Lane Traffic (%)	-											
Lane Group Flow (vph)	0	541	0	0	707	0	0	13	0	0	115	0
Sign Control	Free Free											

Area Type:	Other
Control Type: Unsignalized	ICU Level of Service A
Intersection Capacity Utilization	47.4%
Analysis Period (min)	15

Intersection Summary											
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
0	541	0	0	707	0	0	13	0	0	115	0
Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

Lanes, Volumes, Timings
4: Queensway West & Access C

2035 Total PM Peak Hour
(220766) 395 Queensway West, Simcoe TIS



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	37	475	587	24	22	33
Traffic Volume (vph)	37	475	587	24	22	33
Future Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	0.95	0.95	0.95	0.95	1.00	1.00
Lane Util. Factor		0.994	0.994	0.994	0.919	0.980
Flt Protected		0	3525	3518	0	1678
Satd. Flow (prot)		0	0.996	0.980	0	0.980
Flt Permitted		0	3525	3518	0	1678
Satd. Flow (perm)		0	50	50	0	50
Link Speed (k/h)		174.9	125.2	119.9		
Link Distance (m)		12.6	9.0	8.6		
Travel Time (s)		0.92	0.92	0.92	0.92	0.92
Peak Hour Factor	40	516	638	26	24	36
Adj. Flow (vph)		0	556	664	0	60
Shared Lane Traffic (%)		Free	Free	Free	Stop	Stop
Lane Group Flow (vph)						
Sign Control						

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 44.5%
Analysis Period (min) 15
ICU Level of Service A

HCM 6th TWSC

4: Queensway West & Access C

2035 Total PM Peak Hour
(220766) 395 Queensway West, Simcoe TIS

Intersection	EBL	EBT	WBT	WBR	SBL	SBR
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	37	475	587	24	22	33
Traffic Vol, veh/h	37	475	587	24	22	33
Future Vol, veh/h	37	475	587	24	22	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	0	0	0
Grade, %	-	0	0	0	0	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	516	638	26	24	36

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	664	0	0
Stage 1	-	-	651
Stage 2	-	-	338
Critical Hdwy	4.14	-	6.84
Critical Hdwy Sig 1	-	-	5.84
Critical Hdwy Sig 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	921	-	244
Stage 1	-	-	481
Stage 2	-	-	694
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	921	-	229
Mov Cap-2 Maneuver	-	-	229
Stage 1	-	-	452
Stage 2	-	-	694

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	16.3
HCM LOS			C

Minor Lane/Minor Mvmt	EBL	EBT	WBT	WBR	SBL	SBR
Capacity (veh/h)	921	-	-	-	-	377
HCM Lane V/C Ratio	0.044	-	-	-	-	0.159
HCM Control Delay (s)	9.1	0.2	-	-	-	16.3
HCM Lane LOS	A	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.6

PHASE I AND PHASE II ENVIRONMENTAL SITE ASSESSMENT



395-401 QUEENSWAY WEST
NORFOLK COUNTY, ONTARIO

FOR

HFW HOLDINGS LIMITED

BY



JULY 2020

Distribution:

1 cc **Client**
1 cc **AiMS**

Report AR128A-19



July 28, 2020

Report AR128A-19

Mr. Herbert H. Chiu
HFW Holdings Limited
 3 Fernwood Court
 Richmond Hill, Ontario
 L4B 3C2

Dear Mr Chiu:

EXECUTIVE SUMMARY

Phase I and Phase II Environmental Site Assessment
395-401 Queensway West
Norfolk County, Ontario

We are pleased to present our report of a combined Phase I and Phase II Environmental Site Assessment (ESA) of the above-referenced property. This work was initially authorized on April 23, 2019 and extended on February 18, 2020 and April 14, 2020.

It is understood that the ESA was required for financing purposes. The findings presented in this report may be used by the addressee for these purposes subject to the limitations mentioned herein.

The ESA consisted of two phases, namely: a non-intrusive Phase I ESA, including a historical records review, site reconnaissance, building inspection, and interviews with knowledgeable persons; and an intrusive Phase II ESA, including drilling, sampling, and subsequent chemical analyses which were undertaken to verify or refute any actual or potential on-site or off-site sources of contamination.

The subject 4.19-acre property is partly developed with the following two buildings:

Address	Size	Tenant
395 Queensway West	2,440 ft ²	<i>Canadian Mental Health Association (CMHA)</i>
401 Queensway West	12,769 ft ²	<i>Wilson Truck & Trailer</i>

Within the truck repair garage, there were two belowground truck service pits, four new oil aboveground storage tanks (ASTs) and three waste oil ASTs; as well as numerous storage drums, pails, and other containers containing oils, lubricants, and fluids. Localized surficial staining was observed on the concrete floor and within the truck service pits.

Overall, both buildings cover 8 % of the site area. The remaining parts of the property primarily comprise asphalt-paved driveways and gravel parking areas for storage trailers and trucks, with minor landscaped areas fronting Queensway West.

Historically, the subject site was developed with a single-storey office building and small truck repair garage in 1963, with *Cronkwright Transport Limited* as the original sole tenant. The original truck repair building was later demolished, and a new truck repair garage, along with a second-storey addition to the office building, was constructed in 1982. A north addition to the existing truck repair garage was completed in 2000. *Wilson Truck & Trailer* has been a tenant of the truck repair garage since 1993 and *CMHA* has been a tenant of the office building since 2008.

According to an environmental database search, *Cronkwright Transport Limited* had two associated steel, single-walled underground storage tanks (USTs) for gasoline and Diesel located to the southeast of the truck repair garage building; and two historical records of spills of motor oil to the ground from new and waste motor oil USTs located to the west of the garage building was associated with *Wilson Truck & Trailer*. The gasoline, Diesel and new/waste oil USTs were reportedly removed circa 2004.

Based on the findings of our historical records review, site reconnaissance, and personal interviews; potential on-site sources of soil and groundwater contamination would include petroleum hydrocarbons (PHCs), heavy metals, and volatile organic compounds (VOCs) from the historical USTs and chemical usage in the former and existing truck repair operations associated with *Cronkwright Transport Limited* and *Wilson Truck & Trailer*.

The aforementioned potential environmental concerns were investigated in the course of our Phase II ESA, which entailed the drilling of a total of 18 boreholes (in two stages) to depths ranging from 3.0 to 7.6 m below the existing grade or finished concrete floor at strategically selected and accessible locations. Groundwater monitoring wells were installed in seven of the boreholes.

The observed soil stratigraphy generally comprised asphalt pavement, concrete floor slab or topsoil fill overlying silty sand and/or sand and gravel fill, which were underlain by strata of sandy silt and/or medium to coarse sand. Significant petroleum odours or staining were noted in six boreholes (BH4, BH6, BH101, BH102, BH106 and BH108) at depths ranging between 1.4 m and 5.8 m below existing grade.

Static groundwater levels were measured in the seven newly installed monitoring wells at depths ranging between 3.46 m and 4.72 m below existing grade. Based on the site topography and the measured groundwater elevations, the local groundwater flow was inferred to be directed north toward *Patterson Creek*.

Based on the field observations and the results of soil headspace screening, 22 “worst case” soil samples underlying the subject site and seven groundwater samples were submitted for laboratory analyses of PHCs including benzene, toluene, ethylbenzene and total xylenes (BTEX); volatile organic compounds (VOCs) and/or heavy metals. One representative subsurface soil sample was also submitted for soil grain size analysis and was classified as a coarse-textured soil type.

In comparison with the 2011 Ontario *Soil, Ground Water, and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* (EPA) criteria, the results of laboratory analyses on all 22 soil samples and seven groundwater samples indicated that the measured contaminant concentrations generally complied with the Table 2 Site Condition Standards (SCS) for commercial/industrial land uses with coarse-textured soils in a potable groundwater condition, with the exception of two soil samples (sample BH6-2 collected from BH6 and sample BH102-7 collected from BH102) and one groundwater sample (MW4), which exceeded the Table 2 SCS for one or more PHC constituents.

For preliminary estimating purposes, it is surmised that approximately 450 tonnes of PHC-contaminated soils exist in the southeast part of the subject property surrounding BH6 at depths ranging from 1.4 m to 3.0 m below grade, and surrounding BH102 at depths ranging from 4.5 m to 5.8 m below grade, likely attributable to leaks or spills from the gasoline/Diesel USTs and associated fuel pumps formerly located in this area. Furthermore, a preliminary estimate of the impacted groundwater plume surrounding the contaminated soils consists of an area of approximately 315 m². For cleanup purposes, the untainted overburden should be removed for stockpiling and re-use on-site if possible, followed by the excavation of the contaminated soils over the said depth ranges. These should then be disposed of at a registered landfill or approved soil recycling facility by a licensed waste handler in accordance with *Ontario Regulation*

558/00 provisions. The impacted groundwater plume would then be expected to attenuate naturally over time upon removal of the source impacted soils; however, remediation of the groundwater could be accelerated by pumping of the impacted water for off-site disposal, and/or in-situ chemical treatment.

It is understood that quotes are being provided to you separately by a licensed contractor for excavation and off-site disposal of the contaminated soils followed by pumping and in-situ treatment of the impacted groundwater. **AiMS Environmental** can assist you with engineering oversight necessary to observe and report on the progress of the site remediation.

Alternatively, an Environmental Risk Assessment (ERA) can be undertaken to determine if the contaminated soils and groundwater can remain in place without the need for any remediation or engineered controls.

Finally, it is recommended that the monitoring wells be preserved for future monitoring purposes. If any monitoring wells become damaged or are no longer required, they should be decommissioned in accordance with *Ontario Regulation 903*.

We trust you will find this report to be complete within our terms of reference. Should you have any questions regarding the information contained in the report, or require further assistance, please contact our office.

Sincerely,

AiMS Environmental



Forry Fong, P.Eng.
Project Manager

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1.0 INTRODUCTION

AiMS Environmental was retained by Mr. Herbert Chiu of **HFW Holdings Limited** to conduct a combined Phase I and Phase II Environmental Site Assessment (ESA) of a commercial/industrial property located at 395-401 Queensway West in Norfolk County, Ontario.

The ESA consisted of two phases, namely: a non-intrusive Phase I ESA, including a historical records review, site reconnaissance, building inspection, and interviews with knowledgeable persons; and an intrusive Phase II ESA, including drilling, sampling, and subsequent chemical analyses which were undertaken to verify or refute any actual or potential on-site or off-site sources of contamination. The findings of both of these undertakings are presented within this report.

It is understood that the ESA was required for financing purposes. The findings, conclusions, and recommendations presented in this report may be used by the addressee for these purposes subject to the limitations stated under *Section 12.0*. No other third party may rely upon this report without the express written consent of **AiMS Environmental**. Any use which a third party makes of this report is the sole responsibility of said third party, and **AiMS Environmental** accepts no responsibility for any consequences arising from such usage.

2.0 SCOPE OF WORK

The ESA was conducted in accordance with the *Canadian Standards Association (CSA) Z768-01* and *Z769-00* guidelines, in conjunction with the *Consulting Engineers of Ontario (CEO) "Generally Accepted Standards for Environmental Investigations"* and included the following:

- Review of available historical records for the subject site and surrounding areas to identify actual or potential sources of environmental contamination;
- Site reconnaissance, including an environmental inspection of any existing buildings, to observe and document the present environmental condition;
- Interviews with knowledgeable persons and regulatory officials for additional information relating to any environmental concerns;

- Underground utility clearances and borehole layout of the subject site;
- Mobilizing, drilling, and logging of 18 sampled boreholes (in two stages) to depths ranging from 3.0 to 7.6 m below existing grade;
- Installation of groundwater monitoring wells in seven of the boreholes;
- Screening of soil sample headspace for volatile hydrocarbons using a portable organic vapour monitor (OVM);
- Measuring the water level, purging and collecting groundwater samples from the seven newly installed monitoring wells;
- Conducting chemical analyses on representative soil and groundwater samples at an accredited environmental laboratory; and
- Preparation of this ESA report of pertinent findings, conclusions, and recommendations.

It should be noted that the format of this report is not intended to support the filing of a Record of Site Condition (RSC) with the Ministry of the Environment, Conservation and Parks (MOE), for which additional requirements apply.

3.0 PROPERTY DESCRIPTION

3.1 Location and Legal Description

The subject site is located west of Norfolk Street North (Highway 24) and east of Park Road (Highway 40), at the northwest intersection of Queensway West and Hunt Street North, as shown in *Drawing 1*.

The municipal addresses of the property are 395 and 401 Queensway West, Norfolk County, Ontario.

The legal description of the subject site is Lots 35, 36 and 38 to 44 (Block 9) of Registered Plan 182; and part of Lot 2 of Concession 14 of Windham Township; County of Norfolk, Province of Ontario.

3.2 Site Characteristics

The subject site is 4.19 acres in size, irregular in shape, and relatively flat; with a frontage of 200 ft. along Queensway West. The subject 4.19-acre property is partly developed with the following two buildings (as shown in the photographs in *Appendix A* and described in the MPAC Report in *Appendix B*):

Address	Size	Tenant
395 Queensway West	2,440 ft ²	Canadian Mental Health Association (CMHA)
401 Queensway West	12,769 ft ²	Wilson Truck & Trailer

Overall, both buildings cover 8 % of the site area. The remaining parts of the property primarily comprise asphalt-paved driveways and gravel parking areas for storage trailers and trucks, with minor landscaped areas fronting Queensway West, as shown in *Drawing 2*.

Surface water from the property drains overland toward catchbasins that are connected to the municipal stormwater sewer system along Queensway West or toward *Patterson Creek* to the north. There was no evidence to suggest the presence of existing potable or groundwater monitoring wells or septic tanks on the subject site.

Except for a concrete pad associated with a former fuel pump island located on the southwest part, no evidence of any underground storage tanks (USTs), exterior aboveground storage tanks (ASTs), stressed vegetation, or unusual protrusions from the ground were observed during our site reconnaissance conducted on May 2, 2019.

3.3 Surrounding Areas

Except *Patterson Creek* located within 30 m north of the site, and vacant lots at 403 and 405 Queensway West, the surrounding areas are partly developed with residential and commercial land uses, which include the following:

Residential

- Single-family dwellings are located north, south and west of the subject site along Hunt Street and Queensway West. The domestic water supply for the dwelling located contiguous with the north property line at 26 Hunt Street North was noted to be provided by a private potable water well.

Commercial

- A multi-tenant commercial building is located approximately 20 m east of the subject site, at 385 Queensway West. Tenants included *Travelodge* (hotel), *The Shire* (restaurant) and *Norfolk Fitness Centre* (health club).
- A multi-tenant commercial building is located approximately 20 m south of the subject site, at 400 Queensway West. Tenants included *Norfolk Fireplace & Vac* (appliance retailer) and *The Flooring Dimension* (building materials retailer).
- *Queensway Veterinary Hospital* (veterinary clinic) is located approximately 35 m west of the subject site, at 411 Queensway West.

There was no evidence visible from publicly accessible areas of any USTs, exterior ASTs, or any other environmental concerns noted in association with any of the aforementioned residential and commercial land uses. Furthermore, there were no drycleaning facilities or gasoline service stations located within a 250 m radius of the subject site.

Utility conduits running parallel along Queensway West include *Bell Aliant* and *Eastlink* communication cables, *Hydro One* hydro and *Enbridge* gas lines; as well as municipal watermain, storm and sanitary sewers.

3.4 Previous Reports

No previous environmental reports were provided by the client for our review.

4.0 HISTORICAL RECORDS REVIEW

The historical records review of past land use of the subject site and surrounding areas included illustrated atlases, topographical maps, land registry records, city directories, government records, and aerial photographs. Fire insurance plans covering the subject site were not available for review.

On the south shore of Lake Ontario, tracts of Aboriginal lands were “surrendered” to the British Crown in the late 1700s, exchanging claim to communal native title in return

for individual financial compensation (Russell, *Canada's Odyssey*, University of Toronto Press, 2017). The southern part of the province was divided into 26 counties (including Norfolk) which were subsequently divided into townships (including Windham).

The Town of Simcoe was named after Lieutenant Governor John Graves Simcoe, who visited the settlement in 1795 and granted milling privileges to Aaron Culver, a loyalist settler. A small hamlet developed around the mill, and in 1837, the village became the seat of government for the district. Simcoe quickly became the focal point for trading and commercial opportunities in the region and was incorporated as a town in 1878. Agricultural operations and commercial trade remained predominate economic staples within the area, and growth continued throughout the 1900s.

In 2001, the Town of Simcoe was amalgamated with the nearby communities of Delhi and Norfolk, along with the eastern portion of the City of Nanticoke, to form Norfolk County, a single tier municipality.

4.1 Subject Property

The subject site was originally part of Lot 2, Concession XIV, in the Township of Windham, County of Norfolk. Illustrated atlases from the late 1800s and topographical maps from the early 1900s showed the subject site to be agricultural, comprising cultivated fields.

In 1932, part of the township lot was subdivided into numerous development blocks (including Block 9), which were further divided into multiple building lots (including Lots 35, 36 and 38 to 44) according to Registered Plan 182, which is reproduced in *Appendix C*.

Aerial photographs from 1945 and 1964 show that the property was first developed with a single-storey office building and small truck repair garage in 1963, with *Cronkwright Transport Limited* as the original sole tenant. The original truck repair building was later demolished, and a new truck repair garage, along with a second-storey addition to the office building, was constructed in 1982. A north addition to the existing truck repair garage was completed in 2000. *Wilson Truck & Trailer* has been a tenant of the truck repair garage since 1993 and *CMHA* has been a tenant of the office building since 2008. [It should be noted that a former municipal address for *Cronkwright Transport Limited* and *Wilson Truck & Trailer* included 405 Queensway West.]

According to the available land registry records (reproduced in *Appendix D*), owners of the property have included the following:

Melvin Clifford & Mabel Cronkwright	Prior to 1966
Cronkwright Leaseholds Limited	1966 to 1989
James Stewart & Jack Elgin Cronkwright	1989
Cronkwright Transport Limited	1990 to 1993
559188 Ontario Inc.	1993 to 2004
Royalex Incorporated	2004 to 2007
Arvane Farms Ltd.	2007 to 2012
HFW Holdings Limited	2012 to Present

4.2 Surrounding Areas

The historical land uses of the surrounding areas were similar to the subject site. The surrounding areas originally comprised agricultural land prior to partial residential and commercial development since subdivision of the township lot in 1932, as previously described in *Subsection 3.3*.

4.3 Government Records

A review of the 1991 MOE *Waste Disposal Site Inventory* revealed no active or closed waste disposal sites, and there were no coal gasification or tar distillation plants within a 250 m radius of the subject site according to the MOE 1987 *Inventory of Coal Gasification Plant Waste Sites in Ontario* and 1988 *Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario*.

A review of the 1987 to 2004 MOE *Ontario Inventory of Polychlorinated Biphenyls (PCBs) Storage Sites* indicated that the property has never been registered as a PCB Storage Facility.

A review of the MOE Brownfields Environmental Site Registry indicated that there are no RSCs under *Ontario Regulation 153/04 Part XV.1* of the Environmental Protection Act (EPA) registered for any property within a 250 m radius of the subject site.

A review of the MOE Well Records dataset under *Ontario Regulation 903* of the Water Resources Act revealed no records of any potable or groundwater monitoring wells installed on the subject site.

A written request was filed with the MOE under the Provincial Freedom of Information and Protection of Privacy Act on May 6, 2019 for knowledge of any control orders, violation notices, or other environmental concerns in association with the subject site. A written response dated June 21, 2019 (reproduced in *Appendix E*), revealed that six records relating to the property were located in the Hamilton District Office, West Central Region Office, Investigations and Enforcement Branch, Environmental Monitoring and Reporting Branch, Sector Compliance Branch, or Safe Drinking Water Branch; including a Subject Waste Registration Report from 1989 related to the generation of waste crankcase oil and waste varsol for off-site disposal by *Cronkwright Transport Limited*; and two Incident Reports from 2003 related to spills of motor oil to the ground from new and waste motor oil USTs located to the west of the garage building associated with *Wilson Truck & Trailer*. It was further reported that *Wilson Truck & Trailer* was undertaking a cleanup of snow and dirt contaminated by the spills.

A written request was also filed with Norfolk County under the Municipal Freedom of Information and Protection of Privacy Act on May 13, 2019 for knowledge of any control orders, violation notices, or other environmental concerns in association with the subject site. A written response dated May 16, 2019 (reproduced in *Appendix F*), revealed that no such records relating to the property were located in the Norfolk County Public Works – Environmental Services Department.

A request was made with the Technical Standards and Safety Authority (TSSA) for additional information regarding any fuel storage tanks associated with the subject site. A written response dated July 15, 2020 (reproduced in *Appendix G*) revealed that the subject site was listed as an active private fuel outlet having two liquid fuel storage tanks. However, it was noted that “The *Technical Standards and Safety Act* and associated regulations do not require the registration of private fuel outlets; nor does it require that any documentation on these facilities be submitted to or reviewed or approved by the TSSA. As a result, the TSSA has limited information on these facilities and cautions that any information provided may be inaccurate, incomplete or out of date.” Full copies of the TSSA records were subsequently requested but have not been received to date. Any forthcoming documentation from the TSSA will be reviewed, and if the response specifies any environmental concerns, they will be addressed and forwarded to the Client. Nevertheless, based on our field investigations and interviews with knowledgeable individuals (see *Section 6.0*), it is our opinion that the TSSA records are out of date and that the site is not currently operating as private fuel outlet. Furthermore, it is our understanding that the former fuel USTs (still registered at the historical address of 405 Queensway West) were removed from the site circa 2004.

A review of the 1993 to 2017 Environment Canada *National Pollution Release Inventory* for Norfolk County did not reveal the subject site to manufacture, process, or utilize any of the reported 400 designated substances or hazardous materials.

A review of the *Federal Contaminated Sites Inventory* indicated that there are no existing or former contaminated sites located within a 250 m radius of the subject site.

A 250-m radius search of public and private databases (including government records) for the subject site and surrounding areas was completed by Environmental Risk Management Services (ERIS) on May 1, 2019. A copy of the ERIS report is reproduced in *Appendix H* and the notable records for the subject site are summarized below:

- A review of the *Private and Retail Fuel Storage Tanks (PRT)*, *Retail Fuel Storage Tanks (RST)* and *Fuel Storage Tank - Historic (FSTH)* databases revealed that records were on file for a private fuel outlet on the subject site associated with *Cronkwright Transport Limited* having one 50,000-L, single-wall Diesel UST and one 10,000-L, single-wall gasoline UST.
- A review of the MOE *Ontario Spills (SPL)* database indicated that one record was on file for the aforementioned spill of motor oil to the ground from a UST associated with *Wilson Truck & Trailer*.
- A review of available MOE *Regulation 347 Public Information Datasets (GEN)* from between 1986 to 2020 indicated that *Cronkwright Transport Limited* was on file with the MOE as a generator of waste oils/lubricants and petroleum distillates between 1986 and 2001.

5.0 BUILDING INSPECTION

An inspection for designated hazardous materials within accessible areas of the buildings was performed by Damian Khan and Valerie Loubert, Environmental Scientists with **AiMS Environmental**, on May 2, 2019. Additional information and assistance was provided by John Harriot, Maintenance Manager of *CMHA*; and Duane Wilson, Owner of *Wilson Truck & Trailer*.

The scope of the inspection included a walk-through visual survey of the office and truck repair garage buildings. Photographs were taken for future reference, some of which are also reproduced in *Appendix A*.

Office Building (CMHA):

Heating within the building is primarily provided by one *Lennox* gas-fired forced air furnace located in the basement mechanical area, and is supplemented by electric baseboard heaters throughout the building. No evidence of any heating oil storage tanks was noted. Cooling is provided by one *Lennox* air-conditioning unit located at the rear of the building. Based on the age of the unit, the refrigerant in the unit is unlikely to contain chlorofluorocarbons (CFCs) which are known as ozone-depleting substances (ODSs).

The domestic hot water supply is provided by one *Rheem* electric hot water heater located in the basement mechanical area.

Where observed, the copper pipelines associated with the water distribution lines were primarily uninsulated; however, friable asbestos-containing materials (ACMs) in fair to damaged condition were suspected to be associated with sections of pipe insulation in a mechanical closet.

The electrical power supply is provided by *Federal Pioneer* and *Square D* splitters, switches, and breakers mounted on plywood wall panels located within the basement mechanical area. No ACM mounting panels were observed, and no PCB fluids were suspected in association with any of the electrical equipment.

Illumination within the building is predominately provided by newer fluorescent light fixtures that are not suspected to contain PCB ballasts.

Interior finishes within the building generally comprised suspended ceiling tiles, newer latex-based painted drywall, carpet floors and 12 x 12 in. vinyl and/or ceramic floor tiles. No older 9 by 9 in. asbestos-backed vinyl floor tiles observed.

The building is equipped with a small workshop in the basement. A flammable liquids storage cabinet was observed containing small quantities of paints and solvents for minor maintenance activities within the building. No surficial staining was observed on the concrete floor in the vicinity of the cabinet.

Truck Repair Garage (*Wilson Truck & Trailer*):

Heating within the building is provided by gas-fired overhead radiant heaters. No evidence of any heating oil storage tanks was noted. No asbestos-containing materials (ACMs) were observed in association with any of the mechanical equipment.

The domestic hot water supply is provided by one electric hot water heater located within the mezzanine storage area. Where observed, the copper pipelines associated with the hot water heaters were uninsulated. No ACMs were observed.

The electrical power supply is provided by splitters, switches, breakers and meters mounted on the plywood wall panels located within the parts storage area. No ACM mounting panels were observed and no PCB fluids were suspected in association with any of the electrical equipment.

Illumination within the building is predominately provided by newer fluorescent light fixtures that are not suspected to contain PCB ballasts.

Minor interior finishes within the ground floor and mezzanine office/parts storage areas of the building generally comprised suspended ceiling tiles, latex-based painted wall panels, and 12 by 12 in. vinyl floor tiles. No older 9 by 9 in. asbestos-backed vinyl floor tiles observed.

The truck repair garage was equipped with 11 drive-in bay doors and repair bays having above-ground hoists, with a trench floor drain connecting to a three-chamber oil/water separator located on the south side of the garage. No in-ground hydraulic hoists were observed. Within the truck repair garage, there were also two belowground truck service pits, four new oil ASTs and three waste oil ASTs; as well as numerous storage drums, pails, and other containers containing oils, lubricants, and fluids. Localized surficial staining was observed on the concrete floor and within the truck service pits. Furthermore, the chemical/oil storage containers/ASTs were generally stored on shelves or directly on the concrete floor and were not equipped with adequate secondary containment measures. For due diligence purposes, it is recommended that secondary containment be implemented for all chemical storage containers/ASTs in order to prevent any possible future releases.

Waste oil and waste oil filters associated with truck repair operations are collected by *Safety Kleen* on an as-needed basis for off-site recycling or disposal.

Our limited environmental inspection did not reveal any urea formaldehyde foam insulation (UFFI), or any radioactive materials within the building.

Nevertheless, based on the 1963 construction date of the office building (with subsequent additions in the 1980s) and the 1982 construction date of the truck repair garage (with subsequent additions in the 2000s), and the suspected ACMs associated with sections of pipe insulation in the basement of the office building, hazardous building materials may be present in both buildings. Therefore, Designated Hazardous Building Materials Surveys are recommended in which selected samples of building materials (including any suspected ACMs and lead-based paints) are collected and analyzed at an accredited laboratory. Any such substances should be abated in accordance with the relevant sections of the Occupational Health and Safety Act.

6.0 INTERVIEWS

A personal interview was conducted on May 2, 2019, with John Harriot of *CMHA* for additional information regarding the subject site. To Mr. Harriot's knowledge, the office building was constructed in 1963, with a second-storey addition in 1983. Mr. Harriot did not have any knowledge of any previous chemical spills, former or existing USTs, soil and/or groundwater contamination or remediation, or any other environmental concerns associated with the subject site or surrounding properties since *CMHA* became a tenant of the building in 2008.

A personal interview was also conducted on May 2, 2019, with Duane Wilson of *Wilson Truck & Trailer*. Mr. Wilson became a tenant of the truck repair garage building in 1993. He reported that two former fuel USTs (one for gasoline and one for Diesel) and associated pump island were removed from the parking area located southeast of the building and two former motor oil USTs (one for new oil and one for waste oil) were removed from the grassed area located west of the building circa 2004. Mr. Wilson was not aware of any soil or groundwater contamination on the property in association with the former USTs and he did not have any knowledge of any other environmental concerns associated with the subject site or surrounding properties since 1993.

7.0 ENVIRONMENTAL CONCERNS

Based on the findings of our historical records review, site reconnaissance, and personal interviews; potential on-site sources of soil and groundwater contamination included petroleum hydrocarbons (PHCs), heavy metals, and volatile organic compounds (VOCs) from the historical USTs and chemical usage in the former and existing truck repair operations associated with *Cronkwright Transport Limited* and *Wilson Truck & Trailer*.

The aforementioned potential environmental concerns were investigated in the course of our Phase II ESA, which entailed the drilling of a total of 18 boreholes (in two stages) to depths ranging from 3.0 to 7.6 m below the existing grade or finished concrete floor at strategically selected and accessible locations. Groundwater monitoring wells were installed in seven of the boreholes.

8.0 SITE ASSESSMENT CRITERIA

Site assessment criteria were selected by consideration of the site's geologic and hydrogeologic settings and guidance provided in the Ontario MOE document *Rationale for the Development of Soil and Ground Water Standards for Use at Contaminated Sites in Ontario* (April 2011). These criteria reference the document *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA*.

The site specific details which formed the basis of the criteria selection are provided in the following subsections.

8.1 Geologic and Hydrogeologic Settings

The subject site is located within a mixed rural/urban area of Norfolk County, in a broad physiographic region known as the *Norfolk Sand Plain*, which consists of a major sand and silt stratum (Chapman and Putnam, *The Physiography of Southern Ontario*, 1984).

The local topography is flat to gently sloping with geodetic ground surface elevations ranging between 215 and 220 m in the vicinity, and a gentle slope of approximately 1 % to the southeast, as shown in *Drawing 3*.

The *Pleistocene-era* geology of the area has been shaped by *Wisconsinan* glaciation and related meltwaters. The overburden ranges between 10 and 25 m in thickness and primarily consists of gravelly sands and silts believed to have been deposited in glacial lakes Whittlesey and Warren. Shallow bedrock consists of sedimentary strata of the *Ordovician Period*, typically limestone of the *Onondaga Formation*.

Patterson Creek runs within 30 m of the north property line, flowing east before mouthing into *Sutton's Pond* and subsequently *Lynn River* located within 1.5 km to the east. The local hydrogeology is controlled by these watercourses and the local topography, and is inferred to be directed northward. The regional groundwater table is anticipated to occur at depths greater than 5 m below grade, although locally perched conditions have been reported within the upper soils.

Local disruptions in groundwater flow direction may result from the presence of buried utility conduits beneath Queensway West and Hunt Street North.

8.2 Applicable Site Assessment Standards

The selection of the applicable MOE site assessment standards is schematically presented in *Figure 1*. The site specific details that formed the basis of the assessment standard selection are provided below:

Site Sensitivity:

- *Patterson Creek* runs within 30 m of the north property line;
- The site does not include, nor is it within 30 m of, an area of natural and scientific interest (ANSI);
- Up to 7.6 m of overburden was observed at the site during the borehole drilling program;
- Based on pH analysis conducted by **Bureau Veritas Laboratories**, the subsurface soil pH was measured as 8.16, and therefore within the allowable range of 5 to 11 for utilizing the MOE generic criteria.

Land Use:

- The site is developed for commercial/industrial land uses. No change in land use is anticipated.

Groundwater Use:

- The site and surrounding area is serviced by a municipal drinking water supply derived from off-site municipal groundwater wells greater than 250 m from the subject site. Nevertheless, the domestic water supply for the dwelling located contiguous with the north property line at 26 Hunt Street North was noted to be provided by a private potable water well.

Depth and Soil Texture Criteria Selection:

- For the purpose of the report, the assessment criteria corresponding to the full depth option will be used for comparison to the laboratory analytical results; and
- Based upon field observations, and a soil grain size analysis conducted by **Bureau Veritas Laboratories**, more than 2/3 of the site stratigraphy comprises medium to coarse sand. For the purpose of this report, the assessment criteria corresponding to coarse-textured soils were selected for comparison in laboratory analytical results.

Based on the above information and assumptions, the applicable EPA Site Condition Standards (SCS) selected for use at this site are:

- For portions of the property located greater than 30 m from *Patterson Creek*: The *Full Depth Generic SCS for Use in a Potable Groundwater Condition (Table 2)* for *commercial/industrial land uses with coarse-textured soils*.
- For portions of the property located within 30 m of *Patterson Creek*: The more sensitive *Generic SCS for Use within 30 m of a Water Body in a Potable Groundwater Condition (Table 8)* for *commercial/industrial land uses with coarse-textured soils*.

9.0 FIELDWORK, SAMPLING, AND LABORATORY TESTING

Fieldwork for this investigation comprised soil sampling from a total of 18 boreholes in two stages (BH1 through BH10 and BH101 through BH108) drilled to depths of 3.0 to 7.6 m below existing grade, with the sequential installation of seven monitoring wells (MW1, MW2, MW3, MW4, MW103, MW104 and MW107) at the locations shown on *Drawing 4* and in the photographs in *Appendix A*.

The borehole locations were established in the field by **AiMS Environmental** engineers and technicians prior to drilling and arrangements were made with **Ontario One Call** and **On-Site Locates** to locate and clear buried utility lines including telephone cables, natural gas mains, and electrical ductwork. All underground lines noted were identified on the ground by marking paint of various colours.

The boreholes were advanced by using a *Geoprobe 7822DT* direct push machine equipped with dual-tube samplers, supplied and operated by **Strata Drilling Group** on March 24 and April 28, 2020. The aforementioned field work was completed under the direction of **AiMS Environmental** technicians/engineers.

Upon completion of drilling, the ground surface elevations were determined at the borehole locations using a surveyor's level and metric rod. The levels were determined with reference to the following benchmark (B.M.):

B.M. Geodetic Survey of Canada Benchmark 72U334 located on northwest end of Hunt Street bridge over *Patterson Creek*, as shown in *Drawing 4*.

Elevation 215.720 (metric) geodetic datum.

9.1 Soil Sampling and Screening

Continuous representative samples of the subsurface materials were recovered at each of the borehole locations. The soil stratigraphy was logged in detail during drilling as representative soil samples were collected with the dual-tubes. Visual observations of any foreign materials or unusual odours were also recorded on the borehole logs. The *Borehole Logs* are presented in *Appendix I*.

Soil samples were split into portions that were collected into laboratory-prepared containers and plastic bags. Head space soil vapour concentrations were determined by allowing the bags to warm up to ambient temperature, probing into the partially opened bags using a monitoring probe, and measuring the sample head space with a portable *RKI Eagle* OVM. The OVM readings were recorded in parts per million (ppm) or percentage of the lower explosive limit (% LEL) equivalent of a hexane calibrant gas.

9.2 Groundwater Sampling

Upon completion of drilling, a 32-mm diameter polyvinyl chloride (PVC) monitoring well casing and riser was installed in seven of the 18 boreholes for groundwater monitoring. No glue was used in the construction of the monitoring wells. Clean silica sand backfill was placed in the borehole annulus over the screened portion of the monitoring well. A bentonite seal was placed at the upper annulus in order to prevent any infiltration of surface waters. The well completion diagram is also shown on the borehole logs.

On March 26, 2020, groundwater levels were measured in the four newly installed monitoring wells at depths of 4.26 m (MW1), 4.46 m (MW2), 3.46 m (MW3) and 4.58 m (MW4) below existing grade.

On April 28, 2020, groundwater levels were subsequently measured in the seven newly installed monitoring wells at depths of 4.31 m (MW1), 4.50 m (MW2), 3.54 m (MW3) 4.61 m (MW4), 4.72 m (MW103), 4.45 m (MW104), and 4.50 m (MW107) below existing grade.

The groundwater levels were measured using an interface probe in order to detect any product thickness. Furthermore, during well purging and sampling, the groundwater was inspected in each well for visual or olfactory evidence of environmental impact including presence of non-aqueous phase liquids (NAPLs), sheen (iridescence), odour, and colour. Although a faint PHC odour was noted in the groundwater sample collected from MW4; none of the groundwater collected from the site either during well development and purging, or during sampling exhibited evidence of the presence of any light or dense NAPLs.

The wells were purged to waste and fresh groundwater samples were drawn for chemical analyses using a low-flow peristaltic pump (with dedicated tubing) to minimize the volatilization and entrainment of sediment.

9.3 Laboratory Testing Protocols

Based on the field observations and the results of soil headspace screening, 22 “worst case” soil samples representative of fill materials and native soils underlying the subject site and groundwater samples from all four of the monitoring wells were submitted to **Bureau Veritas Laboratories**, an accredited environmental laboratory, for the following analyses:

- PHC fraction F₁ with benzene, toluene, ethylbenzene and total xylenes (BTEX) on 13 soil and five groundwater samples;
- PHC fractions F₂-F₄ on 12 soil and five groundwater samples;
- Heavy metals on five soil and three groundwater samples;
- VOCs on two soil and two groundwater samples;
- pH on one soil sample;
- Grain Size analysis on one subsoil sample; and
- Toxicity characteristic leaching procedure (TCLP) analyses on one composite soil sample;

The *Laboratory Certificates of Analyses* are reproduced in *Appendix J* and the results of the analytical testing are further summarized in *Subsection 9.4*.

9.4 Quality Assurance/Quality Control

During the course of the fieldwork, soil sampling equipment was routinely cleaned in order to prevent cross-contamination between samples. All sample jars were laboratory-prepared. The jars were clearly labelled and their contents recorded on the *Borehole Logs* in *Appendix I*.

Chain-of-Custody forms, which included sample identification, location, sampling date, and the analyses prescribed were also completed in the field and delivered to the laboratory together with the cooled samples within the laboratory-specified holding times.

The analytical results from the laboratory were reviewed and considered to be of acceptable quality with no discrepancies noted. The laboratory certificates showing the quality assurance/control testing protocols and results are reproduced in *Appendix J*.

10.0 SUMMARIZED SUBSURFACE CONDITIONS

Subsequent reference is made to *Appendix I* for details of the fieldwork, including soil classification, inferred stratigraphy, OVM readings, and observed groundwater conditions.

10.1 Stratigraphy

The observed soil stratigraphy generally comprised comprised asphalt pavement, concrete floor slab or topsoil fill overlying silty sand and/or sand and gravel fill, which were underlain by strata of sandy silt and/or medium to coarse sand, as described in the following paragraphs:

Sand and Gravel Fill comprising grey/brown sand and gravel was encountered in two boreholes at a depth range of ground surface to 0.6 m below existing grade.

Topsoil Fill comprising dark brown topsoil with trace rootlets was encountered in one borehole at a depth range of ground surface to 1.5 m below existing grade.

Silty Sand Fill comprising silty sand with some gravel was encountered in 16 boreholes at a depth range of ground surface to 4.4 m below existing grade.

Sandy Silt comprising brown/dark brown to grey sandy silt with some clay was encountered in all 18 boreholes at a depth range of 0.8 to 6.1 m below existing grade. Petroleum odours and/or staining were observed in this layer in five boreholes (BH4, BH6, BH101, BH102 and BH106).

Medium to Coarse Sand comprising brown sand with some gravel and trace silt was encountered in 13 boreholes at a depth range of 0.5 m to 7.6 m below existing grade. Petroleum odours and/or staining were observed in this layer in three boreholes (BH4, BH102 and BH108).

10.2 Groundwater Conditions

On March 26, 2020, groundwater levels were measured in the four newly installed monitoring wells at depths of 4.26 m (MW1), 4.46 m (MW2), 3.46 m (MW3) and 4.58 m (MW4) below existing grade. The groundwater levels were subsequently measured in the seven newly installed monitoring wells on April 28, 2020 at depths of 4.31 m (MW1), 4.50 m (MW2), 3.54 m (MW3) 4.61 m (MW4), 4.72 m (MW103), 4.45 m (MW104), and 4.50 m (MW107) below existing grade.

Based on the measured groundwater elevations and the surmised influence of *Patterson Creek*, the local groundwater flow is inferred to be directed northward.

10.3 Soil Vapour Screening

Sample headspace screening with the OVM yielded readings ranging from non-detect to 50 % LEL referenced to a hexane calibrant gas. These readings in conjunction with the field observations were considered to select soil samples for laboratory analyses.

10.4 Findings of Chemical Analyses

The results of the chemical analyses are reported on the *Laboratory Certificates of Analysis* which have been reproduced in *Appendix J*.

In comparison with the 2011 Ontario *Soil, Ground Water, and Sediment Standards for Use Under Part XV.1* of the EPA criteria, the results of laboratory analyses on all 22 soil samples and seven groundwater samples indicated that the measured contaminant concentrations generally complied with the Table 2 SCS for commercial/industrial land uses with coarse-textured soils in a potable groundwater condition, with the exception of two soil samples and one groundwater sample.

Soil sample BH6-2 (collected from BH6 at a depth range of 1.4 to 2.3 m below existing grade) had PHC fraction F₁, ethylbenzene, and total xylenes concentrations of 79 µg/g, 3.9 µg/g, and 28 µg/g, respectively, which exceeded the Table 2 criteria of 55 µg/g for F₁, 1.1 µg/g for ethylbenzene, and 26 µg/g for total xylenes; and soil sample BH102-7 (collected from BH102 at a depth range of 5.6 to 5.8 m below existing grade) had PHC fraction F₁, PHC fraction F₂, and ethylbenzene concentrations of 1400 µg/g, 2500 µg/g, and 26 µg/g, respectively, which exceeded the Table 2 criteria of 55 µg/g for F₁, 230 µg/g

for F₂, and 1.1 µg/g for ethylbenzene, as shown in *Drawing 5*. Finally, groundwater sample MW4 had PHC fraction F₂ and ethylbenzene concentrations of 270 µg/L and 66 µg/L, respectively, which exceeded the Table 2 criteria of 150 µg/L for F₂ and 2.4 µg/L for ethylbenzene, also shown in *Drawing 5*.

A TCLP test conducted in accordance with *Ontario Regulation 558/00* on a composite sample of the contaminated soils confirmed that the soils can be characterized as *non-hazardous solid waste* for off-site disposal at a MECP-approved facility.

10.5 Contamination Assessment

Based on the aforementioned findings, field observations, and the results of all laboratory analyses in comparison with the 2011 EPA Table 2 SCS, soil contamination by PHCs has been confirmed in Boreholes 6 and 102 located in the southeast part of the subject property. For preliminary estimating purposes, it is surmised that the area surrounding BH6 and BH102 having PHC concentrations in soil exceeding the EPA standards consists of an approximate area of 150 m², with an average depth of 1.5 m in the zones of impact (being approximately 1.4 to 3.0 m below existing grade in the vicinity of BH6, and 4.5 to 5.8 m below existing grade in the vicinity of BH102), as shown in *Drawing 6*. Assuming a soil unit weight of 2 tonnes/m³, this would give a yield of approximately 450 tonnes.

Furthermore, based on the results of laboratory analyses on all groundwater samples, as well as the inferred influence of the soil impacts in contributing to the groundwater contamination plume, a preliminary estimate of the plume surrounding the soil impacted area having PHC concentrations in groundwater exceeding the EPA standards consists of an area with an approximate radius of 10 m, or approximately 315 m², also shown in *Drawing 6*.

11.0 DISCUSSION AND RECOMMENDATIONS

Historically, the subject site was developed with a single-storey office building and small truck repair garage in 1963, with *Cronkwright Transport Limited* as the original sole tenant. The original truck repair building was later demolished, and a new truck repair garage, along with a second-storey addition to the office building, was constructed in 1982. A north addition to the existing truck repair garage was completed in 2000.

Wilson Truck & Trailer has been a tenant of the truck repair garage since 1993 and *CMHA* has been a tenant of the office building since 2008.

According to an environmental database search, *Cronkwright Transport Limited* had two associated steel, single-walled USTs for gasoline and Diesel located to the southeast of the truck repair garage building; and two historical records of spills of motor oil to the ground from new and waste motor oil USTs located to the west of the garage building was associated with *Wilson Truck & Trailer*. The gasoline, Diesel and new/waste oil USTs were reportedly removed circa 2004.

Based on the findings of our historical records review, site reconnaissance, and personal interviews; potential on-site sources of soil and groundwater contamination would include PHCs, heavy metals, and VOCs from the historical USTs and chemical usage in the former and existing truck repair operations associated with *Cronkwright Transport Limited* and *Wilson Truck & Trailer*.

The aforementioned potential environmental concerns were investigated in the course of our Phase II ESA, which entailed the drilling of a total of 18 boreholes (in two stages) to depths ranging from 3.0 to 7.6 m below the existing grade or finished concrete floor at strategically selected and accessible locations. Groundwater monitoring wells were installed in seven of the boreholes.

The observed soil stratigraphy generally comprised asphalt pavement, concrete floor slab or topsoil fill overlying silty sand and/or sand and gravel fill, which were underlain by strata of sandy silt and/or medium to coarse sand. Significant petroleum odours or staining were noted in six boreholes (BH4, BH6, BH101, BH102, BH106 and BH108) at depths ranging between 1.4 m and 5.8 m below existing grade.

Static groundwater levels were measured in the seven newly installed monitoring wells at depths ranging between 3.46 m and 4.72 m below existing grade. Based on the site topography and the measured groundwater elevations, the local groundwater flow is inferred to be directed north toward *Patterson Creek*.

Based on the field observations and the results of soil headspace screening, 22 “worst case” soil samples underlying the subject site and seven groundwater samples were submitted for laboratory analyses of PHCs including BTEX; VOCs and/or heavy metals.

One representative subsurface soil sample was also submitted for soil grain size analysis and was classified as a coarse-textured soil type.

In comparison with the 2011 Ontario *Soil, Ground Water, and Sediment Standards for Use Under Part XV.1* of the EPA criteria, the results of laboratory analyses on all 22 soil samples and seven groundwater samples indicated that the measured contaminant concentrations generally complied with the Table 2 SCS for commercial/industrial land uses with coarse-textured soils in a potable groundwater condition, with the exception of two soil samples (sample BH6-2 collected from BH6 and sample BH102-7 collected from BH102) and one groundwater sample (MW4), which exceeded the Table 2 SCS for one or more PHC constituents.

For preliminary estimating purposes, it is surmised that approximately 450 tonnes of PHC-contaminated soils exist in the southeast part of the subject property surrounding BH6 at depths ranging from 1.4 m to 3.0 m below grade, and surrounding BH102 at depths ranging from 4.5 m to 5.8 m below grade, likely attributable to leaks or spills from the gasoline/Diesel USTs and associated fuel pumps formerly located in this area. Furthermore, a preliminary estimate of the impacted groundwater plume surrounding the contaminated soils consists of an area of approximately 315 m². For cleanup purposes, the untainted overburden should be removed for stockpiling and re-use on-site if possible, followed by the excavation of the contaminated soils over the said depth ranges. These should then be disposed of at a registered landfill or approved soil recycling facility by a licensed waste handler in accordance with *Ontario Regulation 558/00* provisions. The impacted groundwater plume would then be expected to attenuate naturally over time upon removal of the source impacted soils; however, remediation of the groundwater could be accelerated by pumping of the impacted water for off-site disposal, and/or in-situ chemical treatment.

It is understood that quotes are being provided to you separately by a licensed contractor for excavation and off-site disposal of the contaminated soils followed by pumping and in-situ treatment of the impacted groundwater. **AiMS Environmental** can assist you with engineering oversight necessary to observe and report on the progress of the site remediation.

Alternatively, an Environmental Risk Assessment (ERA) can be undertaken to determine if the contaminated soils and groundwater can remain in place without the need for any remediation or engineered controls.

Finally, it is recommended that the monitoring wells be preserved for future monitoring purposes. If any monitoring wells become damaged or are no longer required, they should be decommissioned in accordance with *Ontario Regulation 903*.

12.0 LIMITATIONS

Services performed by **AiMS Environmental** were conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the environmental engineering and consulting profession.

This report does not exhaustively cover an investigation of all possible environmental conditions or circumstances that may exist on the subject property. If a service is not expressly indicated, it should not be assumed that it was provided. Reference is made to *Section 2.0* for the *Scope of Work*.

In evaluating the subject site, **AiMS Environmental** has relied in good faith on information provided by any individuals noted in the report. We assume that the information provided is factual and accurate. We accept no responsibility for any deficiencies, misstatements, or inaccuracies contained in this report as a result of omissions, misrepresentation or fraudulent acts of any persons interviewed or contacted.

It should be noted that the results of the chemical analyses reviewed referred only to the soil samples collected from the specific noted locations, and soil conditions may vary between and beyond the locations of the samples tested.

Any site cleanup estimates provided are strictly preliminary or Class D estimates as defined by the *Treasury Board of Canada*.

It should be recognized that the passage of time affects the information provided in this report. Environmental conditions of a site can change. Opinions relating to the site conditions are based upon information that existed at the time the conclusions were formulated. It should also be noted that current environmental guidelines and regulations are subject to change, and such changes, when put into effect, could alter the conclusions and recommendations noted in this report.

13.0 CLOSURES AND SIGNATURES

AiMS Environmental, its officers and employees, have no present or contemplated interest in the subject property. Our compensation for preparing this environmental report is not contingent upon any of the findings or our observations and conclusions.

The individual professionals involved in the completion of this Phase I and Phase II ESA are provided in the Statement of Assessor Qualifications attached at the end of this report.

We trust you will find this report to be complete within our terms of reference. Should you have any questions regarding the environmental report, please contact our office.

Sincerely,

AiMS Environmental



Damian Khan, M.Env.Sc.
Environmental Scientist



Forry Fong, P.Eng.
Project Manager



STATEMENT OF ASSESSOR QUALIFICATIONS

Damian Khan, M.Env.Sc.

Phase I/II Environmental Site Assessments (ESAs)

This Phase I/II ESA report was conducted and written by Mr. Damian Khan, M.Env.Sc., under the direction of Mr. Sidney Joseph, P.Eng., and/or Mr. Forry Fong, P.Eng., both Designated Consulting Engineers with *AiMS Environmental*.

Mr. Khan is a graduate of the University of Toronto, with a Master of Environmental Science. Mr. Khan is also a graduate of York University (Toronto), with a Bachelor of Science (Honours) in Biology, and holds a Graduate Certificate in Environmental Management and Assessment from Niagara College (Niagara-on-the-Lake). He has 10 years of experience in the environmental field conducting Phase I/One and Phase II/Two ESAs in accordance with the *Canadian Standards Association (CSA) Z768-01 and Z769-00* environmental protocols, Schedules D and E of *Ontario Regulation 153/04*, the *Consulting Engineers of Ontario's Generally Accepted Standards for Environmental Investigations*, and the *Canadian Mortgage and Housing Corporation (CMHC)* environmental site investigation procedures for mortgage loan insurance, and is also a Certified Environmental Professional with *Eco Canada*.

Mr. Khan has also gained experience in conducting Designated Hazardous Material Inspections; specifically – the sampling, analyses, and identification of asbestos-containing materials (ACMs) and lead-based paints (LBPs).

rev. January 2020

STATEMENT OF ASSESSOR QUALIFICATIONS

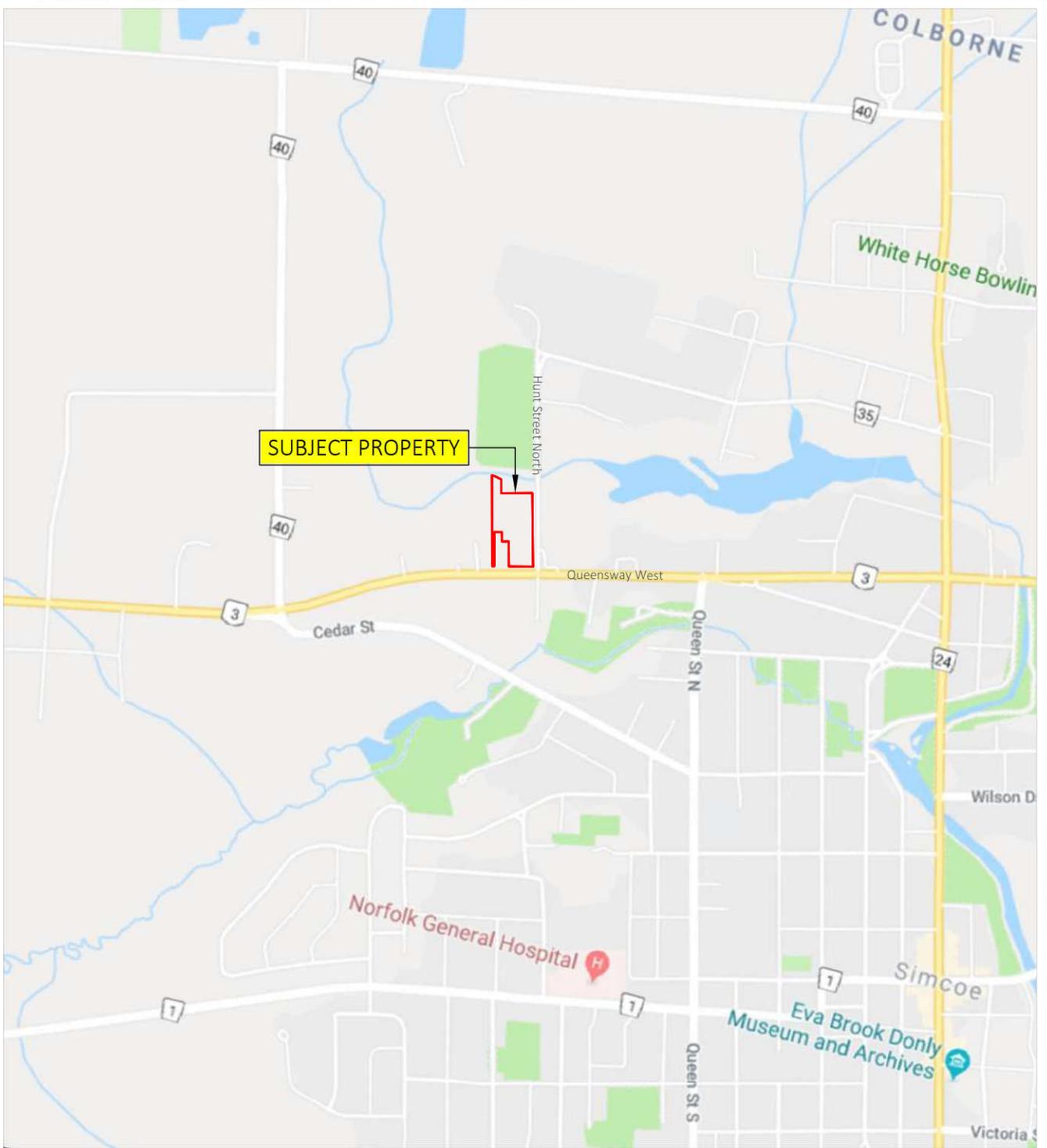
Forry Fong, P. Eng.

Mr. Fong is a graduate of University of Waterloo, with a Bachelor of Applied Science Degree in Civil Engineering. He became a Professional Engineer in 1987 and has been designated as a Consulting Engineer with the Professional Engineers of Ontario (PEO) since 1999. Mr. Fong has been working in the environmental field for over 25 years and has since conducted and managed over 2,000 environmental projects including Phase I and Phase II environmental site assessments (ESAs); geo-environmental subsurface investigations; contaminant characterizations; site decommissioning and remediations; and environmental building inspections. Mr. Fong has been registered as a Qualified Person (QP) for Environmental Site Assessments under Ontario Regulation 153/04 since 2004.

He has extensive experience in the preparation of proposals, workplans, and remedial options for a wide variety of projects. His recent accomplishments include conducting performing detailed technical evaluations of cleanup reports; supervising underground storage tank identification and removal projects; and organizing *in-situ* remediations by chemical injections.

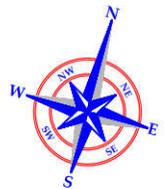
Mr. Fong also ensures that *AiMS Environmental* professional services are provided to the highest engineering standards and that our environmental projects fully comply with all relevant guidelines and ministry regulations.

rev. January 2020



LEGEND

 Property Limits



Drawing Title:

KEY MAP

Address: 395-401 QUEENSWAY WEST
NORFOLK COUNTY, ONTARIO

File Name:
AR128-19 K001

Project No.:
AR128-19

Scale:



1 : 15 000

Paper Size:
8.5 x 11 in

Completed by:
VA

Drawing No.:

Date:
2019/05/21

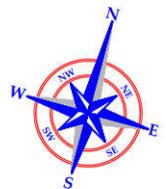
Reviewed by:
SJ

1



LEGEND

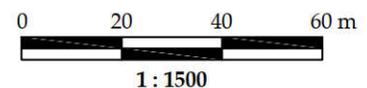
 Property Limits



Drawing Title:

SITE PLAN

Scale:



Address: 395-401 QUEENSWAY WEST
NORFOLK COUNTY, ONTARIO

Paper Size:
8.5 x 11 in

Completed by:
VA

Drawing No.:

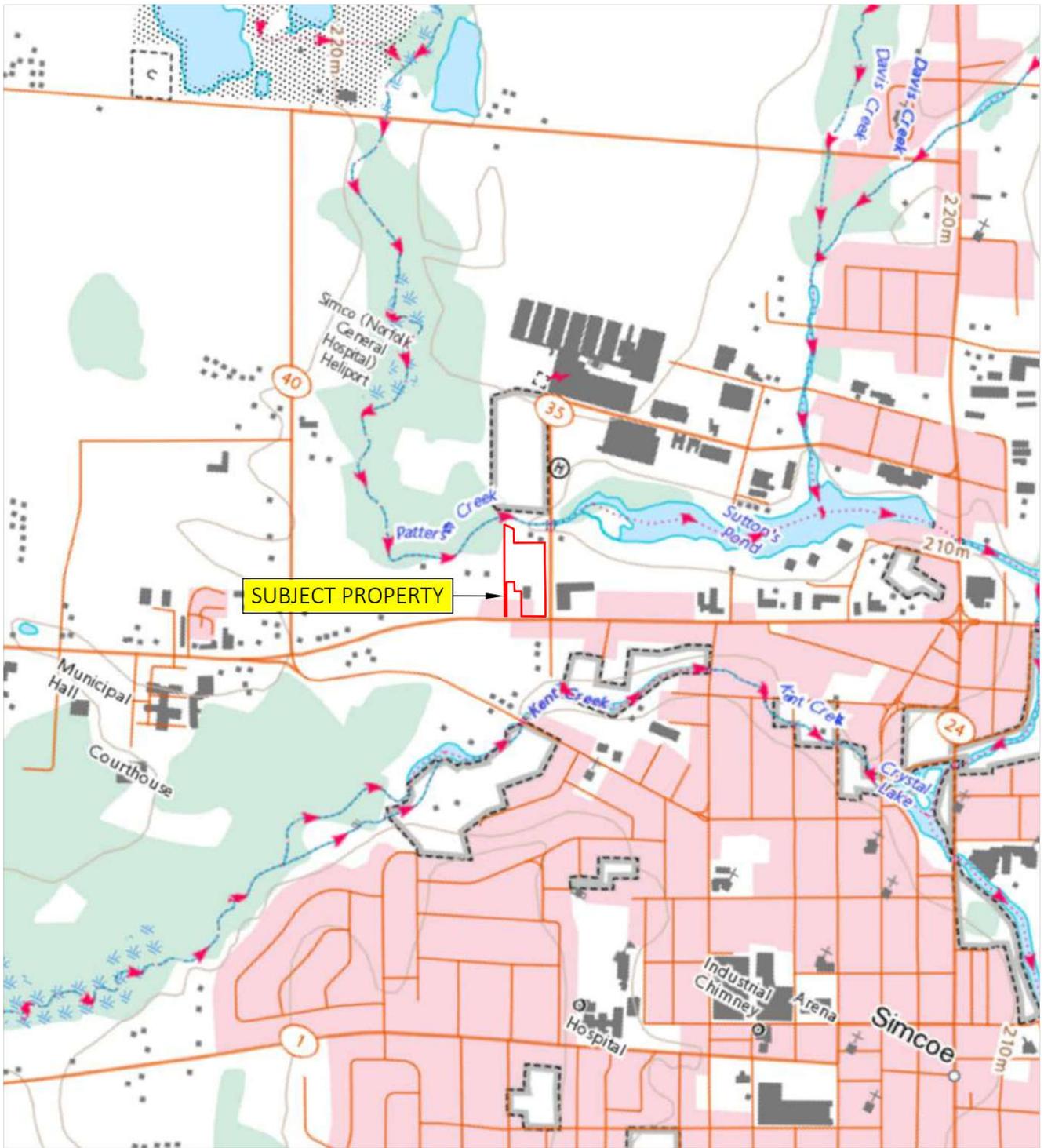
2

File Name:
AR128-19 S001

Project No.:
AR128-19

Date:
2019/05/14

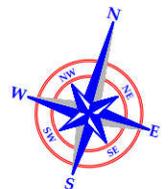
Reviewed by:
SJ



LEGEND

 Property Limits

 Water Flow Direction



Drawing Title:

TOPOGRAPHIC VIEW

Address: 395-401 QUEENSWAY WEST
NORFOLK COUNTY, ONTARIO

File Name:
AR128-19 M001

Project No.:
AR128-19

Scale:

0 150 300 750 m



1 : 15 000

Paper Size:
8.5 x 11 in

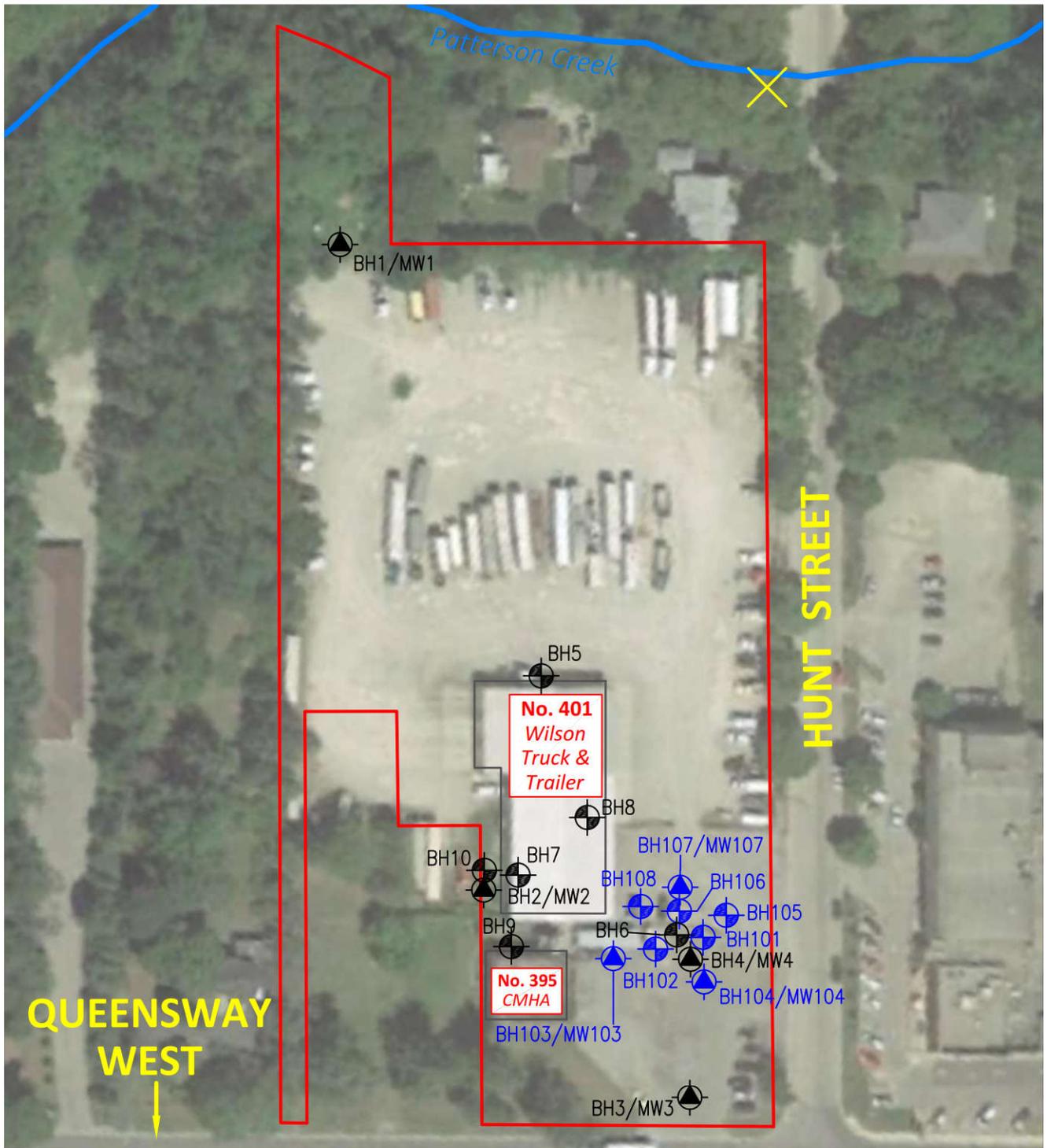
Completed by:
VA

Drawing No.:

Date:
2019/05/15

Reviewed by:
SJ

3



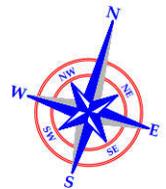
LEGEND

Property Limits

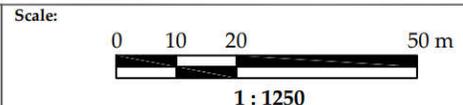
AiMS Borehole/Monitoring Well (March 24, 2020)

AiMS Borehole/Monitoring Well (April 28, 2020)

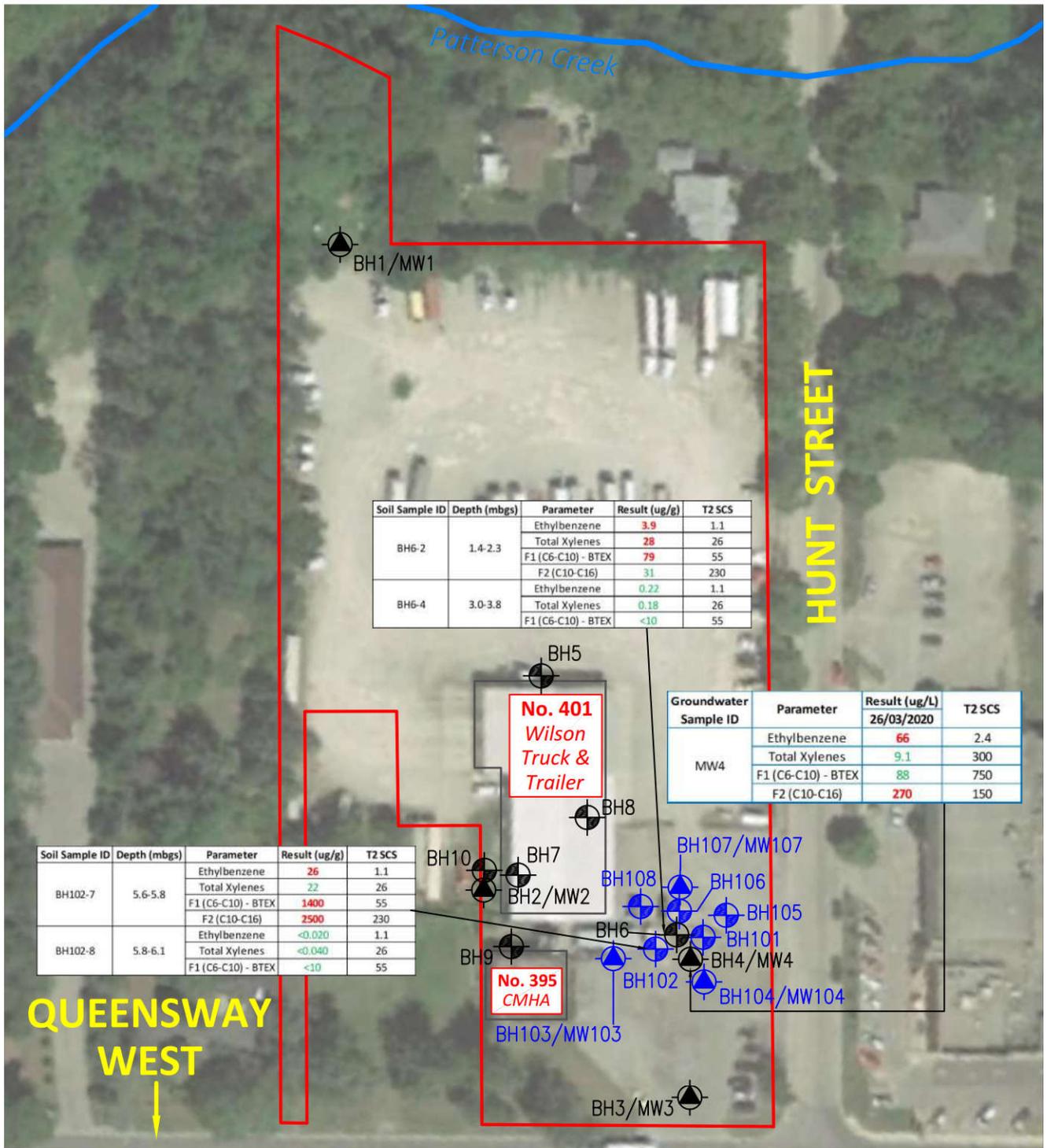
Elevation Benchmark



Drawing Title:
**BOREHOLE
 LOCATION PLAN**
 Address: 395-401 QUEENSWAY WEST
 NORFOLK COUNTY, ONTARIO
 File Name: AR128A-19 D004 Project No.: AR128A-19



Paper Size: 8.5 x 11 in	Completed by: DK	Drawing No.: 4
Date: 2020/05/08	Reviewed by: FF	



Soil Sample ID	Depth (mbgs)	Parameter	Result (ug/g)	T2 SCS
BH6-2	1.4-2.3	Ethylbenzene	3.9	1.1
		Total Xylenes	28	26
		F1 (C6-C10) - BTEX	79	55
		F2 (C10-C16)	31	230
BH6-4	3.0-3.8	Ethylbenzene	0.22	1.1
		Total Xylenes	0.18	26
		F1 (C6-C10) - BTEX	<10	55

Groundwater Sample ID	Parameter	Result (ug/L)	T2 SCS
		26/03/2020	
MW4	Ethylbenzene	66	2.4
	Total Xylenes	9.1	300
	F1 (C6-C10) - BTEX	88	750
	F2 (C10-C16)	270	150

Soil Sample ID	Depth (mbgs)	Parameter	Result (ug/g)	T2 SCS
BH102-7	5.6-5.8	Ethylbenzene	26	1.1
		Total Xylenes	22	26
		F1 (C6-C10) - BTEX	1400	55
		F2 (C10-C16)	2500	230
BH102-8	5.8-6.1	Ethylbenzene	<0.020	1.1
		Total Xylenes	<0.040	26
		F1 (C6-C10) - BTEX	<10	55

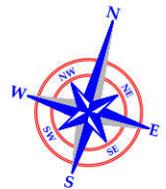
QUEENSWAY WEST

HUNT STREET

LEGEND

- Property Limits
- AiMS Borehole/Monitoring Well (March 24, 2020)
- AiMS Borehole/Monitoring Well (April 28, 2020)

T2 SCS Ontario Table 2 Site Condition Standards for Commercial/Industrial Land Uses with Coarse-Textured Soils in a Potable Groundwater Condition

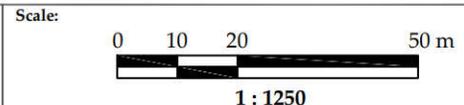


Drawing Title:
IMPACTED BOREHOLE LOCATIONS

Address: 395-401 QUEENSWAY WEST
NORFOLK COUNTY, ONTARIO

File Name: AR128A-19 D005

Project No.: AR128A-19



Paper Size:
8.5 x 11 in

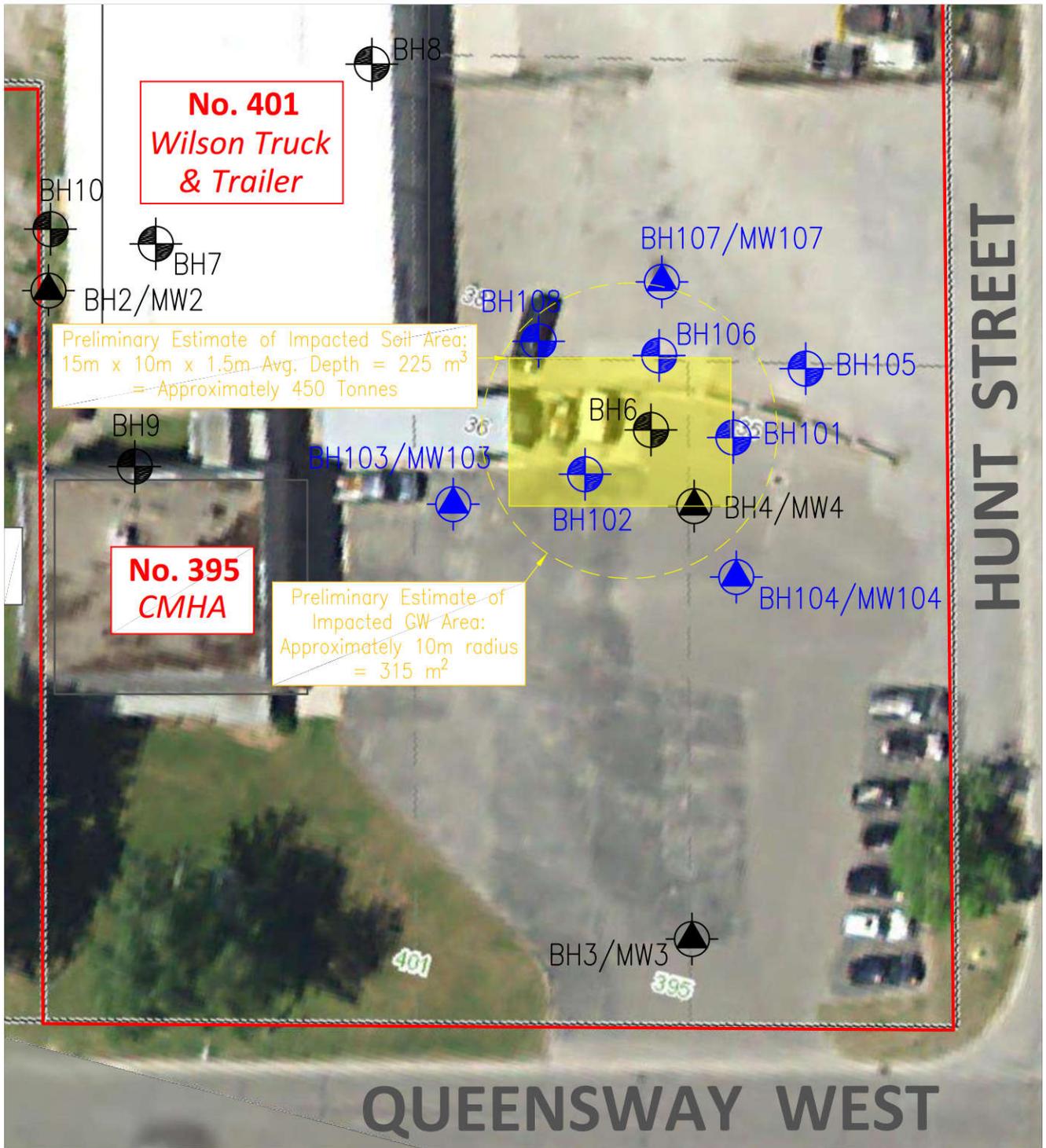
Completed by:
DK

Drawing No.:

Date:
2020/05/08

Reviewed by:
FF

5



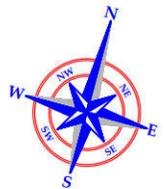
LEGEND

Property Limits

AiMS Borehole/Monitoring Well (March 24, 2020)

AiMS Borehole/Monitoring Well (April 28, 2020)

T2 SCS Ontario Table 2 Site Condition Standards for Commercial/Industrial Land Uses with Coarse-Textured Soils in a Potable Groundwater Condition



Drawing Title:
**PRELIMINARY ESTIMATE OF
PHC-IMPACTED AREA**

Address: **395-401 QUEENSWAY WEST
NORFOLK COUNTY, ONTARIO**

File Name:
AR128B-19 D006

Project No.:
AR128A-19

Scale:
 1 : 400

Paper Size:
8.5 x 11 in

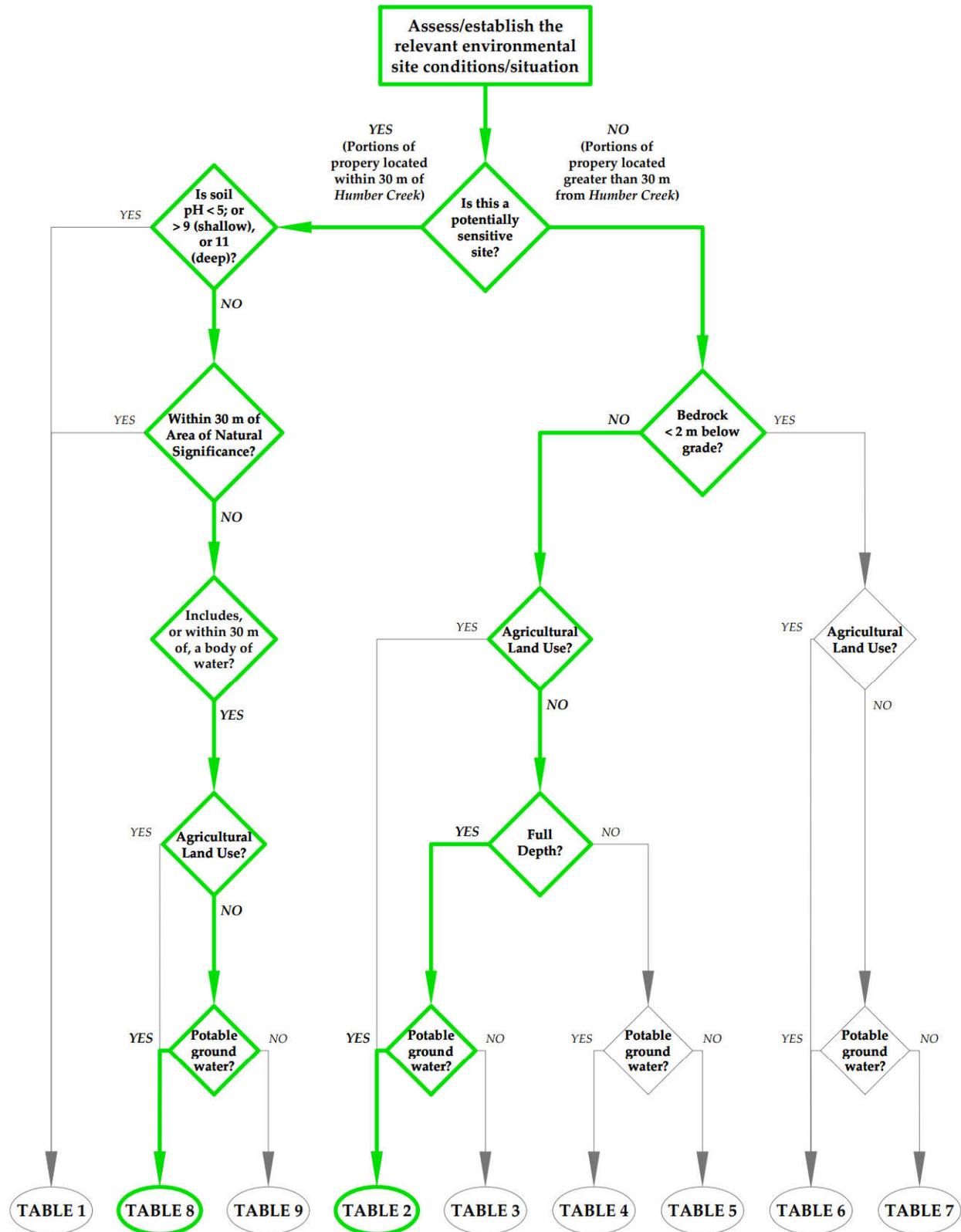
Completed by:
DK

Drawing No.:

Date:
2020/05/08

Reviewed by:
FF

6



In accordance with Part IX, Sections 34 to 43.1, of Ontario Regulation 153/04 (as amended) under the Environmental Protection Act



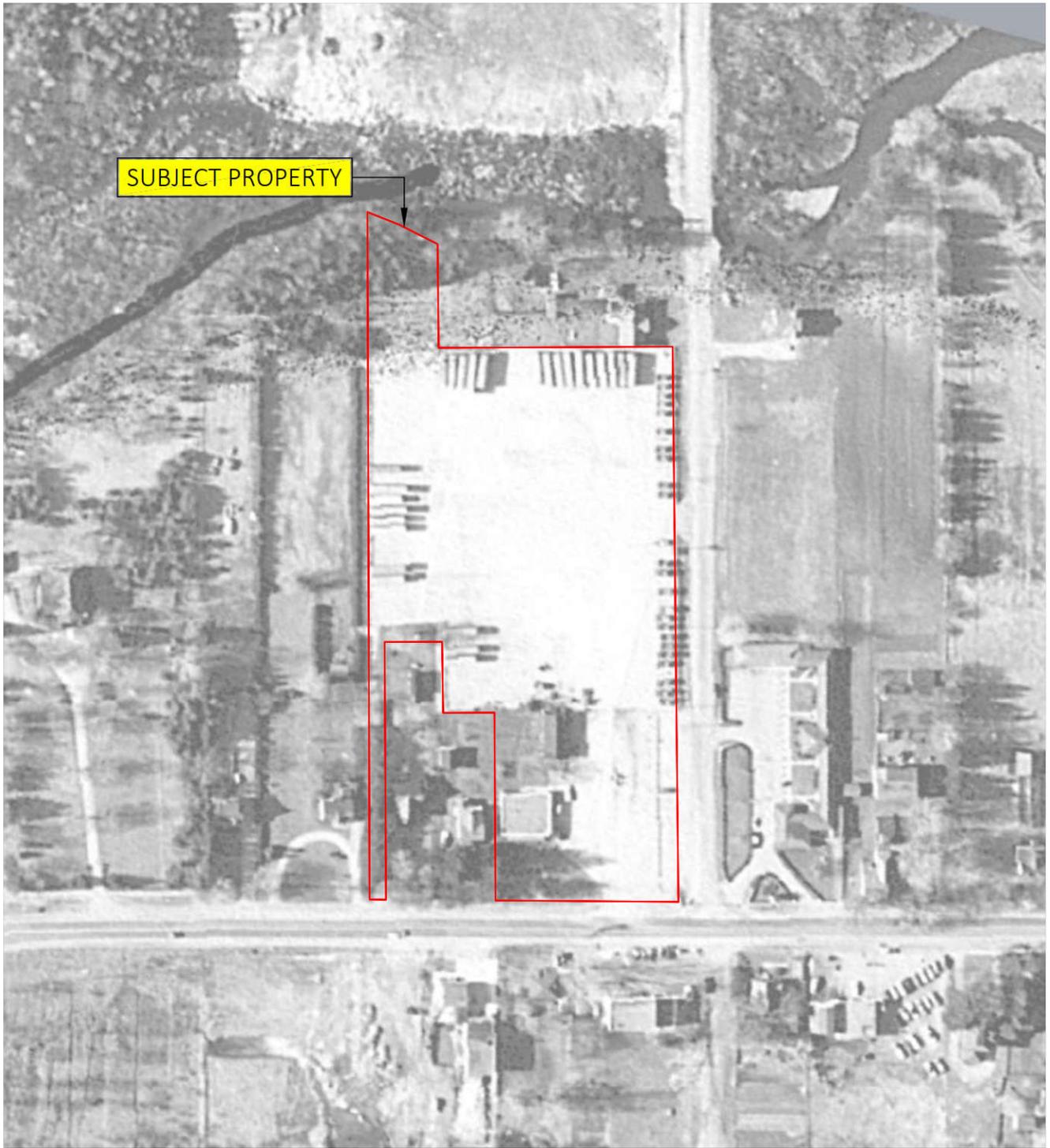
Drawing Title:
SITE CRITERIA SELECTION
 Address: 395-401 Queensway West
 Norfolk County, Ontario
 File Name: AR128A-19 SCS Project No.: AR128A-19

Scale:
NOT TO SCALE
 Paper Size: 8.5 x 11 in Completed by: DK
 Date: 2020/02/23 Reviewed by: FF
 Figure No.: **1**

AIMS DRAWING TEMPLATE 8.5 x 11 in - OCTOBER 2017

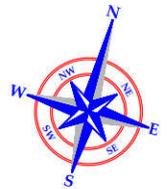
APPENDIX A

SITE PHOTOGRAPHS



LEGEND

 Property Limits



Photograph Title:
1964 AERIAL PHOTOGRAPH

Address:
**395-401 QUEENSWAY WEST
NORFOLK COUNTY, ONTARIO**

File Name:
AR128-19 A001

Project No.:
AR128-19

Scale:
0 40 80 m

1 : 2000

Paper Size:
8.5 x 11 in

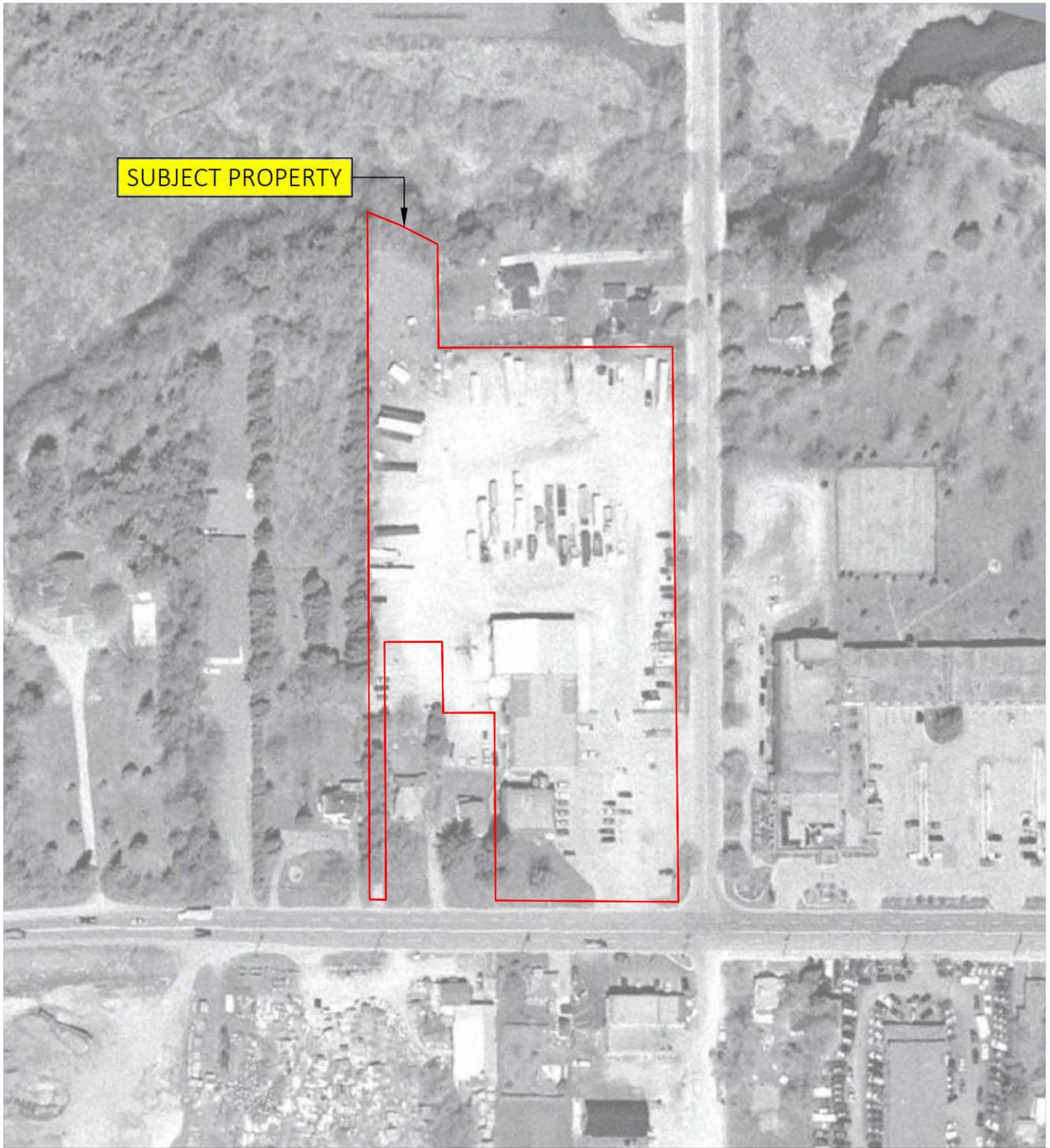
Completed by:
VA

Photograph No.:

Date:
2019/05/14

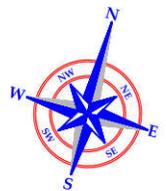
Reviewed by:
SJ

1



LEGEND

— Property Limits



Photograph Title:
2002 AERIAL PHOTOGRAPH

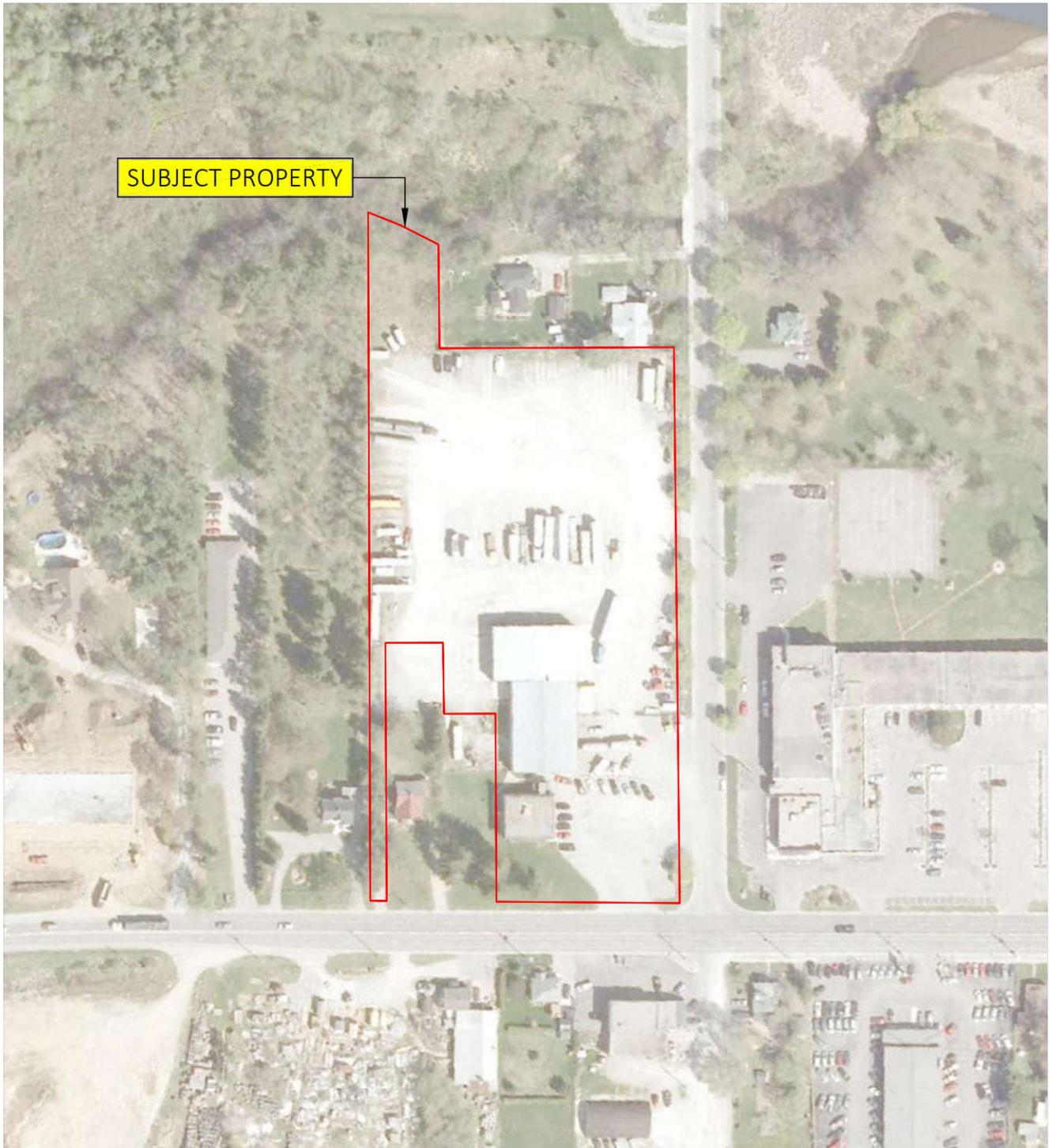
Address: **395-401 QUEENSWAY WEST
 NORFOLK COUNTY, ONTARIO**

File Name: **AR128-19 A001** Project No.: **AR128-19**

Scale:

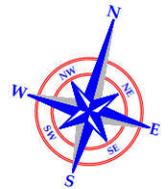
 1 : 2000

Paper Size: 8.5 x 11 in	Completed by: VA	Photograph No.: 2
Date: 2019/05/14	Reviewed by: SJ	



LEGEND

 Property Limits



Photograph Title:
2006 AERIAL PHOTOGRAPH

Address: **395-401 QUEENSWAY WEST
NORFOLK COUNTY, ONTARIO**

File Name:
AR128-19 A001

Project No.:
AR128-19

Scale:

1 : 2000

Paper Size:
8.5 x 11 in

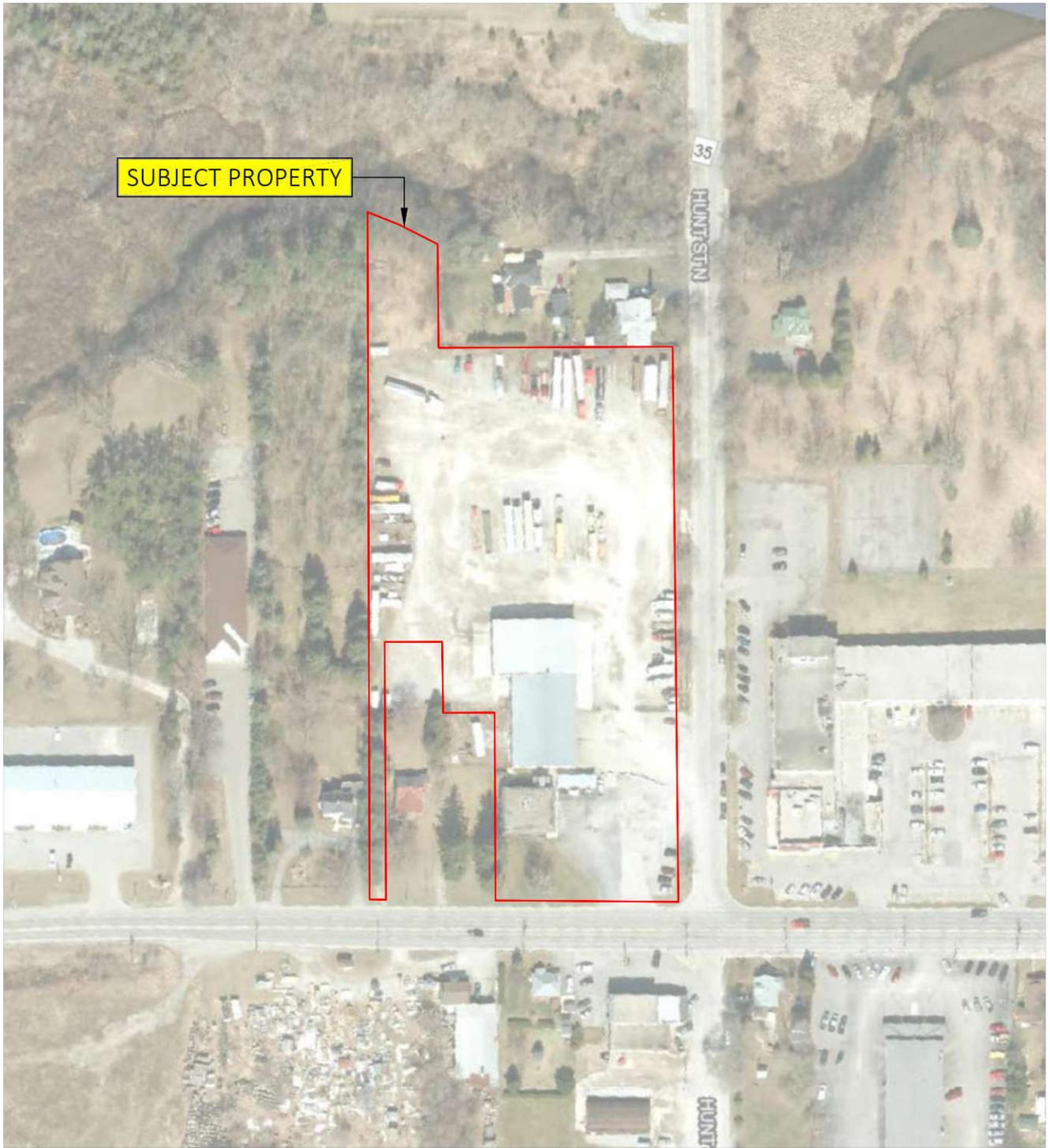
Date:
2019/05/14

Completed by:
VA

Reviewed by:
SJ

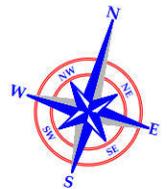
Photograph No.:

3



LEGEND

 Property Limits



Photograph Title:
2010 AERIAL PHOTOGRAPH

Address: **395-401 QUEENSWAY WEST
NORFOLK COUNTY, ONTARIO**

File Name:
AR128-19 A001

Project No.:
AR128-19

Scale:
0 40 80 m



1 : 2000

Paper Size:
8.5 x 11 in

Completed by:
VA

Date:
2019/05/14

Reviewed by:
SJ

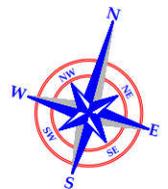
Photograph No.:

4



LEGEND

 Property Limits



Photograph Title:
2015 AERIAL PHOTOGRAPH

Address: **395-401 QUEENSWAY WEST
NORFOLK COUNTY, ONTARIO**

File Name:
AR128-19 A001

Project No.:
AR128-19

Scale:

1 : 2000

Paper Size:
8.5 x 11 in

Date:
2019/05/14

Completed by:
VA

Reviewed by:
SJ

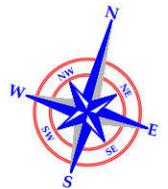
Photograph No.:

5



LEGEND

 **Property Limits**



Photograph Title: 2018 AERIAL PHOTOGRAPH	Scale:  1 : 2000		
	Address: 395-401 QUEENSWAY WEST NORFOLK COUNTY, ONTARIO	Paper Size: 8.5 x 11 in	Completed by: VA
File Name: AR128-19 A001	Project No.: AR128-19	Date: 2019/05/14	Reviewed by: SJ



Photograph 7 Front View of Office Building Located at 395 Queensway West



Photograph 8 Rear View of Office Building Located at 395 Queensway West



Photograph 9 Front View of Truck Repair Garage Located at 401 Queensway West



Photograph 10 Rear View of Truck Repair Garage Located at 401 Queensway West



Photograph 11 View of Side of Property at 401 Queensway West



Photograph 12 View of Rear of Property at 401 Queensway West



Photograph 13 Interior View of Front Lobby Area at *CMHA* (Ground Floor)



Photograph 14 Interior View of Front Office Area at *CMHA* (Ground Floor)



Photograph 15 View of Kitchenette at CMHA (Second Floor)



Photograph 16 View of Typical Office at CMHA (Second Floor)



Photograph 17 View of Meeting Area at CMHA (Basement)



Photograph 18 View of Filing Room at CMHA (Basement)



Photograph 19 View of Workshop Room at CMHA (Basement)



Photograph 20 View of Flammables Storage Cabinet in Workshop Room at CMHA (Basement)



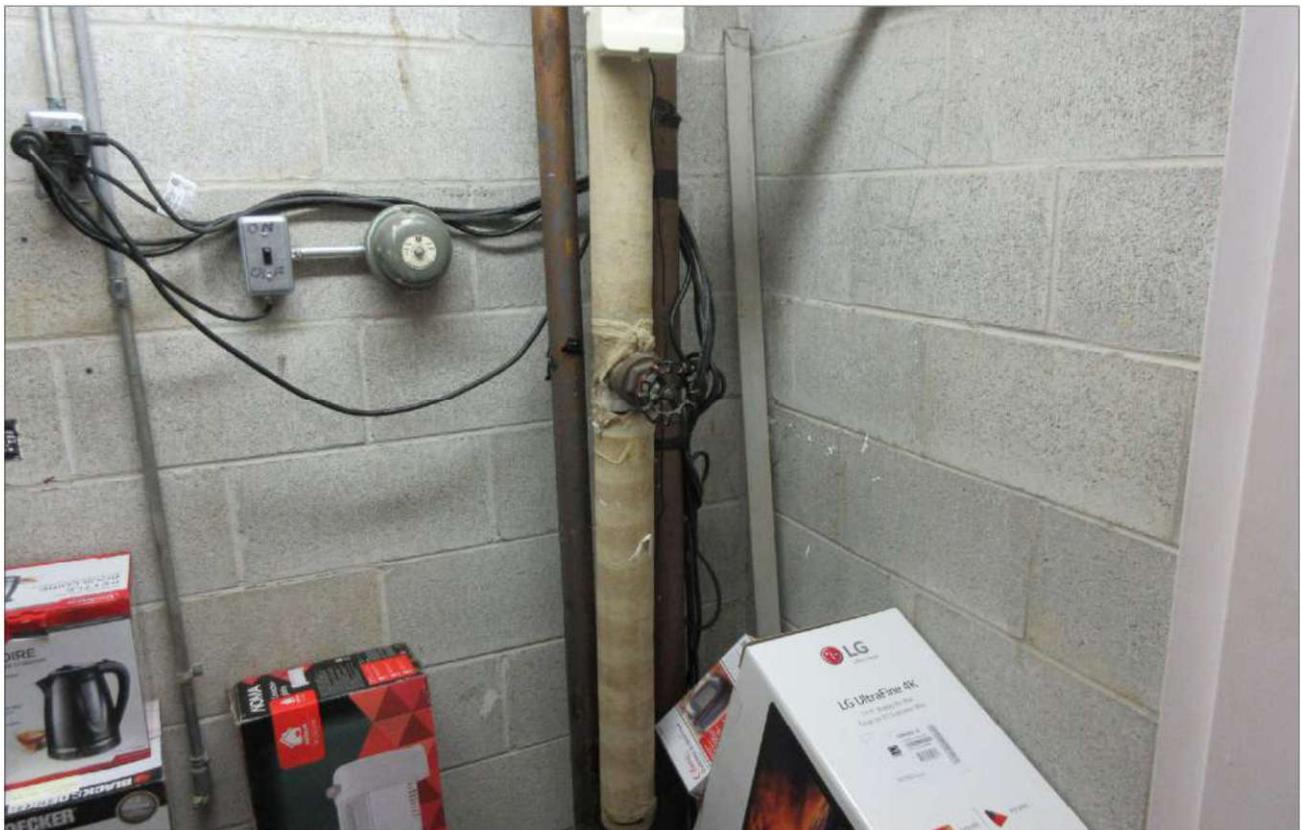
Photograph 21 View of Electrical Equipment at CMHA (Basement)



Photograph 22 View of Gas-Fired Forced-Air Furnace at CMHA (Basement)



Photograph 23 Electrical Domestic Hot Water Heater in Mechanical Closet at *CMHA*



Photograph 24 View of Suspected Asbestos Pipeline Insulation in Mechanical Closet at *CMHA*



Photograph 25 Interior View of Office Area at *Wilson Truck & Trailer* (Mezzanine)



Photograph 26 Interior View of Storage Area at *Wilson Truck & Trailer* (Mezzanine)



Photograph 27 Interior View of Parts Storage Area at *Wilson Truck & Trailer*



Photograph 28 Interior View of Truck Repair Garage at *Wilson Truck & Trailer*



Photograph 29 View of Truck Service Pit at *Wilson Truck & Trailer*



Photograph 30 View of Oil-Water Separator at *Wilson Truck & Trailer*



Photograph 31 View of Flammables Storage Cabinet at *Wilson Truck & Trailer*



Photograph 32 View of Automotive Parts Washer at *Wilson Truck & Trailer*



Photograph 33 View of Typical New Oil Aboveground Storage Tanks



Photograph 34 View of Waste Oil Aboveground Storage Tanks



Photograph 35 View of Drilling in Progress at Borehole 1/Monitoring Well 1



Photograph 36 View of Completed Installation of Monitoring Well 1

APPENDIX B

MPAC REPORT



Commercial/Industrial Basic Report



Purchased Date: 25-04-2019



Property Address: 395-401 QUEENSWAY W

Municipality: NORFOLK COUNTY

Roll Number: 3310403025007000000

Property Code & Description 400 - Small Office building (generally single tenant or owner occupied under 7,500 s.f.)

Frontage (ft)	200.12
Depth (ft)	-
Site Area	4.19 A

Cost Property Information

Effective Land Size 4.19 A

Year Built	Floor Level	Clear Height (ft)	Interior Finish (sq ft)	Building Area (sq ft)
1963	1	11.5	-	2,440
1963	B	12	2,440	-
1963	2	11.5	-	2,440
1982	1	11.5	-	231
1982	2	11.5	-	95
1988	F	7.5	2,236	-
1982	1	20	-	7,138
2000	1	20	-	5,400



Map and Photo Report



Purchased Date: 25-04-2019

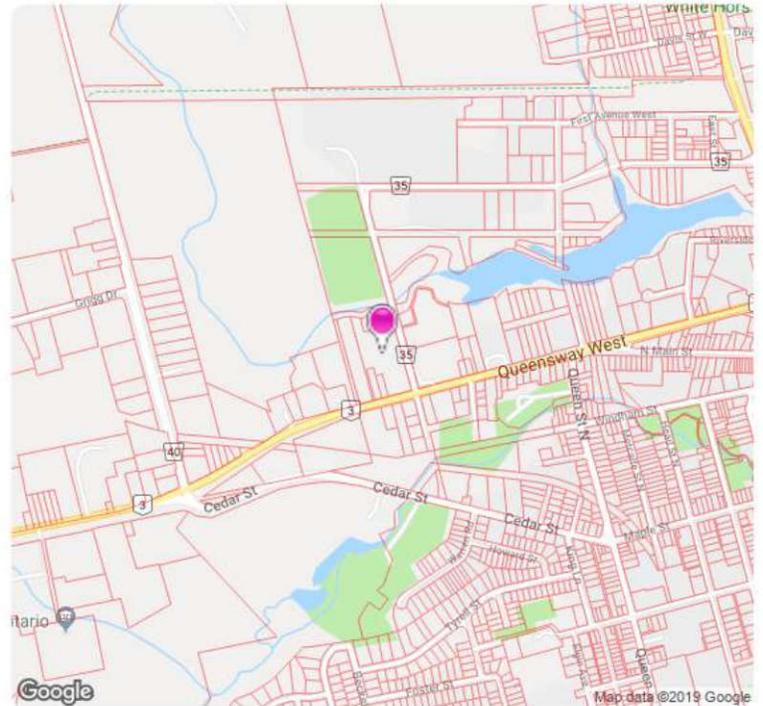
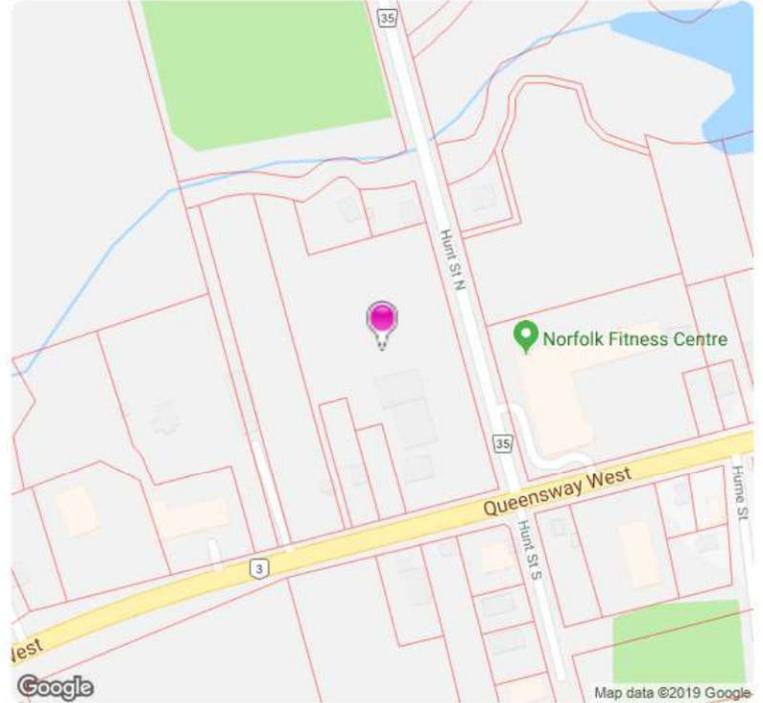
Report Details

Address: 395-401 QUEENSWAY W

Province: ON

Municipality: NORFOLK COUNTY

Postal Code: N3Y 2N4



APPENDIX C

OLS REGISTERED SUBDIVISION PLAN

APPENDIX D

MGCS LAND REGISTRY RECORDS

50188-0C03 (R)

CON: LT 35-36, 38-44 BLK 9 PL 182; PT LT 2 CON 14 WINDHAM AS IN NR582776, S/T NR582776; NORFOLK COUNTY

RECENTLY:
FIRST CONVERSION FROM BOOK

PIN CREATION DATE:
2006/08/21

DATE	INSTRUMENT TYPE	AMOUNT	PARTIES FROM	PARTIES TO
DOES ALL DOCUMENT TYPES AND DELETED INSTRUMENTS SINCE 2006/08/18 **				
REGISTRATION LOADED: 1966/02/25				
02/25	TRANSFER SKETCH ATTACHED.	\$2		CRONKWRIGHT LEASEHOLDS LIMITED
08/16	CERTIFICATE			CRONKWRIGHT LEASEHOLDS LIMITED
09/27	TRANSFER	\$2		CRONKWRIGHT LEASEHOLDS LIMITED
12/17	CERTIFICATE			CRONKWRIGHT LEASEHOLDS LIMITED
02/25	TRANSFER	\$2		CRONKWRIGHT LEASEHOLDS LIMITED
12/23	DEPOSIT			CRONKWRIGHT TRANSPORT LIMITED
11/20	LEASE			CRONKWRIGHT TRANSPORT LIMITED
12/10	AGR AM CH		*** COMPLETELY DELETED ***	CRONKWRIGHT TRANSPORT LIMITED
NR413881				
05/15	AGR AM CH		*** COMPLETELY DELETED ***	
NR413881				
05/15	ASSIGNMENT GENERAL		*** COMPLETELY DELETED ***	
RENTS				
04/28	TRANSFER	\$105,000		CRONKWRIGHT, JAMES STEWART CRONKWRIGHT, JACK ELGIN
09/05	AGREEMENT			

NOTE: ADJOINING PROPERTIES SHOULD BE INVESTIGATED TO ASCERTAIN DESCRIPTIVE INCONSISTENCIES, IF ANY, WITH DESCRIPTION REPRESENTED FOR THIS PROPERTY.
NOTE: ENSURE THAT YOUR PRINTOUT STATES THE TOTAL NUMBER OF PAGES AND THAT YOU HAVE PICKED THEM ALL UP.

50188-0003 (R)

DATE	INSTRUMENT TYPE	AMOUNT	PARTIES FROM	PARTIES TO
11/29	TRANSFER			CRONKRIGHT TRANSPORT LIMITED
06/07	TRANSFER	\$675,000		559188 ONTARIO INC.
11/05	PLAN REFERENCE			
08/19	TRANSFER	\$750,000		ROYALEX INCORPORATED
06/14	LR'S AMENDMENT DELETING NR425465, NR434289 AND NR434290			
08/01	TRANSFER PLANNING ACT STATEMENTS	\$1,500,000	ROYALEX INCORPORATED	ARVANE FARMS LTD.
08/01	CHARGE		*** COMPLETELY DELETED *** ARVANE FARMS LTD.	ROYALEX INCORPORATED
06/29	DISCH OF CHARGE		*** COMPLETELY DELETED *** ROYALEX INCORPORATED	
RE: NR610225				
11/19	TRANSFER	\$2,000,000	ARVANE FARMS LTD.	HFV HOLDINGS LIMITED

NOTE: ADJOINING PROPERTIES SHOULD BE INVESTIGATED TO ASCERTAIN DESCRIPTIVE INCONSISTENCIES, IF ANY, WITH DESCRIPTION REPRESENTED FOR THIS PROPERTY.
NOTE: ENSURE THAT YOUR PRINTOUT STATES THE TOTAL NUMBER OF PAGES AND THAT YOU HAVE PICKED THEM ALL UP.

APPENDIX E

MOE FREEDOM OF INFORMATION RESPONSE

Ministry of the Environment,
Conservation and Parks

Access and Privacy Office

12th Floor
40 St. Clair Avenue West
Toronto ON M4V 1M2
Tel: (416) 314-4075
Fax: (416) 314-4285

Ministère de l'Environnement, de
la Protection de la nature et des
Parcs

Bureau de l'accès à l'information et
de la protection de la vie privée

12^e étage
40, avenue St. Clair ouest
Toronto ON M4V 1M2
Tél. : (416) 314-4075



June 21, 2019

Valerie Loubert
AIMS Environmental
1020 Denison St, Suite 111
Markham, ON L3R 3W5

Dear Valerie Loubert:

RE: *Freedom of Information and Protection of Privacy Act Request*
Our File # A-2019-03266, Your Reference AR 128-19

This letter is further to your request made pursuant to the *Freedom of Information and Protection of Privacy Act* relating to 395, 397, 399, 401, 403 and 405 Queensway West, Simcoe (Norfolk County).

Attached is a copy of the records.

If you have any questions regarding this matter, please contact Aaron Foster at aaron.foster@ontario.ca.

Yours truly,


Janet Dadufalza
Manager, Access and Privacy

Attachment

FOR

RECORD OF SITE VISIT

Reference Number:	7763-5K3M35	File Storage Number:	SI 700 HN NO QUEENSWAY
Module:	Inspections	Module Type:	Subject Waste Generator
Cross Reference:	(doc link)	Task Link:	7011-5K3N24 <input type="checkbox"/>
Originating Document:		Created by:	Paul Thompson
Date Created:	2003/02/24	Date Completed:	2003/03/04
Bring Forward Date:		Bring Forward Reason:	
Status:	Final Signed-Off		
Program	Waste - Hazardous & Liquid Industrial	Activity:	Inspections - Reg. 347 Generators

Client(s)**Client Details**

Wilson Truck & Trailer
Mailing Address: P.O. Box 1022, 405 Queensway West, Simcoe, Ontario, Norfolk, Ontario, Canada, N3Y 5B3
Physical Address: 405 Queensway West, Simcoe, Ontario, Norfolk, County, Ontario, Canada
Telephone: (519)428-0501
Client #: 3994-5K3MS6, Client Type: Corporation

Site(s)**Site Details**

Wilson Truck & Trailer
Address: 405 Queensway West, Simcoe, Ontario, Norfolk, County
District Office: Hamilton - District
Site #: 0056-5K3M84

General

Date of Last Inspection:	2003/02/19	Inspection Due Date:	2003/02/24
Inspection Start Date:	2003/02/19	Inspection Finish Date:	2003/02/19
Inspection Pass/Fail:	Pass	Risk Score:	
Site Region:	West Central		
File Review:			
Comments:			

Inspection Time of Day

Indicate if this inspection was conducted during a week day (normal hours) or during an evening, night, weekend or holiday (after hours)

Normal Hours Inspection After Hours Inspection

Fiscal year

Why were changes made to Risk
Information?



Subject Waste Generator Inspection Report

Client: Wilson Truck & Trailer
 Mailing Address: P.O. Box 1022, 405 Queensway West, Simcoe, Ontario, Norfolk, Ontario, Canada, N3Y 5B3
 Physical Address: 405 Queensway West, Simcoe, Ontario, Norfolk, County, Ontario, Canada
 Telephone: (519)428-0501
 Client #: 3994-5K3MS6, Client Type: Corporation

Inspection Site Address: Wilson Truck & Trailer
 Address: 405 Queensway West, Simcoe, Ontario, Norfolk, County
 District Office: Hamilton - District

Contact Name: Duane Wilson **Title:** Owner

Contact Telephone: 519-428-0501 ext **Contact Fax:**

Last Inspection Date:

Inspection Start Date: 2003/02/19 **Inspection Finish Date:** 2003/02/19

Region: West Central

1.0 INTRODUCTION

No Prior file. This site is a retail service centre for large motor vehicles.

2.0 INSPECTION OBSERVATIONS

Generator Registration Report No(s)
 ONN/A

Date of last registration

2.1 REGISTERED WASTES

N/A

2.2 DESCRIPTION OF PROCESS GENERATING WASTE MATERIALS

- a) Operating fluids - Motor oil, Transmission and Radiator fluids.
- b) Part washer solvents - Varsol

2.3 MANIFESTING

Service agreements (see below)

2.4 ON-SITE STORAGE

Not longer than 90 days.

2.5 OTHER PERTINENT CERTIFICATE OF APPROVAL's FOR THE SITE, NOT CERTIFICATE OF

APPROVAL'S

N/A

2.6 DISCHARGE OF WASTES TO THE SANITARY SEWER

This site does discharge to the Sanitary from a 3 stage oil water separator.

3.0 REVIEW OF PREVIOUS NON-COMPLIANCE ISSUES

None

4.0 SUMMARY OF INSPECTION FINDINGS (HEALTH/ENVIRONMENTAL IMPACT)

Was there any indication of a known or anticipated human health impact during the inspection and/or review of relevant material, related to this Ministry's mandate ?

No

Specifics:

Was there any indication of a known or anticipated environmental impact during the inspection and/or review of relevant material ?

No

Specifics:

Was there any indication of a known or suspected violation of a legal requirement during the inspection and/or review of relevant material which could cause a human health impact or environmental impairment ?

No

Specifics:

Was there any indication of a potential for environmental impairment during the inspection and/or the review of relevant material ?

No

Specifics:

5.0 ACTION(S) REQUIRED

No planned actions.

6.0 OTHER INSPECTION FINDINGS

Company was able to provide copies of service agreements from:

- a) Safety Kleen - Waste oil, and 2 parts washers.
- b) OSS Environmental - 1 parts washer.

7.0 INCIDENT REPORT

Not Applicable

8.0 ATTACHMENTS

PREPARED BY:

Environmental Officer:

Name:

Paul Thompson

District Office:

Hamilton District Office

Date:

2003/02/24

Signature



REVIEWED BY:

District Supervisor:

Name:

Jane Glassco

District Office:

Hamilton District Office

Date:

2003/03/04

Signature:



File Storage Number:

SI 700 HN NO QUEENSWAY

Note:

"This inspection report does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they may apply to this facility. It is, and remains, the responsibility of the owner and/or the operating authority to ensure compliance with all applicable legislative and regulatory requirements"



INCIDENT REPORT

Reference Number:	4668-5JH2YN	File Storage Number:	SPILLS ACTION CENTRE
Module:	Incident Reporting	Module Type:	Pollution Incident Report (PIR)
Cross Reference:	(doc link)	Task Link:	1471-5JH33X
Originating Document:		Created by:	Don Hayes
Date Created:	2003/02/05	Date Completed:	2003/03/17
Bring Forward Date:		Bring Forward Reason:	
Status:	Closed		
Program	Contaminated Sites	Activity:	Notifications (ORIS)

Is this an air emission (measured or modelled) or wastewater (sewage) discharge exceedance that will become part of the Environmental Compliance Report?

(legislation, certificate of approval, order, or guideline)

Yes No To be determined

[Click here for Guidance](#)

Caller or PO Information

Reported By: <input type="checkbox"/> Anonymous	Name of Company:		
Contact Mailing Address			Unit Identifier:
Civic Address:			Delivery Identifier:
Delivery Designator:			Postal Code:
Municipality: Norfolk	Postal Station:	Province/State: Ontario	Postal Code:
Telephone Number:	Extension:	Other Number:	Email Address:

Reported By:

MOE Information

Date & Time Reported to MOE:	2003/02/05 18:46		
Office Receiving Incident Report:	Spills Action Centre		
Incident Info Received By:	Don Hayes		
MOE Response:	Planned Field Response, Not Determined	Site Region:	West Central
Date & Time of MOE Arrival at Scene:	2003/02/19		
Master Incident Report Number:			
SAC Action Class:	Notification		
Non-Standard Procedure:	No		

ERP Call-out Initiated:

Client(s)

Client Details

Wilson Truck & Trailer
Mailing Address: P.O. Box 1022, 405 Queensway West, Simcoe, Ontario, Norfolk, Ontario, Canada, N3Y 5B3
Physical Address: 405 Queensway West, Simcoe, Ontario, Norfolk, County, Ontario, Canada
Telephone: (519)428-0501
Client #: 3994-5K3MS6, Client Type: Corporation

Site(s)

Site Details

Wilson Truck & Trailer
Address: 405 Queensway West, Simcoe, Ontario, Norfolk, County
District Office: Hamilton - District
Site #: 0056-5K3M84

Incident Information

Incident Summary: Wilson Truck & Trailer unknown vol used oil to gm
cannot be longer than 60 characters

Incident Description: Wilson Truck & Trailer 519-428-0501: Used oil to parking lot due to heavy rains on Monday evening. Unknown volume of oil. Stream or drainage ditch not far away. Caller is concerned that the company will not clean-up and that the oils will get to the drainage ditch/stream. The oil is visible in the snow in the parking lot and covers or stains an area approx. 40 - 50 ft around. The caller thinks that an underground tank or drainage system with used oil in it over flows during heavy rains and causes this to happen. The caller stated that he knows of three other occurrences of this type at the same site and none of the other occurrences were cleaned up.

Feb 19, 03 - Thompson - Inspection -

Determined that an outdoor, unused, underground product oil tank was the source of a spill of an unknown quantity of oil and oily water to the ground in the parking lot on the west side of the facility. The cause is believed to be vandalism where by the locked lid to the fill spout of the tank was forcibly removed which allowed rain water to enter the tank and cause the spill. The company is undertaking a clean up, by physical removal of contaminated snow and dirt to a container with it is removed by approved carrier for approved disposal.

The owner of the facility will install equipment to allow more secure locking of the tank lid. The owner will continue to clean up any remaining contamination.

Also - a 347 waste generator inspection report was completed for this inspection - refer to inspection database.

Attachments, Links & Comments:

Date & Time of Incident	2003/02/03		
Source Type:	Other	Sector Type:	
Nearest Watercourse:		Watershed Category Code:	
Environmental Impact:	Not Anticipated		
Nature of Impact:	Soil Contamination, Surface Water Pollution		
Incident Cause:	Unknown	Incident Reason:	Vandalism - Illegal/deliberate (incl. sabotage)
Damaged Party:	No		

Contaminants Table

Contaminant Name	Code	UN#	Limit	Quantity	[units]	[freq]
USED MOTOR OIL	46	1993				

Controller of Material:

Owner of Material:

Estimated Clean Up Cost:

Who Cleaned Up:

% Clean Up: %

Agencies Involved:

Voluntary / Mandatory Abatement

Is there Voluntary Abatement Activity?

Yes

No

To be determined

Voluntary / Mandatory Compliance Items

Type	Parent RefNo	Work Summary (may be truncated)	Date	AttainList
------	--------------	---------------------------------	------	------------

Offence(s)

Suspected Violation(s)/Offence(s):

Act - Regulation - Section,
Description
{General Offence}

Provincial Officer:

Name: Paul Thompson
Badge No: 506

Work Unit:
District/Area Office: Hamilton District Office
Date: 2003/02/25

Signature:



Assistant Director:

Name: Jane Glassco
Work Unit:
District/Area Office: Hamilton District Office
Date: 2003/03/17

Signature:

Jane Glass -



INCIDENT REPORT

Reference Number:	4082-5JMM3M	File Storage Number:	SPILLS ACTION CENTRE
Module:	Incident Reporting	Module Type:	Spill
Cross Reference:	(doc link)	Task Link:	3514-5JMM7B <input type="checkbox"/>
Originating Document:		Created by:	Ryan Wheeler
Date Created:	2003/02/10	Date Completed:	2003/05/12
Bring Forward Date:		Bring Forward Reason:	
Status:	Closed		
Program	Contaminated Sites	Activity:	Spills (ORIS)

Is this an air emission (measured or modelled) or wastewater (sewage) discharge exceedance that will become part of the Environmental Compliance Report?

(legislation, certificate of approval, order, or guideline)

Yes No To be determined

[Click here for Guidance](#)

Caller or PO Information

Reported By:	First Name Duane	Last Name Wilson	Name of Company: Wilson Truck and Trailer
---------------------	----------------------------	----------------------------	---

Contact Mailing Address

Civic Address: 401 Queensway West		Unit Identifier:	
Delivery Designator:		Delivery Identifier:	
Municipality: Norfolk	Postal Station:	Province/State: Ontario	Postal Code:
Telephone Number: (519)428-0501	Extension:	Other Number:	Email Address:

Reported By:

MOE Information

Date & Time Reported to MOE:	2003/02/10 09:45		
Office Receiving Incident Report:	Spills Action Centre		
Incident Info Received By:	Ryan Wheeler	Site Region:	West Central
MOE Response:	Not Determined		
Date & Time of MOE Arrival at Scene:			
Master Incident Report Number:			
SAC Action Class:	Spill to Land, Spills		
Non-Standard Procedure:	No		

ERP Call-out Initiated:

Client(s)

Client Details

Wilson Truck & Trailer
Mailing Address: PO Box 1022 Stn Main, Simcoe, Ontario, Canada, N3Y 5B3
Physical Address: 405 Queensway West, Norfolk, County, Ontario, Canada
Telephone: (519)428-0501
Client #: 3994-5K3MS6, Client Type: Corporation

Site(s)

Site Details

Wilson Truck & Trailer
Address: 405 Queensway West, Simcoe, Norfolk, County
District Office: Hamilton - District
Site #: 0056-5K3M84

Incident Information

Incident Summary: Small spill of motor oil to ground from UST
cannot be longer than 60 characters

Incident Description: Caller reports a small spill of approx. 40 - 50 litres of new oil from a UST. The lid to the fill pipe was removed. Surface water has infiltrated into the UST and raised the oil out the fill pipe which is cut off at grade. There is no fill box. The oil has migrated across a portion of the gravel covered property from the fill pipe. The oil, surface snow and ice is to be scraped off and placed in a drum to melt at which point it will be added to the onsite oil water separator. The residual oil on the ground will be also be cleaned up with absorbent pads. There was no sewer impact. Officials from the County of Norfolk have been by the site to investigate. In fact it was the County of Norfolk that notified the owner of the release. Bill Baskerville made the notification to Wilson Truck and trailer. The incident is reported to have occurred on or around Feb 5th. SAC will be updated upon any further development of the cleanup.

April 28, 03 - Thompson - update file - inspection date = Feb 19, 2003 - abatement Response - Inspection report under Reg 347

Attachments, Links & Comments:

Date & Time of Incident: 2003/02/05
Source Type: Other Storage Facility
Nearest Watercourse:
Environmental Impact: Possible
Nature of Impact: Groundwater Pollution, Soil Contamination
Incident Cause: Container Leak (Fuel Tank Barrels)
Damaged Party: No
Sector Type:
Watershed Category Code:
Incident Reason: Negligence (Apparent) - Caused by lack of diligence

Contaminants Table

Contaminant Name	Code	UN#	Limit	Quantity	[units]	[freq]
MOTOR OIL	15	1993		60	L	

Controller of Material: Wilson Truck and Trailer

Owner of Material: Wilson Truck and Trailer

Estimated Clean Up Cost:

Who Cleaned Up: Controller, Owner

% Clean Up: %

Agencies Involved: Municipality

Voluntary / Mandatory Abatement

Is there Voluntary Abatement Activity? Yes No To be determined

Voluntary / Mandatory Compliance Items

Type	Parent RefNo	Work Summary (may be truncated)	Date	AttainList
------	--------------	---------------------------------	------	------------

Offence(s)

Suspected Violation(s)/Offence(s):

**Act - Regulation - Section,
Description
{General Offence}**

Provincial Officer:

Name: Paul Thompson
Badge No: 506

Work Unit:
District/Area Office: Hamilton District Office
Date: 2003/04/28

Signature:



Assistant Director:

Name: Jane Glassco

Work Unit:
District/Area Office: Hamilton District Office
Date: 2003/05/12

Signature:

June 25 -



ABATEMENT RESPONSE

Reference Number:	3855-5M2HEL	File Storage Number:	SPILLS ACTION CENTRE
Module:	Abatement Response	Module Type:	Spill
Cross Reference:	4082-5JMM3M (doc link)	Task Link:	3825-5M2HGU <input type="checkbox"/>
Originating Document:	Incident Reporting 4082-5JMM3M <input type="checkbox"/>	Created by:	Paul Thompson
Incident Report Reference Number:		4082-5JMM3M	<input type="checkbox"/>
Date Created:	2003/04/28	Date Completed:	2003/09/08
Bring Forward Date:		Bring Forward Reason:	
Status:	Complete		
Program	Waste - Hazardous & Liquid industrial	Activity:	Inspections - Reg. 347 Generators

Client(s)

Information
Show Map

Wilson Truck & Trailer
Mailing Address: PO Box 1022 Stn Main, Simcoe, Ontario, Canada, N3Y 5B3
Physical Address: 405 Queensway West, Norfolk, County, Ontario, Canada
Telephone: (519)428-0501
Client #: 3994-5K3MS6, Client Type: Corporation

Site(s)

Information
Show Map

Wilson Truck & Trailer
Address: 405 Queensway West, Simcoe, Norfolk, County
District Office: Hamilton - District
GeoReference: ,

Incident Information

Incident Summary: Small spill of motor oil to ground from UST
cannot be longer than 50 characters

Incident Description: Caller reports a small spill of approx. 40 - 50 litres of new oil from a UST. The lid to the fill pipe was removed. Surface water has infiltrated into the UST and raised the oil out the fill pipe which is cut off at grade. There is no fill box. The oil has migrated across a portion of the gravel covered property from the fill pipe. The oil, surface snow and ice is to be scraped off and placed in a drum to melt at which point it will be added to the onsite oil water separator. The residual oil on the ground will be also be cleaned up with absorbent pads. There was no sewer impact. Officials from the County of Norfolk have been by the site to investigate. In fact it was the County of Norfolk that notified the owner of the release. Bill Baskerville made the notification to Wilson Truck and trailer. The incident is reported to have occurred on or around Feb 5th. SAC will be updated upon any further development of the cleanup.

Feb 19, 03 - inspection
April 28, 03 - Thompson - update file - inspection date = Feb 19, 2003 - abatement Response - Inspection report
under Reg 347 - pass - close

Offence(s)

Suspected Violation(s)/Offence(s):

Act - Regulation - Section,
Description
{General Offence}

Abatement Response

No.	Module Type	Description	Compliance Deadline	Compliance Attained	Link
-----	-------------	-------------	------------------------	------------------------	------

Date	Description	Compliance Deadline	Compliance Attained
Agree to Voluntary Abatement Program Approval			



MAY 31 1989

135 St. Clair Avenue West
Suite 100
Toronto, Ontario
M4V 1P5

135 avenue St. Clair ouest
Bureau 100
Toronto (Ontario)
M4V 1P5

Cronkwright Transport Limited
405 Queensway West Simcoe
Haldimand - Norfolk, Ontario
N3Y 4N8

Attn: Mr. C. Bennett
Works Superintendent

Dear Mr. Bennett:

RE: Acknowledgement of Subject Waste Registration

As prescribed by Section 15(4) of Ontario Regulation 309, this letter acknowledges receipt of your Generator Registration Report(s) received December 23, 1987 and further correspondence as outlined in Schedule "B" for the following site:

405 Queensway West Simcoe
Haldimand - Norfolk, Ontario

The Generator Registration Number assigned to your company at this site is:

ON0967100

Please note that this Generator Registration Number must be used only in conjunction with the site for which it was issued.

This acknowledgement letter supersedes the previous acknowledgement letter dated February 11, 1988 for this site.

Please ensure that the company name shown in this letter is complete and accurate. This would be the corporate name or, if a partnership or proprietorship, the name of the principal(s). If you intend to carry on business under a separate name or style, this should also be entered. If there is a discrepancy, it is your responsibility to re-register providing us with your complete and accurate company name.

A list of the waste stream(s) covered by this acknowledgement is attached to this letter as Schedule "A".

For off-site disposal of subject wastes, the waste number(s) describing the waste stream(s) in Schedule "A" and the Generator Registration Number must be entered on manifest forms for each waste transaction after you have received this generator registration document. A copy of an example manifest form is attached for your information.

For on-site disposal of subject wastes covered by this acknowledgement, including on-site incineration, landfilling and discharges to sanitary sewers, every generator shall retain records for a period of at least two years. These records shall include the generator registration number, waste name(s), waste number(s), quantity and disposition of the waste(s).

For off-site disposal of any registerable solid wastes shown in Schedule "A" (waste classes ending in the letter "N"), manifesting is not required at this time. These wastes can be disposed of at most approved municipal landfilling sites.

The selection of accurate waste classes is the responsibility of each waste generator. This acknowledgement must not be considered as a confirmation of the accuracy of information submitted by you. Based on the information you have provided, the waste class(es) that has (have) been selected appear(s) to be correct. If, due to new information or re-assessment of information submitted, you feel your waste is inappropriately classified, you should apply for a revision to your registration using the Generator Registration Report, Form 2. Should the waste class(es) that you have selected be deemed incorrect by the Ministry, or improper waste disposal occurs at any time, you may be subject to legal action as provided by the Environmental Protection Act and Regulation 309.

Your Generator Registration Report has now been forwarded to the District Office of this Ministry that is closest to your generating site. The District Office will be conducting a post-registration audit and may be contacting you for additional information or may be conducting site visits.

It is important to note that under Section 15(4) of Ontario Regulation 309, a new Generator Registration Report must be submitted to the Ministry within fifteen (15) days for any of the following reasons:

1. If the name, address or telephone number of your company or waste generating site changes.
2. If the description, the waste class or physical or chemical characteristics of your registered wastes change(s).
3. If you generate a hazardous or liquid industrial waste that has not been registered with the Ministry.

If the quantity of registered wastes or your carrier or receiver changes, automatic re-registration is not required. However, in order to update our file, we may periodically request additional information when we observe or suspect a significant change as compared to the most recent information submitted by you for registration purposes.

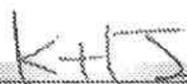
Should you have any questions concerning generator registration or manifesting requirements, please contact the Waste Management Branch Reviewer identified below at 323-5208.

Yours truly,



Director
Regulation 309, R.R.O., 1980
Environmental Protection Act

Waste Management Branch Reviewer:


K. H. Jun

EAS/lvc

Enclosure

ADDITIONAL COMMENTS:

Based on the information you have submitted in your Generator Registration Report and/or through telephone discussion, we have selected the waste class 213I for your waste varsol.

It is your responsibility to evaluate this waste class and re-register within fifteen (15) days if it is found to be inappropriate for your particular waste.

SCHEDULE "A"

This attached Schedule forms part of the acknowledgement of generator registration for the facility and site identified by Generator Registration Number ON0967100, dated at Toronto, MAY 31 1989

	Waste Stream	Waste Class
1.	Waste crankcase oil	252L
2.	Waste varsol	213T

Waste Management Branch Reviewer:


R. H. Jun

APPENDIX F

NC FREEDOM OF INFORMATION RESPONSE



Office of the CAO
Council Services
50 Colborne Street, S., Simcoe Ontario N3Y 4H3
519-426-5870
Fax: 519-426-8573
norfolkcounty.ca

May 16, 2019

Valerie Loubert
1020 Denison St
Suite 111
Markham ON L3R 3W5

Re: Freedom of Information Request #19-44

In response to your request under the Municipal Freedom of Information and Protection of Privacy Act for access to the following records:

- AiMs Environmental has been contacted to perform an environmental assessment.
- We would like to know any records or notices associated with 395-405 Queensway West, Simcoe (Norfolk County) regarding the following"
 - Past and pending environmental control orders and /or concerns;
 - Records of any clean ups or remediation for the property; and
 - Chemical releases/chemical spills

A search was undertaken by the Norfolk County Public Works – Environmental Services Department and no records exist in response to your request.

It would be our recommendation to contact MOECP Hamilton Division to see if they have any documentation.

You may ask for a review of this decision within 30 days of receiving this letter by writing to: Registrar, Information and Privacy Commissioner/Ontario, 2 Bloor Street East, Suite 1400, Toronto, Ontario, M4W 1A8, Telephone: (416) 326-3333 or toll free 1-800-387-0073.

If you decide to request a review of this decision, please provide the Commissioner's office with the following:

- The file number listed at the beginning of the letter.
- A copy of this decision letter.

19-44 Loubert may152019

- A copy of the original request for information you sent to our institution.
- The reasons why you believe the records exist (if the decision was that no records exist).

If you have, any questions please feel free to contact my office. Please quote your request number 19-44 in any verbal or written correspondence.

Thank you for your patience.

Yours truly



Elizabeth Harrison,
Records Analyst
519-426-5870 Ext. 1222
Elizabeth.Harrison@norfolkcounty.ca

APPENDIX G

TSSA STORAGE TANK RECORDS RESPONSE

Damian Khan

From: Public Information Services [publicinformationsservices@tssa.org]
Sent: July-15-20 2:55 PM
To: Damian Khan
Subject: RE: Information Request - 6 Addresses

Records Found

Thank you for your request for confirmation of public information.

- We confirm that there are **fuel storage tanks records** in our database at the subject address(es).

Inst Number	Segment1	Address	City	Postal Code	Status
9303459	FS PRIVATE FUEL OUTLET - SELF SERVE	405 QUEENSWAY ST W	SIMCOE	N3Y 2N4	Under Review
9368651	FS PRIVATE FUEL OUTLET - SELF SERVE	405 QUEENSWAY ST W	SIMCOE	N3Y 2N4	Active
10965986	FS LIQUID FUEL TANK	405 QUEENSWAY ST W	SIMCOE	N3Y 2N4	Inactive
10966040	FS LIQUID FUEL TANK	405 QUEENSWAY ST W	SIMCOE	N3Y 2N4	Active
10966001	FS LIQUID FUEL TANK	405 QUEENSWAY ST W	SIMCOE	N3Y 2N4	Inactive
10966019	FS LIQUID FUEL TANK	405 QUEENSWAY ST W	SIMCOE	N3Y 2N4	Active

For a further search in our archives please complete our release of public information form found at https://www.tssa.org/en/about-tssa/release-of-public-information.aspx?_mid_392 and email the completed form to publicinformationsservices@tssa.org or through mail along with a fee of \$56.50 (including HST) per location. The fee is payable with credit card (Visa or MasterCard) or with a Cheque made payable to TSSA.

The *Technical Standards and Safety Act* and associated regulations do not require the registration of **private fuel outlets. Nor does it require that any documentation on these facilities be submitted to or reviewed or approved by TSSA. As a result, TSSA has limited information on these facilities. TSSA cautions that any information provided may be inaccurate, incomplete or out of date.**

Although TSSA believes the information provided pursuant to your request is accurate, please note that TSSA does not warrant this information in any way whatsoever.

Kind regards,



Connie Hill | Public Information Agent

Facilities
345 Carlingview Drive
Toronto, Ontario M9W 6N9
Tel: +1-416-734-3383 | Fax: +1-416-231-6183 | E-Mail: publicinformation@tssa.org

www.tssa.org



From: Damian Khan <dkhan@aimsconsulting.com>

Sent: July 15, 2020 12:16 PM

To: Public Information Services <publicinformation@tssa.org>

Subject: Information Request - 6 Addresses

[CAUTION]: This email originated outside the organisation.

Please do not click links or open attachments unless you recognise the source of this email and know the content is safe.

Dear Sir/Madam,

I am writing to inquire about the availability of any records associated with the below addresses. Please advise on the availability of materials prior to proceeding with the order.

The addresses are:

- 395 Queensway West, Simcoe (Haldimand-Norfolk County)
- 397 Queensway West, Simcoe (Haldimand-Norfolk County)
- 399 Queensway West, Simcoe (Haldimand-Norfolk County)
- 401 Queensway West, Simcoe (Haldimand-Norfolk County)
- 403 Queensway West, Simcoe (Haldimand-Norfolk County)
- 405 Queensway West, Simcoe (Haldimand-Norfolk County)

Thanks and Regards,

Damian Khan, M.Env.Sc.
Project Manager

AiMS Environmental
1020 Denison Street, Suite 111
Markham, Ontario L3R 3W5
T: 905-474-0058 ext. 106
F: 905-474-0601
E: dkhan@aimsconsulting.com
<http://www.aimsconsulting.com/>

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APPENDIX H

ERIS HISTORICAL DATABASE RECORDS



DATABASE REPORT

Project Property: *395-401 Queensway West, Simcoe
395 Queensway West
Simcoe ON N3Y 2N4*

Project No: *AR128-19*

Report Type: *Quote - Custom-Build Your Own Report*

Order No: *20190425116*

Requested by: *AiMS Environmental*

Date Completed: *May 1, 2019*

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Notice: IMPORTANT LIMITATIONS and YOUR LIABILITY

Reliance on information in Report: This report DOES NOT replace a full Phase I Environmental Site Assessment but is solely intended to be used as a database review of environmental records.

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Executive Summary

Property Information:

Project Property: 395-401 Queensway West, Simcoe
395 Queensway West Simcoe ON N3Y 2N4

Project No: AR128-19

Order Information:

Order No: 20190425116
Date Requested: April 25, 2019
Requested by: AiMS Environmental
Report Type: Quote - Custom-Build Your Own Report

Historical/Products:

Executive Summary: Report Summary

<i>Database</i>	<i>Name</i>	<i>Searched</i>	<i>Project Property</i>	<i>Boundary to 0.25km</i>	<i>Total</i>
AAGR	<i>Abandoned Aggregate Inventory</i>	N	-	-	-
AGR	<i>Aggregate Inventory</i>	N	-	-	-
AMIS	<i>Abandoned Mine Information System</i>	N	-	-	-
ANDR	<i>Anderson's Waste Disposal Sites</i>	N	-	-	-
AUWR	<i>Automobile Wrecking & Supplies</i>	N	-	-	-
BORE	<i>Borehole</i>	N	-	-	-
CA	<i>Certificates of Approval</i>	N	-	-	-
CFOT	<i>Commercial Fuel Oil Tanks</i>	Y	0	0	0
CHEM	<i>Chemical Register</i>	N	-	-	-
CNG	<i>Compressed Natural Gas Stations</i>	N	-	-	-
COAL	<i>Inventory of Coal Gasification Plants and Coal Tar Sites</i>	N	-	-	-
CONV	<i>Compliance and Convictions</i>	N	-	-	-
CPU	<i>Certificates of Property Use</i>	N	-	-	-
DRL	<i>Drill Hole Database</i>	N	-	-	-
DRYCLEANERS	<i>Dry Cleaning Facilities</i>	Y	0	0	0
EASR	<i>Environmental Activity and Sector Registry</i>	N	-	-	-
EBR	<i>Environmental Registry</i>	N	-	-	-
ECA	<i>Environmental Compliance Approval</i>	N	-	-	-
EEM	<i>Environmental Effects Monitoring</i>	N	-	-	-
EHS	<i>ERIS Historical Searches</i>	N	-	-	-
EIIS	<i>Environmental Issues Inventory System</i>	N	-	-	-
EMHE	<i>Emergency Management Historical Event</i>	N	-	-	-
EXP	<i>List of TSSA Expired Facilities</i>	N	-	-	-
FCON	<i>Federal Convictions</i>	N	-	-	-
FCS	<i>Contaminated Sites on Federal Land</i>	N	-	-	-
FOFT	<i>Fisheries & Oceans Fuel Tanks</i>	N	-	-	-
FST	<i>Fuel Storage Tank</i>	N	-	-	-
FSTH	<i>Fuel Storage Tank - Historic</i>	Y	0	2	2
GEN	<i>Ontario Regulation 347 Waste Generators Summary</i>	Y	0	15	15
GHG	<i>Greenhouse Gas Emissions from Large Facilities</i>	N	-	-	-
HINC	<i>TSSA Historic Incidents</i>	Y	0	0	0
IAFT	<i>Indian & Northern Affairs Fuel Tanks</i>	N	-	-	-
INC	<i>TSSA Incidents</i>	N	-	-	-
LIMO	<i>Landfill Inventory Management Ontario</i>	N	-	-	-
MINE	<i>Canadian Mine Locations</i>	N	-	-	-
MISA PENALTY	<i>Environmental Penalty Annual Report</i>	N	-	-	-

Database	Name	Searched	Project Property	Boundary to 0.25km	Total
MNR	<i>Mineral Occurrences</i>	N	-	-	-
NATE	<i>National Analysis of Trends in Emergencies System (NATES)</i>	N	-	-	-
NCPL	<i>Non-Compliance Reports</i>	N	-	-	-
NDFT	<i>National Defense & Canadian Forces Fuel Tanks</i>	N	-	-	-
NDSP	<i>National Defense & Canadian Forces Spills</i>	N	-	-	-
NDWD	<i>National Defence & Canadian Forces Waste Disposal Sites</i>	N	-	-	-
NEBI	<i>National Energy Board Pipeline Incidents</i>	N	-	-	-
NEBW	<i>National Energy Board Wells</i>	N	-	-	-
NEES	<i>National Environmental Emergencies System (NEES)</i>	N	-	-	-
NPCB	<i>National PCB Inventory</i>	N	-	-	-
NPRI	<i>National Pollutant Release Inventory</i>	N	-	-	-
OGW	<i>Oil and Gas Wells</i>	N	-	-	-
OOGW	<i>Ontario Oil and Gas Wells</i>	N	-	-	-
OPCB	<i>Inventory of PCB Storage Sites</i>	N	-	-	-
ORD	<i>Orders</i>	N	-	-	-
PAP	<i>Canadian Pulp and Paper</i>	N	-	-	-
PCFT	<i>Parks Canada Fuel Storage Tanks</i>	N	-	-	-
PES	<i>Pesticide Register</i>	N	-	-	-
PINC	<i>TSSA Pipeline Incidents</i>	N	-	-	-
PRT	<i>Private and Retail Fuel Storage Tanks</i>	Y	0	2	2
PTTW	<i>Permit to Take Water</i>	N	-	-	-
REC	<i>Ontario Regulation 347 Waste Receivers Summary</i>	N	-	-	-
RSC	<i>Record of Site Condition</i>	N	-	-	-
RST	<i>Retail Fuel Storage Tanks</i>	Y	0	2	2
SCT	<i>Scott's Manufacturing Directory</i>	N	-	-	-
SPL	<i>Ontario Spills</i>	Y	0	1	1
SRDS	<i>Wastewater Discharger Registration Database</i>	N	-	-	-
TANK	<i>Anderson's Storage Tanks</i>	N	-	-	-
TCFT	<i>Transport Canada Fuel Storage Tanks</i>	N	-	-	-
VAR	<i>TSSA Variances for Abandonment of Underground Storage Tanks</i>	N	-	-	-
WDS	<i>Waste Disposal Sites - MOE CA Inventory</i>	N	-	-	-
WDSH	<i>Waste Disposal Sites - MOE 1991 Historical Approval Inventory</i>	N	-	-	-
WWIS	<i>Water Well Information System</i>	N	-	-	-
Total:			0	22	22

Executive Summary: Site Report Summary - Project Property

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist (m)</i>	<i>Elev diff (m)</i>	<i>Page Number</i>
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No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist (m)</i>	<i>Elev Diff (m)</i>	<i>Page Number</i>
1	FSTH	CRONKWRIGHT TRANSPORT LIMITED	405 QUEENSWAY ST W SIMCOE ON N3Y 2N4	S/16.4	0.00	15
1	FSTH	CRONKWRIGHT TRANSPORT LIMITED	405 QUEENSWAY ST W SIMCOE ON N3Y 2N4	S/16.4	0.00	15
1	GEN	CRONKWRIGHT TRANSPORT LIMITED 11-334	405 QUEENSWAY WEST SIMCOE HALDIMAND-NORFOLK ON N3Y 4N8	S/16.4	0.00	15
1	GEN	CRONKWRIGHT TRANSPORT LIMITED	405 QUEENSWAY WEST SIMCOE HALDIMAND-NORFOLK ON N3Y 2N4	S/16.4	0.00	16
1	GEN	CRONKWRIGHT TRANSPORT	405 QUEENSWAY W. SIMCOE ON N3Y 2N4	S/16.4	0.00	16
1	GEN	CRONWRIGHT (SEE&USE ON0967100)	405 QUEENSWAY W. SIMCOE ON N3Y 2N4	S/16.4	0.00	16
1	GEN	CRONKWRIGHT TRANSPORT LIMITED	405 QUEENSWAY WEST SIMCOE HADIMAN-NORFOLK ON N3Y 4N8	S/16.4	0.00	17
1	PRT	CRONKWRIGHT TRANSPORT LIMITED	405 QUEENSWAY W SIMCOE ON N3Y 2N4	S/16.4	0.00	17
1	PRT	CRONKWRIGHT TRANSPORT LIMITED	405 QUEENSWAY W SIMCOE ON N3Y 2N4	S/16.4	0.00	17
1	SPL	Wilson Truck & Trailer	405 Queensway West, Simcoe Norfolk ON	S/16.4	0.00	17
2	GEN	Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	WSW/39.8	0.00	18
2	GEN	Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	WSW/39.8	0.00	18

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist (m)</i>	<i>Elev Diff (m)</i>	<i>Page Number</i>
<u>2</u>	GEN	Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	WSW/39.8	0.00	<u>18</u>
<u>2</u>	GEN	Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON	WSW/39.8	0.00	<u>19</u>
<u>2</u>	GEN	Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	WSW/39.8	0.00	<u>19</u>
<u>2</u>	GEN	Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	WSW/39.8	0.00	<u>19</u>
<u>2</u>	GEN	Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	WSW/39.8	0.00	<u>19</u>
<u>2</u>	GEN	Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	WSW/39.8	0.00	<u>20</u>
<u>2</u>	GEN	Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	WSW/39.8	0.00	<u>20</u>
<u>3</u>	GEN	Friedrich Motors Ltd.	370 Queensway Drive West Simcoe ON N3Y 2N2	SE/107.5	1.00	<u>20</u>
<u>4</u>	RST	JIFFY LUBE	439 QUEENSWAY W SIMCOE ON N3Y2N4	WSW/229.9	1.70	<u>21</u>
<u>4</u>	RST	JIFFY LUBE	439 QUEENSWAY W SIMCOE ON N3Y 2N4	WSW/229.9	1.70	<u>21</u>

Executive Summary: Summary By Data Source

FSTH - Fuel Storage Tank - Historic

A search of the FSTH database, dated Pre-Jan 2010* has found that there are 2 FSTH site(s) within approximately 0.25 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
CRONKWRIGHT TRANSPORT LIMITED	405 QUEENSWAY ST W SIMCOE ON N3Y 2N4	16.4	<u>1</u>
CRONKWRIGHT TRANSPORT LIMITED	405 QUEENSWAY ST W SIMCOE ON N3Y 2N4	16.4	<u>1</u>

GEN - Ontario Regulation 347 Waste Generators Summary

A search of the GEN database, dated 1986-Dec 31, 2018 has found that there are 15 GEN site(s) within approximately 0.25 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
CRONKWRIGHT TRANSPORT	405 QUEENSWAY W. SIMCOE ON N3Y 2N4	16.4	<u>1</u>
CRONWRIGHT (SEE&USE ON0967100)	405 QUEENSWAY W. SIMCOE ON N3Y 2N4	16.4	<u>1</u>
CRONKWRIGHT TRANSPORT LIMITED	405 QUEENSWAY WEST SIMCOE HADIMAN-NORFOLK ON N3Y 4N8	16.4	<u>1</u>
CRONKWRIGHT TRANSPORT LIMITED	405 QUEENSWAY WEST SIMCOE HALDIMAND-NORFOLK ON N3Y 2N4	16.4	<u>1</u>
CRONKWRIGHT TRANSPORT LIMITED 11-334	405 QUEENSWAY WEST SIMCOE HALDIMAND-NORFOLK ON N3Y 4N8	16.4	<u>1</u>
Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	39.8	<u>2</u>

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	39.8	<u>2</u>
Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	39.8	<u>2</u>
Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	39.8	<u>2</u>
Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	39.8	<u>2</u>
Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	39.8	<u>2</u>
Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON	39.8	<u>2</u>
Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	39.8	<u>2</u>
Queensway veterinary hospital professional corpora	415 Queensway West Simcoe ON N3Y 2N4	39.8	<u>2</u>
Friedrich Motors Ltd.	370 Queensway Drive West Simcoe ON N3Y 2N2	107.5	<u>3</u>

PRT - Private and Retail Fuel Storage Tanks

A search of the PRT database, dated 1989-1996* has found that there are 2 PRT site(s) within approximately 0.25 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
CRONKWRIGHT TRANSPORT LIMITED	405 QUEENSWAY W SIMCOE ON N3Y 2N4	16.4	1
CRONKWRIGHT TRANSPORT LIMITED	405 QUEENSWAY W SIMCOE ON N3Y 2N4	16.4	1

RST - Retail Fuel Storage Tanks

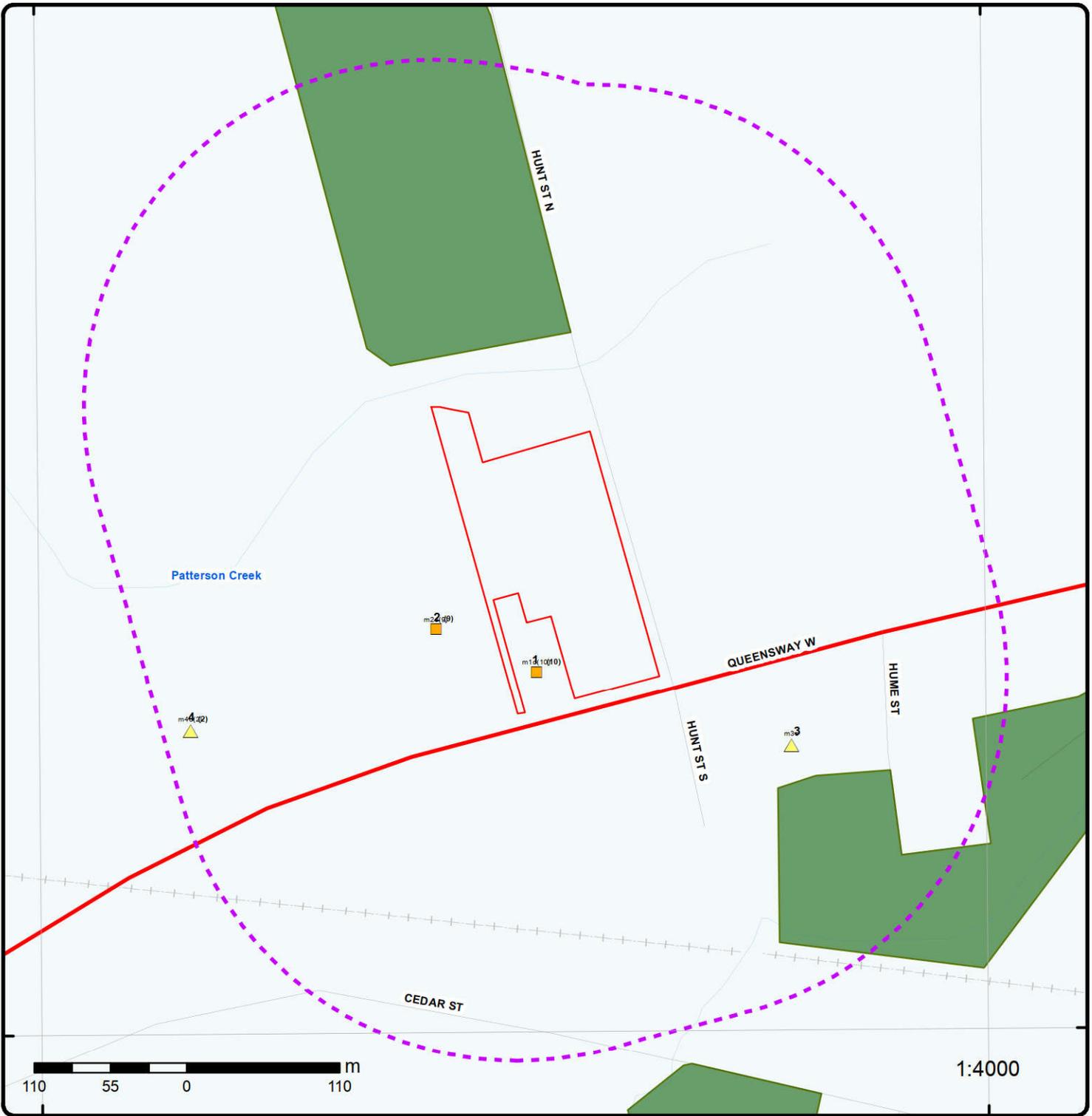
A search of the RST database, dated 1999-Jan 31, 2019 has found that there are 2 RST site(s) within approximately 0.25 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
JIFFY LUBE	439 QUEENSWAY W SIMCOE ON N3Y2N4	229.9	4
JIFFY LUBE	439 QUEENSWAY W SIMCOE ON N3Y 2N4	229.9	4

SPL - Ontario Spills

A search of the SPL database, dated 1988-Dec 2018 has found that there are 1 SPL site(s) within approximately 0.25 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
Wilson Truck & Trailer	405 Queensway West, Simcoe Norfolk ON	16.4	1



42°50'30"N

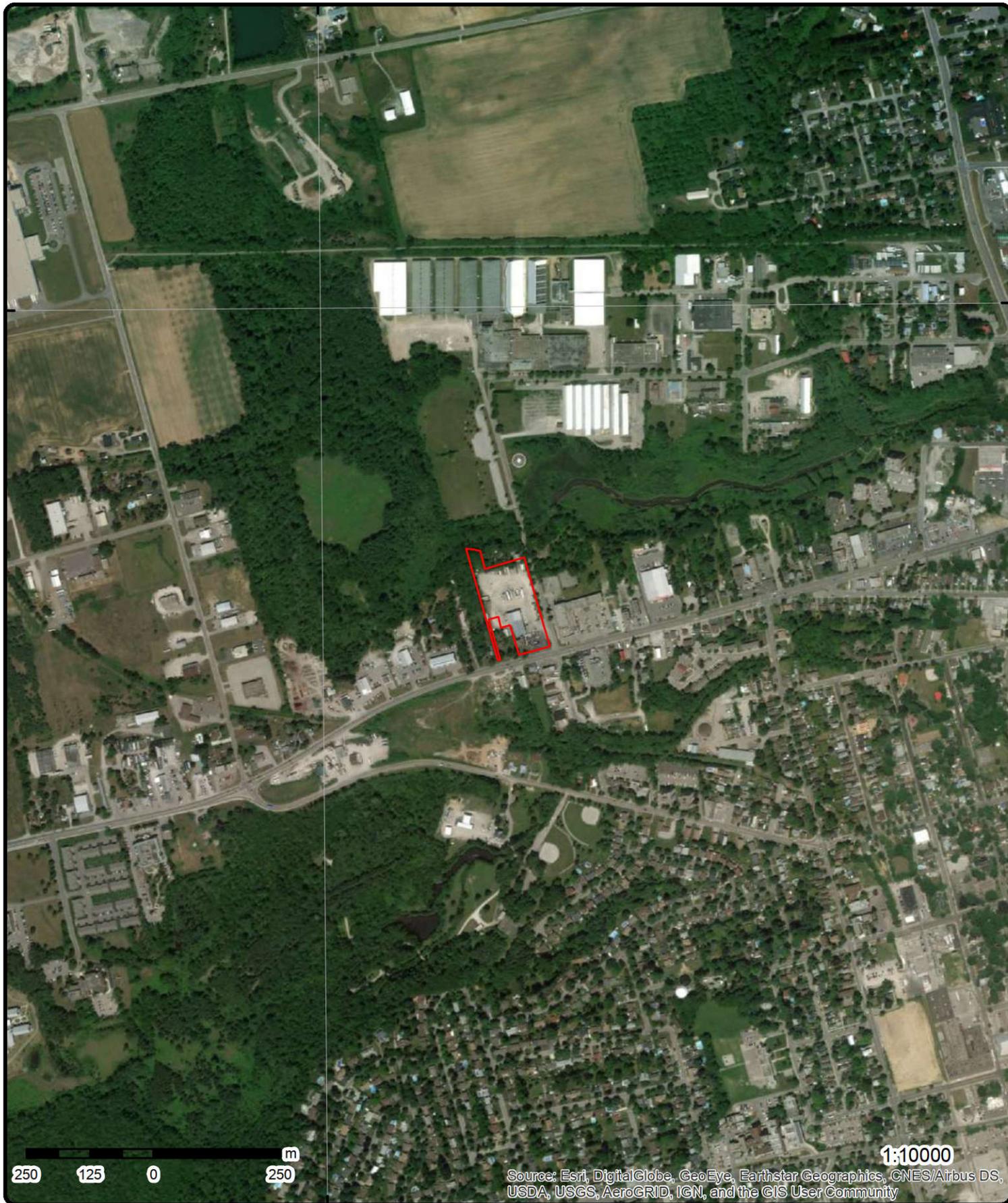
42°50'30"N

Map : 0.25 Kilometer Radius

Order No: 20190425116
Address: 395 Queensway West, Simcoe, ON, N3Y 2N4



Project Property	Expressway	Industrial and Resource - Regions	National Park
Buffer Outline	Principal Highway	Main Line	Provincial or Territorial Park
Eris Sites with Higher Elevation	Secondary Highway	Sidetrack	Other Park
Eris Sites with Same Elevation	Major Road	Transit Line	Golf Course or Driving Range
Eris Sites with Lower Elevation	Local road	Abandoned Line	Park or Sports Field
Eris Sites with Unknown Elevation	Trail	Ferry Route/Ice Road	Other Recreation Area
	Proposed Road		



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

1:10000

Aerial (2012)

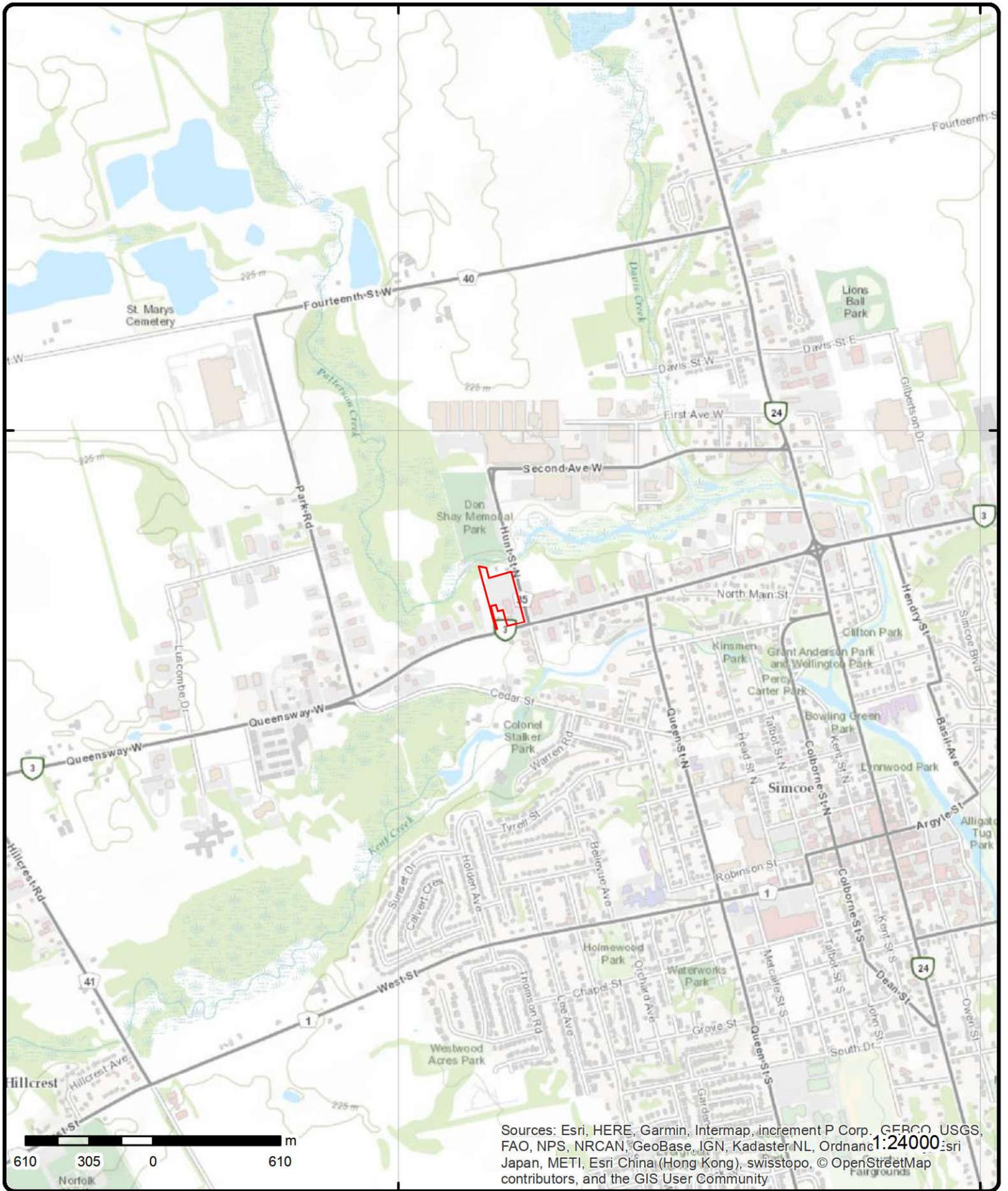
Address: 395 Queensway West, Simcoe, ON, N3Y 2N4

Source: ESRI World Imagery

Order No: 20190425116



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Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

Topographic Map

Address: 395 Queensway West, Simcoe, ON, N3Y 2N4

Source: ESRI World Topographic Map

Order No: 20190425116



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Detail Report

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
1	1 of 10	S/16.4	214.8 / 0.00	CRONKWRIGHT TRANSPORT LIMITED 405 QUEENSWAY ST W SIMCOE ON N3Y 2N4	FSTH
License Issue Date:		12/10/1990			
Tank Status:		Licensed			
Tank Status As Of:		December 2008			
Operation Type:		Private Fuel Outlet			
Facility Type:		Gasoline Station - Self Serve			
--Details--					
Status:		Active			
Year of Installation:		1990			
Corrosion Protection:					
Capacity:		10000			
Tank Fuel Type:		Liquid Fuel Single Wall UST - Gasoline			
Status:		Active			
Year of Installation:		1990			
Corrosion Protection:					
Capacity:		50000			
Tank Fuel Type:		Liquid Fuel Single Wall UST - Diesel			
1	2 of 10	S/16.4	214.8 / 0.00	CRONKWRIGHT TRANSPORT LIMITED 405 QUEENSWAY ST W SIMCOE ON N3Y 2N4	FSTH
License Issue Date:		12/10/1990			
Tank Status:		Licensed			
Tank Status As Of:		August 2007			
Operation Type:		Private Fuel Outlet			
Facility Type:		Gasoline Station - Self Serve			
--Details--					
Status:		Active			
Year of Installation:		1990			
Corrosion Protection:					
Capacity:		10000			
Tank Fuel Type:		Liquid Fuel Single Wall UST - Gasoline			
Status:		Active			
Year of Installation:		1990			
Corrosion Protection:					
Capacity:		50000			
Tank Fuel Type:		Liquid Fuel Single Wall UST - Diesel			
1	3 of 10	S/16.4	214.8 / 0.00	CRONKWRIGHT TRANSPORT LIMITED 11-334 405 QUEENSWAY WEST SIMCOE HALDIMAND-NORFOLK ON N3Y 4N8	GEN
Generator No:		ON0967100		PO Box No:	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Status: Approval Years: 92,93,94,95,96,97,98 Contam. Facility: MHSW Facility: SIC Code: 4561 SIC Description: GEN. FREIGHT TRUCK. Country: Choice of Contact: Co Admin: Phone No Admin:					
--Details--					
Waste Code: 252					
Waste Description: WASTE OILS & LUBRICANTS					
Waste Code: 213					
Waste Description: PETROLEUM DISTILLATES					
<u>1</u>	4 of 10	S/16.4	214.8 / 0.00	CRONKWRIGHT TRANSPORT LIMITED 405 QUEENSWAY WEST SIMCOE HALDIMAND-NORFOLK ON N3Y 2N4	GEN
Generator No: ON0967100 Status: Approval Years: 89,90,99,00,01 Contam. Facility: MHSW Facility: SIC Code: 4561 SIC Description: GEN. FREIGHT TRUCK. PO Box No: Country: Choice of Contact: Co Admin: Phone No Admin:					
--Details--					
Waste Code: 213					
Waste Description: PETROLEUM DISTILLATES					
Waste Code: 252					
Waste Description: WASTE OILS & LUBRICANTS					
<u>1</u>	5 of 10	S/16.4	214.8 / 0.00	CRONKWRIGHT TRANSPORT 405 QUEENSWAY W. SIMCOE ON N3Y 2N4	GEN
Generator No: ON0829600 Status: Approval Years: 86,87,88,89,90 Contam. Facility: MHSW Facility: SIC Code: 0000 SIC Description: *** NOT DEFINED *** PO Box No: Country: Choice of Contact: Co Admin: Phone No Admin:					
<u>1</u>	6 of 10	S/16.4	214.8 / 0.00	CRONWRIGHT (SEE&USE ON0967100) 405 QUEENSWAY W. SIMCOE ON N3Y 2N4	GEN
Generator No: ON0829600 Status: Approval Years: 92,93,94 Contam. Facility: MHSW Facility: SIC Code: 0000 SIC Description: *** NOT DEFINED *** PO Box No: Country: Choice of Contact: Co Admin: Phone No Admin:					

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
<u>1</u>	7 of 10	S/16.4	214.8 / 0.00	CRONKWRIGHT TRANSPORT LIMITED 405 QUEENSWAY WEST SIMCOE HADIMAN-NORFOLK ON N3Y 4N8	GEN
Generator No:	ON0967100			PO Box No:	
Status:				Country:	
Approval Years:	86,87,88			Choice of Contact:	
Contam. Facility:				Co Admin:	
MHSW Facility:				Phone No Admin:	
SIC Code:	0000				
SIC Description:	*** NOT DEFINED ***				
--Details--					
Waste Code:	252				
Waste Description:	WASTE OILS & LUBRICANTS				
<u>1</u>	8 of 10	S/16.4	214.8 / 0.00	CRONKWRIGHT TRANSPORT LIMITED 405 QUEENSWAY W SIMCOE ON N3Y 2N4	PRT
Location ID:	13437				
Type:	private				
Expiry Date:					
Capacity (L):	54552.00				
Licence #:	0001027091				
<u>1</u>	9 of 10	S/16.4	214.8 / 0.00	CRONKWRIGHT TRANSPORT LIMITED 405 QUEENSWAY W SIMCOE ON N3Y 2N4	PRT
Location ID:	13437				
Type:	retail				
Expiry Date:					
Capacity (L):	60000				
Licence #:	0001045494				
<u>1</u>	10 of 10	S/16.4	214.8 / 0.00	Wilson Truck & Trailer 405 Queensway West, Simcoe Norfolk ON	SPL
Ref No:	4082-5JMM3M			Discharger Report:	
Site No:				Material Group:	Oil
Incident Dt:	2/5/2003			Health/Env Conseq:	
Year:				Client Type:	
Incident Cause:	Container Leak (Fuel Tank Barrels)			Sector Type:	Other Storage Facility
Incident Event:				Agency Involved:	
Contaminant Code:	15			Nearest Watercourse:	
Contaminant Name:	MOTOR OIL			Site Address:	
Contaminant Limit 1:				Site District Office:	Hamilton
Contam Limit Freq 1:				Site Postal Code:	
Contaminant UN No 1:				Site Region:	West Central
Environment Impact:	Possible			Site Municipality:	Norfolk
Nature of Impact:	Groundwater Pollution; Soil Contamination			Site Lot:	
Receiving Medium:	Land & Water			Site Conc:	
Receiving Env:				Northing:	NA
MOE Response:				Easting:	NA
Dt MOE Arvl on Scn:				Site Geo Ref Accu:	
MOE Reported Dt:	2/10/2003			Site Map Datum:	
Dt Document Closed:				SAC Action Class:	Spill to Land; Spills
Incident Reason:	Negligence (Apparent) - Caused by lack of			Source Type:	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
				diligence WILSON TRUCK & TRAILER	
				Site Name: Site County/District: Site Geo Ref Meth: Incident Summary: Contaminant Qty:	
				Small spill of motor oil to ground from UST 60 L	
2	1 of 9	WSW/39.8	214.8 / 0.00	Queensway veterinary hospital professional corpora 415 Queensway West Simcoe ON N3Y 2N4	GEN
				Generator No: ON7920140 Status: Registered Approval Years: As of Dec 2018 Contam. Facility: MHSW Facility: SIC Code: SIC Description:	
				PO Box No: Country: Canada Choice of Contact: Co Admin: Phone No Admin:	
				--Details-- Waste Code: 312 P Waste Description: Pathological wastes	
2	2 of 9	WSW/39.8	214.8 / 0.00	Queensway veterinary hospital professional corpora 415 Queensway West Simcoe ON N3Y 2N4	GEN
				Generator No: ON7920140 Status: Approval Years: 2014 Contam. Facility: No MHSW Facility: No SIC Code: 621390 SIC Description: OFFICES OF ALL OTHER HEALTH PRACTITIONERS	
				PO Box No: Country: Canada Choice of Contact: CO_ADMIN Co Admin: Jill Manchester Phone No Admin: 5194282630 Ext.	
				--Details-- Waste Code: 312 Waste Description: PATHOLOGICAL WASTES	
2	3 of 9	WSW/39.8	214.8 / 0.00	Queensway veterinary hospital professional corpora 415 Queensway West Simcoe ON N3Y 2N4	GEN
				Generator No: ON7920140 Status: Approval Years: 2016 Contam. Facility: No MHSW Facility: No SIC Code: 621390 SIC Description: OFFICES OF ALL OTHER HEALTH PRACTITIONERS	
				PO Box No: Country: Canada Choice of Contact: CO_ADMIN Co Admin: Jill Manchester Phone No Admin: 5194282630 Ext.	
				--Details-- Waste Code: 312 Waste Description: PATHOLOGICAL WASTES	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
2	4 of 9	WSW/39.8	214.8 / 0.00	Queensway veterinary hospital professional corpora 415 Queensway West Simcoe ON	GEN
Generator No:	ON7920140			PO Box No:	
Status:				Country:	
Approval Years:	2013			Choice of Contact:	
Contam. Facility:				Co Admin:	
MHSW Facility:				Phone No Admin:	
SIC Code:	621390				
SIC Description:	OFFICES OF ALL OTHER HEALTH PRACTITIONERS				
--Details--					
Waste Code:	312				
Waste Description:	PATHOLOGICAL WASTES				
2	5 of 9	WSW/39.8	214.8 / 0.00	Queensway veterinary hospital professional corpora 415 Queensway West Simcoe ON N3Y 2N4	GEN
Generator No:	ON7920140			PO Box No:	
Status:				Country:	Canada
Approval Years:	2015			Choice of Contact:	CO_ADMIN
Contam. Facility:	No			Co Admin:	Jill Manchester
MHSW Facility:	No			Phone No Admin:	5194282630 Ext.
SIC Code:	621390				
SIC Description:	OFFICES OF ALL OTHER HEALTH PRACTITIONERS				
--Details--					
Waste Code:	312				
Waste Description:	PATHOLOGICAL WASTES				
2	6 of 9	WSW/39.8	214.8 / 0.00	Queensway veterinary hospital professional corpora 415 Queensway West Simcoe ON N3Y 2N4	GEN
Generator No:	ON7920140			PO Box No:	
Status:				Country:	
Approval Years:	2011			Choice of Contact:	
Contam. Facility:				Co Admin:	
MHSW Facility:				Phone No Admin:	
SIC Code:	621390				
SIC Description:	Offices of All Other Health Practitioners				
--Details--					
Waste Code:	312				
Waste Description:	PATHOLOGICAL WASTES				
2	7 of 9	WSW/39.8	214.8 / 0.00	Queensway veterinary hospital professional corpora 415 Queensway West Simcoe ON N3Y 2N4	GEN

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
<p>Generator No: ON7920140 Status: Approval Years: 2012 Contam. Facility: MHSW Facility: SIC Code: 621390 SIC Description: Offices of All Other Health Practitioners</p> <p>PO Box No: Country: Choice of Contact: Co Admin: Phone No Admin:</p> <p>--Details-- Waste Code: 312 Waste Description: PATHOLOGICAL WASTES</p>					
2	8 of 9	WSW/39.8	214.8 / 0.00	Queensway veterinary hospital professional corpora 415 Queensway West Simcoe ON N3Y 2N4	GEN
<p>Generator No: ON7920140 Status: Approval Years: 2010 Contam. Facility: MHSW Facility: SIC Code: 621390 SIC Description: Offices of All Other Health Practitioners</p> <p>PO Box No: Country: Choice of Contact: Co Admin: Phone No Admin:</p> <p>--Details-- Waste Code: 312 Waste Description: PATHOLOGICAL WASTES</p>					
2	9 of 9	WSW/39.8	214.8 / 0.00	Queensway veterinary hospital professional corpora 415 Queensway West Simcoe ON N3Y 2N4	GEN
<p>Generator No: ON7920140 Status: Approval Years: 2009 Contam. Facility: MHSW Facility: SIC Code: 621390 SIC Description: Offices of All Other Health Practitioners</p> <p>PO Box No: Country: Choice of Contact: Co Admin: Phone No Admin:</p> <p>--Details-- Waste Code: 312 Waste Description: PATHOLOGICAL WASTES</p>					
3	1 of 1	SE/107.5	215.8 / 1.00	Friedrich Motors Ltd. 370 Queensway Drive West Simcoe ON N3Y 2N2	GEN
<p>Generator No: ON6092592 Status: Approval Years: 04 Contam. Facility: MHSW Facility: SIC Code: 811199 SIC Description: All Other Automotive Repair and Maintenance</p> <p>PO Box No: Country: Choice of Contact: Co Admin: Phone No Admin:</p>					

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
<u>4</u>	1 of 2	WSW/229.9	216.5 / 1.70	JIFFY LUBE 439 QUEENSWAY W SIMCOE ON N3Y2N4	RST
Headcode:		00921430			
Headcode Desc:		OIL CHANGES & LUBRICATION SERVICE			
Phone:		5194283101			
List Name:		INFO-DIRECT(TM) BUSINESS FILE			
Description:					

<u>4</u>	2 of 2	WSW/229.9	216.5 / 1.70	JIFFY LUBE 439 QUEENSWAY W SIMCOE ON N3Y 2N4	RST
Headcode:		00921430			
Headcode Desc:		OIL CHANGES & LUBRICATION SERVICE			
Phone:					
List Name:					
Description:					

Unplottable Summary

Total: **28** Unplottable sites

DB	Company Name/Site Name	Address	City	Postal
GEN	NORFOLK COUNTY	HIGHWAY #3 WEST REGIONAL GARAGE	SIMCOE ON	N3Y 4M1
GEN	HALDIMAND-NORFOLK REGION 19-043	HIGHWAY #3 WEST SIMCOE C/O 70 TOWN CENTRE DRIVE	TOWNSEND ON	N0A 1S0
GEN	CAYUGA AUTOMATIC MACHINING LTD.	1/4 MI SOUTH ON KOHLER RD, OFF HWY #3 C/O R.R. #3, P.O. BOX 339	HALDIMAND NORFOLK ON	N0A 1E0
GEN	CAYUGA AUTOMATIC MACHINING LTD. 09-195	1/4 MI SOUTH ON KOHLER RD, OFF HWY #3 C/O R.R. #3, P.O. BOX 339	HALDIMAND NORFOLK ON	N0A 1E0
GEN	NORFOLK (SEE & USE ON0324601)	HIGHWAY #3 WEST REGIONAL GARAGE	SIMCOE ON	N3Y 4M1
GEN	HALDIMAND-NORFOLK, REGIONAL MUNIC. OF	HIGHWAY #3 WEST	SIMCOE ON	N3Y 4M1
GEN	Imperial Oil Limited	Lot 15, River Range	Town of Haldimand ON	N3W 2J7
GEN	HAROLD PEPPER & SONS LTD.	R.R. #3 HALDIMAND - NORFOLK	SIMCOE ON	
GEN	HALDIMAND-NORFOLK, REGIONAL MUNIC. OF	HIGHWAY #3 WEST REGIONAL GARAGE	SIMCOE ON	N3Y 4M1
GEN	DECLOET LTD.	HWY. NO.3- E., LOT 16 CONC. 3, NORFOLK C/O P.O.BOX 145	TILLSONBURG ON	N4G 4H3
SPL	PUC	HWY #3 AND WORKS DEPT YARD MOTOR VEHICLE (OPERATING FLUID)	SIMCOE TOWN ON	
SPL	HALDIMAND/NORFOLK WORKS	SIMCOE ROADS GARAGE QUEENSWAY WEST (HIGHWAY #3)	SIMCOE TOWN ON	
SPL	GREENHOUSE N.O.S.	FERNLEA FLOWERS HWY 3, COURTLAND	NORFOLK TWP. ON	
SPL	TRANSPORT TRUCK	GRAND RIVER FROM HWY 3 BRIDGE MOTOR VEHICLE (OPERATING FLUID)	HALDIMAND TOWN ON	
SPL	PRIVATE BUSINESS	GRAND RIVER, PRIVATE STORM OUTFALL 29 HWY 3, CAYUGA	HALDIMAND ON	
SPL	PRIVATE RESIDENCE	HIGHWAY 3 1.5 MILES WEST OF CANBOROUGH ON THE SOUTH SIDE.COLLARD RESIDENCE FURNACE OIL TANK	HALDIMAND-NORFOLK R.M. ON	

SPL	PRIVATE OWNER	HIGHWAY 3, 250 METRES WEST OF NORFOLK MALL. MOTOR VEHICLE (OPERATING FLUID)	NORFOLK TOWNSHIP ON
SPL	IRELAND ORCHARDS	SOUTH OF BRANTFORD, SW OF MAIN LIGHTS ONHWY 3.	SIMCOE TOWN ON
SPL	TRANSPORT TRUCK	HWY 3 JUST OUTSIDE CAYUGA. MOTOR VEHICLE (OPERATING FLUID)	HALDIMAND TOWN ON
SPL	SIMCOE FLYING CLUB	HWY. 3, ACROSS FROM CDN. TIRE SHOPPING MALL	SIMCOE TOWN ON
SPL	Terratec Environmental Ltd.	Highway #3 CULBOLL FARM #9	Norfolk ON
SPL	Air Products Canada Ltd<UNOFFICIAL>	Regional Road #3 (Lake Erie Industrial Park)	Haldimand ON
SPL	Terratec Environmental Ltd.	REGIONAL ROAD 3, 1/4 MILE WEST OF KOHLER ROAD (COUNTY ROAD 12)<UNOFFICIAL>	Haldimand ON
SPL		Just west of Haldimand Rd #55 on Haldimand Rd #3<UNOFFICIAL>	Haldimand ON
SPL		Highway, 3	Norfolk ON
SPL	Terratec Environmental Ltd.	Highway 3, Dunnville	Haldimand ON
SPL		Highway 3 - West of Highway 56, Cayuga	Haldimand ON
SPL		Highway 3 (east of Haldimand Rd. 56)	Haldimand ON

Unplottable Report

Site: NORFOLK COUNTY
HIGHWAY #3 WEST REGIONAL GARAGE SIMCOE ON N3Y 4M1

Database:
GEN

Generator No: ON0354800
Status:
Approval Years: 00
Contam. Facility:
MHSW Facility:
SIC Code: 8371
SIC Description: TRANSPORTATION ADMIN.

PO Box No:
Country:
Choice of Contact:
Co Admin:
Phone No Admin:

--Details--

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Site: HALDIMAND-NORFOLK REGION 19-043
HIGHWAY #3 WEST SIMCOE C/O 70 TOWN CENTRE DRIVE TOWNSEND ON N0A 1S0

Database:
GEN

Generator No: ON0354800
Status:
Approval Years: 94,95,96
Contam. Facility:
MHSW Facility:
SIC Code: 6351
SIC Description: GARAGES(GEN. REPAIR)

PO Box No:
Country:
Choice of Contact:
Co Admin:
Phone No Admin:

--Details--

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Site: CAYUGA AUTOMATIC MACHINING LTD.
1/4 MI SOUTH ON KOHLER RD, OFF HWY #3 C/O R.R. #3, P.O. BOX 339 HALDIMAND NORFOLK ON N0A 1E0

Database:
GEN

Generator No: ON0965500
Status:
Approval Years: 86,87,88,89,90

PO Box No:
Country:
Choice of Contact:

Contam. Facility:
MHSW Facility:
SIC Code: 0000
SIC Description: *** NOT DEFINED ***

Co Admin:
Phone No Admin:

--Details--

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 253
Waste Description: EMULSIFIED OILS

Site: CAYUGA AUTOMATIC MACHINING LTD. 09-195
1/4 MI SOUTH ON KOHLER RD, OFF HWY #3 C/O R.R. #3, P.O. BOX 339 HALDIMAND NORFOLK ON N0A 1E0

Database:
GEN

Generator No: ON0965500
Status:
Approval Years: 92,93,94,95,96,97,98
Contam. Facility:
MHSW Facility:
SIC Code: 3081
SIC Description: MACHINE SHOP IND.

PO Box No:
Country:
Choice of Contact:
Co Admin:
Phone No Admin:

--Details--

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 253
Waste Description: EMULSIFIED OILS

Site: NORFOLK (SEE & USE ON0324601)
HIGHWAY #3 WEST REGIONAL GARAGE SIMCOE ON N3Y 4M1

Database:
GEN

Generator No: ON0354800
Status:
Approval Years: 01
Contam. Facility:
MHSW Facility:
SIC Code: 8371
SIC Description: TRANSPORTATION ADMIN.

PO Box No:
Country:
Choice of Contact:
Co Admin:
Phone No Admin:

--Details--

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Site: HALDIMAND-NORFOLK, REGIONAL MUNIC. OF
HIGHWAY #3 WEST SIMCOE ON N3Y 4M1

Database:
GEN

Generator No: ON0354800
PO Box No:

Status:
Approval Years: 92,93,97
Contam. Facility:
MHSW Facility:
SIC Code: 6351
SIC Description: GARAGES(GEN. REPAIR)

Country:
Choice of Contact:
Co Admin:
Phone No Admin:

--Details--
Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Site: Imperial Oil Limited
Lot 15, River Range Town of Haldimand ON N3W 2J7

Database:
GEN

Generator No: ON4754784
Status:
Approval Years: 02,03,04
Contam. Facility:
MHSW Facility:
SIC Code:
SIC Description:

PO Box No:
Country:
Choice of Contact:
Co Admin:
Phone No Admin:

--Details--
Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Site: HAROLD PEPPER & SONS LTD.
R.R. #3 HALDIMAND - NORFOLK SIMCOE ON

Database:
GEN

Generator No: ON1405100
Status:
Approval Years: 2009
Contam. Facility:
MHSW Facility:
SIC Code: 484222
SIC Description: Dry Bulk Materials Trucking Local

PO Box No:
Country:
Choice of Contact:
Co Admin:
Phone No Admin:

--Details--
Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Site: HALDIMAND-NORFOLK, REGIONAL MUNIC. OF
HIGHWAY #3 WEST REGIONAL GARAGE SIMCOE ON N3Y 4M1

Database:
GEN

Generator No: ON0354800
Status:
Approval Years: 98,99
Contam. Facility:
MHSW Facility:
SIC Code: 6351
SIC Description: GARAGES(GEN. REPAIR)

PO Box No:
Country:
Choice of Contact:
Co Admin:
Phone No Admin:

--Details--
Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Site: **DECLOET LTD.**
HWY. NO.3- E., LOT 16 CONC. 3, NORFOLK C/O P.O.BOX 145 TILLSONBURG ON N4G 4H3

Database:
GEN

Generator No: ON0304202
Status:
Approval Years: 89,90
Contam. Facility:
MHSW Facility:
SIC Code: 3111
SIC Description: AGRICULTURAL IMPL.

PO Box No:
Country:
Choice of Contact:
Co Admin:
Phone No Admin:

--Details--

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Site: **PUC**
HWY #3 AND WORKS DEPT YARD MOTOR VEHICLE (OPERATING FLUID) SIMCOE TOWN ON

Database:
SPL

Ref No: 105008
Site No:
Incident Dt: 9/9/1994
Year:
Incident Cause: OTHER CONTAINER LEAK
Incident Event:
Contaminant Code:
Contaminant Name:
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: NOT ANTICIPATED
Nature of Impact:
Receiving Medium: LAND
Receiving Env:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 9/9/1994
Dt Document Closed:
Incident Reason: ERROR
Site Name:
Site County/District:
Site Geo Ref Meth:
Incident Summary: HALDIMAND-NORFOLK PUC: 25 L DIESEL FUEL TO HWY #3 FROM ASPHALT TRUCK.
Contaminant Qty:

Discharger Report:
Material Group:
Health/Env Conseq:
Client Type:
Sector Type:
Agency Involved:
Nearest Watercourse:
Site Address:
Site District Office:
Site Postal Code:
Site Region:
Site Municipality: 12403
Site Lot:
Site Conc:
Northing:
Easting:
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class:
Source Type:

Site: **HALDIMAND/NORFOLK WORKS**
SIMCOE ROADS GARAGE QUEENSWAY WEST (HIGHWAY #3) SIMCOE TOWN ON

Database:
SPL

Ref No: 113343
Site No:
Incident Dt: 5/18/1995
Year:
Incident Cause: OTHER TRANSPORTATION ACCIDENT
Incident Event:
Contaminant Code:
Contaminant Name:
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: POSSIBLE
Nature of Impact: Soil contamination
Receiving Medium: LAND
Receiving Env:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 5/18/1995
Dt Document Closed:
Incident Reason: ERROR
Site Name:
Site County/District:
Site Geo Ref Meth:
Incident Summary: HALDIMAND WORKS: 175L OF LATEX WHITE TRAFFIC PAINTTO GROUND ON PREMISES.
Contaminant Qty:

Discharger Report:
Material Group:
Health/Env Conseq:
Client Type:
Sector Type:
Agency Involved:
Nearest Watercourse:
Site Address:
Site District Office:
Site Postal Code:
Site Region:
Site Municipality: 12403
Site Lot:
Site Conc:
Northing:
Easting:
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class:
Source Type:

Site: GREENHOUSE N.O.S.
 FERNLEA FLOWERS HWY 3, COURTLAND NORFOLK TWP. ON

Database:
 SPL

Ref No: 57862
Site No:
Incident Dt: 9/27/1991
Year:
Incident Cause: OTHER CONTAINER LEAK
Incident Event:
Contaminant Code:
Contaminant Name:
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: POSSIBLE
Nature of Impact: Human health
Receiving Medium: LAND / AIR
Receiving Env:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 9/27/1991
Dt Document Closed:
Incident Reason: ERROR
Site Name:
Site County/District:
Site Geo Ref Meth:
Incident Summary: FERNLEA FLOWERS - 1125 L NITRIC ACID TO FLOOR IN GREENHOUSE. EVACUATION.
Contaminant Qty:

Discharger Report:
Material Group:
Health/Env Conseq:
Client Type:
Sector Type:
Agency Involved:
Nearest Watercourse:
Site Address:
Site District Office:
Site Postal Code:
Site Region:
Site Municipality: 12602
Site Lot:
Site Conc:
Northing:
Easting: FD, MOE, OPP, AMBULANCE, SANIVAN
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class:
Source Type:

Site: TRANSPORT TRUCK
 GRAND RIVER FROM HWY 3 BRIDGE MOTOR VEHICLE (OPERATING FLUID) HALDIMAND TOWN ON

Database:
 SPL

Ref No: 137557
Site No:
Incident Dt: 2/24/1997
Year:
Incident Cause: OTHER TRANSPORTATION ACCIDENT
Incident Event:
Contaminant Code:
Contaminant Name:

Discharger Report:
Material Group:
Health/Env Conseq:
Client Type:
Sector Type:
Agency Involved:
Nearest Watercourse:
Site Address:

Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: POSSIBLE
Nature of Impact: Water course or lake
Receiving Medium: LAND / WATER
Receiving Env:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 2/24/1997
Dt Document Closed:
Incident Reason: ERROR
Site Name:
Site County/District:
Site Geo Ref Meth:
Incident Summary: ERICK TUIN TRANSPORT: 180L DIESEL TO HWY 3, 22 L TO GRAND RIVER, OPP, MTO.
Contaminant Qty:

Site District Office:
Site Postal Code:
Site Region:
Site Municipality: 12402
Site Lot:
Site Conc:
Northing:
Easting: OPP, MTO
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class:
Source Type:

Site: PRIVATE BUSINESS
 GRAND RIVER, PRIVATE STORM OUTFALL 29 HWY 3, CAYUGA HALDIMAND ON

Database:
 SPL

Ref No: 189761
Site No:
Incident Dt: 10/28/2000
Year:
Incident Cause: OTHER CAUSE (N.O.S.)
Incident Event:
Contaminant Code:
Contaminant Name:
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: POSSIBLE
Nature of Impact: Water course or lake
Receiving Medium: WATER
Receiving Env:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 10/30/2000
Dt Document Closed:
Incident Reason: INTENTIONAL/PLANNED
Site Name:
Site County/District:
Site Geo Ref Meth:
Incident Summary: DENNIS DUREAULT: BLUE/ GREY DISCHARGE OF PAINT SUBSTANCE TO GRAND RIVER.
Contaminant Qty:

Discharger Report:
Material Group:
Health/Env Conseq:
Client Type:
Sector Type:
Agency Involved:
Nearest Watercourse:
Site Address:
Site District Office:
Site Postal Code:
Site Region:
Site Municipality: 12405
Site Lot:
Site Conc:
Northing:
Easting:
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class:
Source Type:

Site: PRIVATE RESIDENCE
 HIGHWAY 3 1.5 MILES WEST OF CANBOROUGH ON THE SOUTH SIDE. COLLARD RESIDENCE FURNACE OIL TANK HALDIMAND-NORFOLK R.M. ON

Database:
 SPL

Ref No: 11517
Site No:
Incident Dt: 11/8/1988
Year:
Incident Cause: OTHER CONTAINER LEAK
Incident Event:
Contaminant Code:
Contaminant Name:
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact:
Nature of Impact:
Receiving Medium: LAND / WATER
Receiving Env:

Discharger Report:
Material Group:
Health/Env Conseq:
Client Type:
Sector Type:
Agency Involved:
Nearest Watercourse:
Site Address:
Site District Office:
Site Postal Code:
Site Region:
Site Municipality: 12000
Site Lot:
Site Conc:
Northing:

MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 11/8/1988
Dt Document Closed:
Incident Reason: INTENTIONAL/PLANNED
Site Name:
Site County/District:
Site Geo Ref Meth:
Incident Summary:
Contaminant Qty:

Easting:
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class:
Source Type:

M.P. AND COUNCILLOR REQUESTING INFORMATION ON RED DYE IN DITCH

Site: PRIVATE OWNER
HIGHWAY 3, 250 METRES WEST OF NORFOLK MALL. MOTOR VEHICLE (OPERATING FLUID) NORFOLK
TOWNSHIP ON

Database:
SPL

Ref No: 97622
Site No:
Incident Dt: 3/22/1994
Year:
Incident Cause: OTHER CONTAINER LEAK
Incident Event:
Contaminant Code:
Contaminant Name:
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: POSSIBLE
Nature of Impact: Water course or lake
Receiving Medium: WATER
Receiving Env:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 3/22/1994
Dt Document Closed:
Incident Reason: ERROR
Site Name:
Site County/District:
Site Geo Ref Meth:
Incident Summary:
Contaminant Qty:

Discharger Report:
Material Group:
Health/Env Conseq:
Client Type:
Sector Type:
Agency Involved:
Nearest Watercourse:
Site Address:
Site District Office:
Site Postal Code:
Site Region:
Site Municipality: 12602
Site Lot:
Site Conc:
Northing:
Easting:
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class:
Source Type:

PICKUP TRUCK-GASOLINE TO DITCH AND CREEK FROM OVERTURNED VEHICLE.

Site: IRELAND ORCHARDS
SOUTH OF BRANTFORD, SW OF MAIN LIGHTS ON HWY 3. SIMCOE TOWN ON

Database:
SPL

Ref No: 19151
Site No:
Incident Dt: 5/26/1989
Year:
Incident Cause: OTHER CAUSE (N.O.S.)
Incident Event:
Contaminant Code:
Contaminant Name:
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact:
Nature of Impact:
Receiving Medium: LAND / AIR
Receiving Env:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 5/26/1989
Dt Document Closed:
Incident Reason: FIRE/EXPLOSION
Site Name:
Site County/District:

Discharger Report:
Material Group:
Health/Env Conseq:
Client Type:
Sector Type:
Agency Involved:
Nearest Watercourse:
Site Address:
Site District Office:
Site Postal Code:
Site Region:
Site Municipality: 12403
Site Lot:
Site Conc:
Northing:
Easting: F.D., WORKS, MOE.
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class:
Source Type:

Site Geo Ref Meth:
Incident Summary:
Contaminant Qty:

CHEMICAL AND PESTICIDE FIRE IN TOWN OF SIMCOE- UNDER CONTROL

Site: TRANSPORT TRUCK
HWY 3 JUST OUTSIDE CAYUGA. MOTOR VEHICLE (OPERATING FLUID) HALDIMAND TOWN ON

Database:
SPL

Ref No:	145910	Discharger Report:	
Site No:		Material Group:	
Incident Dt:	8/31/1997	Health/Env Conseq:	
Year:		Client Type:	
Incident Cause:	OTHER CONTAINER LEAK	Sector Type:	
Incident Event:		Agency Involved:	
Contaminant Code:		Nearest Watercourse:	
Contaminant Name:		Site Address:	
Contaminant Limit 1:		Site District Office:	
Contam Limit Freq 1:		Site Postal Code:	
Contaminant UN No 1:		Site Region:	
Environment Impact:	POSSIBLE	Site Municipality:	12402
Nature of Impact:	Soil contamination	Site Lot:	
Receiving Medium:	LAND	Site Conc:	
Receiving Env:		Northing:	
MOE Response:		Easting:	OPP,FD,MTO.
Dt MOE Arvl on Scn:		Site Geo Ref Accu:	
MOE Reported Dt:	8/31/1997	Site Map Datum:	
Dt Document Closed:		SAC Action Class:	
Incident Reason:	ERROR	Source Type:	
Site Name:			
Site County/District:			
Site Geo Ref Meth:			
Incident Summary:	VERSPEETEN CARTAGE-1.3 M3DIESEL TO ROADWAY,MVA, CONTAINED,FD,MTO.		
Contaminant Qty:			

Site: SIMCOE FLYING CLUB
HWY. 3, ACROSS FROM CDN. TIRE SHOPPING MALL SIMCOE TOWN ON

Database:
SPL

Ref No:	2955	Discharger Report:	
Site No:		Material Group:	
Incident Dt:	4/28/1988	Health/Env Conseq:	
Year:		Client Type:	
Incident Cause:	PROCESS UPSET	Sector Type:	
Incident Event:		Agency Involved:	
Contaminant Code:		Nearest Watercourse:	
Contaminant Name:		Site Address:	
Contaminant Limit 1:		Site District Office:	
Contam Limit Freq 1:		Site Postal Code:	
Contaminant UN No 1:		Site Region:	
Environment Impact:		Site Municipality:	12403
Nature of Impact:		Site Lot:	
Receiving Medium:	AIR	Site Conc:	
Receiving Env:		Northing:	
MOE Response:		Easting:	
Dt MOE Arvl on Scn:		Site Geo Ref Accu:	
MOE Reported Dt:	4/28/1988	Site Map Datum:	
Dt Document Closed:		SAC Action Class:	
Incident Reason:	FIRE/EXPLOSION	Source Type:	
Site Name:			
Site County/District:			
Site Geo Ref Meth:			
Incident Summary:	SIMCOE FLYING CLUB - BLACK SMOKE		
Contaminant Qty:			

Site: Terratec Environmental Ltd.
Highway #3 CULBOLL FARM #9 Norfolk ON

Database:
SPL

Ref No: 3508-6T8PBE
Site No:
Incident Dt: 9/1/2006
Year:
Incident Cause: Other Transport Accident
Incident Event:
Contaminant Code: 44
Contaminant Name: SEWAGE SLUDGE
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: Possible
Nature of Impact: Surface Water Pollution
Receiving Medium: Water
Receiving Env:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 9/1/2006
Dt Document Closed:
Incident Reason: Spill
Site Name: HIGHWAY #3
Site County/District:
Site Geo Ref Meth:
Incident Summary: Terratec - 35 tonnes sewage to ditch and corn field
Contaminant Qty: 35 tonne

Discharger Report:
Material Group: Wastes
Health/Env Conseq:
Client Type:
Sector Type: Other Motor Vehicle
Agency Involved:
Nearest Watercourse:
Site Address: HIGHWAY #3
Site District Office: Hamilton - District
Site Postal Code:
Site Region:
Site Municipality: Norfolk
Site Lot:
Site Conc:
Northing: NA
Easting: NA
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class:
Source Type:

Site: **Air Products Canada Ltd<UNOFFICIAL>** **Database:**
Regional Road #3 (Lake Erie Industrial Park) Haldimand ON **SPL**

Ref No: 0355-5Q5NZD
Site No:
Incident Dt: 8/3/2003
Year:
Incident Cause: Tank (Above Ground) Leak
Incident Event:
Contaminant Code: 21
Contaminant Name: SULPHURIC ACID
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: Possible
Nature of Impact: Surface Water Pollution
Receiving Medium: Water
Receiving Env:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 8/5/2003
Dt Document Closed:
Incident Reason: Corrosion - All forms of internal/external corrosion
Site Name: AIR PRODUCTS CANADA LTD<UNOFFICIAL>
Site County/District:
Site Geo Ref Meth:
Incident Summary: 125gal Sulfuric Acid to ground, some to strm
Contaminant Qty: 568.75 L

Discharger Report:
Material Group: Chemical
Health/Env Conseq:
Client Type:
Sector Type: Other Plant
Agency Involved:
Nearest Watercourse:
Site Address:
Site District Office: Hamilton
Site Postal Code:
Site Region: West Central
Site Municipality: Haldimand
Site Lot:
Site Conc:
Northing:
Easting:
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class: Spill to Inland Watercourses; Spill to Land
Source Type:

Site: **Terratec Environmental Ltd.** **Database:**
REGIONAL ROAD 3, 1/4 MILE WEST OF KOHLER ROAD (COUNTY ROAD 12)<UNOFFICIAL> **Haldimand ON** **SPL**

Ref No: 1324-64HQLC
Site No:
Incident Dt: 9/4/2004
Year:
Incident Cause: Other Transport Accident
Incident Event:

Discharger Report:
Material Group: Waste
Health/Env Conseq:
Client Type:
Sector Type:
Agency Involved:

Contaminant Code: 45
Contaminant Name: BIO-SOLIDS (N.O.S.)
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: Not Anticipated
Nature of Impact: Soil Contamination
Receiving Medium: Land
Receiving Env:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 9/4/2004
Dt Document Closed:
Incident Reason: Spill
Site Name: REGIONAL ROAD 3, 1/4 MILE WEST OF KOHLER ROAD (COUNTY ROAD 12)<UNOFFICIAL>
Site County/District:
Site Geo Ref Meth:
Incident Summary: Terratec Env'tl, biosolids to roadside
Contaminant Qty: 1 tonne

Nearest Watercourse:
Site Address:
Site District Office: Hamilton
Site Postal Code:
Site Region: West Central
Site Municipality: Haldimand
Site Lot:
Site Conc:
Northing:
Easting:
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class: Spill to Land
Source Type:

Site: *Just west of Haldimand Rd #55 on Haldimand Rd #3<UNOFFICIAL> Haldimand ON* **Database:** *SPL*

Ref No: 0688-757PVQ
Site No:
Incident Dt:
Year:
Incident Cause: Other Discharges
Incident Event:
Contaminant Code: 15
Contaminant Name: ENGINE OIL
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: Not Anticipated
Nature of Impact: Soil Contamination
Receiving Medium: Land
Receiving Env:
MOE Response: No Field Response
Dt MOE Arvl on Scn:
MOE Reported Dt: 7/17/2007
Dt Document Closed:
Incident Reason:
Site Name: Just west of Haldimand Rd #55 on Haldimand Rd #3<UNOFFICIAL>
Site County/District:
Site Geo Ref Meth:
Incident Summary: 100 meters of engine oil on the roadway
Contaminant Qty: unknown other - see incident description

Discharger Report:
Material Group: Oil
Health/Env Conseq:
Client Type:
Sector Type: Other Motor Vehicle
Agency Involved:
Nearest Watercourse:
Site Address:
Site District Office:
Site Postal Code:
Site Region:
Site Municipality: Haldimand
Site Lot:
Site Conc:
Northing:
Easting:
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class:
Source Type:

Site: *Highway, 3 Norfolk ON* **Database:** *SPL*

Ref No: 0053-6BDMBE
Site No:
Incident Dt: 4/12/2005
Year:
Incident Cause:
Incident Event:
Contaminant Code:
Contaminant Name:
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Environment Impact: Possible
Nature of Impact:
Receiving Medium: Water

Discharger Report: 0
Material Group: Miscellaneous
Health/Env Conseq:
Client Type:
Sector Type: Unknown
Agency Involved:
Nearest Watercourse:
Site Address:
Site District Office: Hamilton
Site Postal Code:
Site Region:
Site Municipality: Norfolk
Site Lot:
Site Conc:

Receiving Env:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 4/12/2005
Dt Document Closed:
Incident Reason: Spill
Site Name: Dingle Creek, Town of Simcoe<UNOFFICIAL>
Site County/District:
Site Geo Ref Meth:
Incident Summary: Possible spill to creek!
Contaminant Qty:

Northing:
Easting:
Site Geo Ref Accu:
Site Map Datum:
SAC Action Class:
Source Type:

Site: Terratec Environmental Ltd.
 Highway 3, Dunnville Haldimand ON

Database:
 SPL

<p> Ref No: 3402-8ACRM3 Site No: Incident Dt: Year: Incident Cause: Other Discharges Incident Event: Contaminant Code: 45 Contaminant Name: BIO-SOLIDS (semi-solid dewatered manure) Contaminant Limit 1: Contam Limit Freq 1: Contaminant UN No 1: Environment Impact: Not Anticipated Nature of Impact: Soil Contamination Receiving Medium: Receiving Env: MOE Response: Dt MOE Arvl on Scn: MOE Reported Dt: 10/18/2010 Dt Document Closed: Incident Reason: Spill Site Name: Hwy 3 (just west of Taylor Road)<UNOFFICIAL> Site County/District: Site Geo Ref Meth: Incident Summary: Terratec Env: 22 L biosolids to Hwy. Clnd. Contaminant Qty: 22 L </p>	<p> Discharger Report: Material Group: Health/Env Conseq: Client Type: Sector Type: Motor Vehicle Agency Involved: Nearest Watercourse: Site Address: Site District Office: Site Postal Code: Site Region: Site Municipality: Site Lot: Site Conc: Northing: Easting: Site Geo Ref Accu: Site Map Datum: SAC Action Class: Highway Spills (usually highway accidents) Source Type: </p>
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Site: Highway 3 - West of Highway 56, Cayuga Haldimand ON

Database:
 SPL

<p> Ref No: 7666-664QLJ Site No: Incident Dt: 10/25/2004 Year: Incident Cause: Discharge Or Bypass To A Watercourse Incident Event: Contaminant Code: 13 Contaminant Name: DIESEL FUEL Contaminant Limit 1: Contam Limit Freq 1: Contaminant UN No 1: Environment Impact: Possible Nature of Impact: Soil Contamination; Surface Water Pollution Receiving Medium: Land & Water Receiving Env: MOE Response: Dt MOE Arvl on Scn: MOE Reported Dt: 10/25/2004 Dt Document Closed: Incident Reason: Equipment/Vehicles Site Name: TRANSPORT MVA - HIGHWAY 3 - CAYUGA<UNOFFICIAL> </p>	<p> Discharger Report: Material Group: Oil Health/Env Conseq: Client Type: Sector Type: Transport Truck Agency Involved: Nearest Watercourse: Site Address: Site District Office: Hamilton Site Postal Code: Site Region: West Central Site Municipality: Haldimand Site Lot: Site Conc: Northing: Easting: Site Geo Ref Accu: Site Map Datum: SAC Action Class: Spill to Highway (Accident); Spill to Inland Watercourses; Spill to Land Source Type: </p>
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Site County/District:
Site Geo Ref Meth:
Incident Summary: MVA - Transport Truck - Hwy 3, Cayuga
Contaminant Qty: 20 L

Site: Highway 3 (east of Haldimand Rd. 56) Haldimand ON

Database:
SPL

Ref No:	5005-9P9VPX	Discharger Report:	
Site No:	NA	Material Group:	
Incident Dt:	2014/09/24	Health/Env Conseq:	
Year:		Client Type:	
Incident Cause:	Collision/Accident	Sector Type:	Truck - Only Saddle Tanks
Incident Event:		Agency Involved:	
Contaminant Code:	13	Nearest Watercourse:	
Contaminant Name:	DIESEL FUEL	Site Address:	Highway 3 (east of Haldimand Rd. 56)
Contaminant Limit 1:		Site District Office:	
Contam Limit Freq 1:		Site Postal Code:	
Contaminant UN No 1:		Site Region:	
Environment Impact:	Confirmed	Site Municipality:	Haldimand
Nature of Impact:	Soil Contamination	Site Lot:	
Receiving Medium:		Site Conc:	
Receiving Env:		Northing:	
MOE Response:	Planned Field Response	Easting:	
Dt MOE Arvl on Scn:		Site Geo Ref Accu:	
MOE Reported Dt:	2014/09/24	Site Map Datum:	
Dt Document Closed:	2014/10/07	SAC Action Class:	Land Spills
Incident Reason:	Operator/Human Error	Source Type:	
Site Name:	Highway 3<UNOFFICIAL>		
Site County/District:			
Site Geo Ref Meth:			
Incident Summary:	Foss Transportation: 40 L of diesel to ditch, cntd		
Contaminant Qty:	40 L		

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. **Note:** Databases denoted with " * " indicates that the database will no longer be updated. See the individual database description for more information.

Abandoned Aggregate Inventory:

Provincial [AAGR](#)

The MAAP Program maintains a database of abandoned pits and quarries. Please note that the database is only referenced by lot and concession and city/town location. The database provides information regarding the location, type, size, land use, status and general comments.*

Government Publication Date: Sept 2002*

Aggregate Inventory:

Provincial [AGR](#)

The Ontario Ministry of Natural Resources maintains a database of all active pits and quarries. The database provides information regarding the registered owner/operator, location name, operation type, approval type, and maximum annual tonnage.

Government Publication Date: Up to Sep 2018

Abandoned Mine Information System:

Provincial [AMIS](#)

The Abandoned Mines Information System contains data on known abandoned and inactive mines located on both Crown and privately held lands. The information was provided by the Ministry of Northern Development and Mines (MNDM), with the following disclaimer: "the database provided has been compiled from various sources, and the Ministry of Northern Development and Mines makes no representation and takes no responsibility that such information is accurate, current or complete". Reported information includes official mine name, status, background information, mine start/end date, primary commodity, mine features, hazards and remediation.

Government Publication Date: 1800-Oct 2018

Anderson's Waste Disposal Sites:

Private [ANDR](#)

The information provided in this database was collected by examining various historical documents which aimed to characterize the likely position of former waste disposal sites from 1860 to present. The research initiative behind the creation of this database was to identify those sites that are missing from the Ontario MOE Waste Disposal Site Inventory, as well as to provide revisions and corrections to the positions and descriptions of sites currently listed in the MOE inventory. In addition to historic waste disposal facilities, the database also identifies certain auto wreckers and scrap yards that have been extrapolated from documentary sources. Please note that the data is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1860s-Present

Automobile Wrecking & Supplies:

Private [AUWR](#)

This database provides an inventory of known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Government Publication Date: 1999-Jan 31, 2019

Borehole:

Provincial [BORE](#)

A borehole is the generalized term for any narrow shaft drilled in the ground, either vertically or horizontally. The information here includes geotechnical investigations or environmental site assessments, mineral exploration, or as a pilot hole for installing piers or underground utilities. Information is from many sources such as the Ministry of Transportation (MTO) boreholes from engineering reports and projects from the 1950 to 1990's in Southern Ontario. Boreholes from the Ontario Geological Survey (OGS) including The Urban Geology Analysis Information System (UGAIS) and the York Peel Durham Toronto (YPDT) database of the Conservation Authority Moraine Coalition. This database will include fields such as location, stratigraphy, depth, elevation, year drilled, etc. For all water well data or oil and gas well data for Ontario please refer to WWIS and OOGW.

Government Publication Date: 1875-Jul 2014

Certificates of Approval:

Provincial [CA](#)

This database contains the following types of approvals: Air & Noise, Industrial Sewage, Municipal & Private Sewage, Waste Management Systems and Renewable Energy Approvals. The MOE in Ontario states that 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 a Certificate of Approval before it can operate lawfully. Fields include approval number, business name, address, approval date, approval type and status. This database will no longer be updated, as CofA's have been replaced by either Environmental Activity and Sector Registry (EASR) or Environmental Compliance Approval (ECA). Please refer to those individual databases for any information after Oct.31, 2011.

Government Publication Date: 1985-Oct 30, 2011*

Commercial Fuel Oil Tanks:

Provincial **CFOT**

List of commercial underground fuel oil tanks made available by the Fuels Safety Program of the Technical Standards & Safety Authority (TSSA). Ontario Regulation 213/01 of the Technical Standards and Safety Act (2000) requires that all underground tanks be registered with the TSSA. Note: the Fuels Safety Division does not register waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of commercial fuel tanks in the province. The TSSA updates information in its system on an ongoing basis; this listing is a copy of the data captured at one moment in time and is hence limited by the record date provided here.

Government Publication Date: Feb 28, 2017

Chemical Register:

Private **CHEM**

This database includes information from both a one time study conducted in 1992 and private source and is a listing of facilities that manufacture or distribute chemicals. The production of these chemical substances may involve one or more chemical reactions and/or chemical separation processes (i.e. fractionation, solvent extraction, crystallization, etc.).

Government Publication Date: 1999-Jan 31, 2019

Compressed Natural Gas Stations:

Private **CNG**

Canada has a network of public access compressed natural gas (CNG) refuelling stations. These stations dispense natural gas in compressed form at 3,000 pounds per square inch (psi), the pressure which is allowed within the current Canadian codes and standards. The majority of natural gas refuelling is located at existing retail gasoline that have a separate refuelling island for natural gas. This list of stations is made available by the Canadian Natural Gas Vehicle Alliance.

Government Publication Date: Dec 2012 - Mar 2019

Inventory of Coal Gasification Plants and Coal Tar Sites:

Provincial **COAL**

This inventory includes both the "Inventory of Coal Gasification Plant Waste Sites in Ontario-April 1987" and the Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario-November 1988) collected by the MOE. It identifies industrial sites that produced and continue to produce or use coal tar and other related tars. Detailed information is available and includes: facility type, size, land use, information on adjoining properties, soil condition, site operators/occupants, site description, potential environmental impacts and historic maps available. This was a one-time inventory.*

Government Publication Date: Apr 1987 and Nov 1988*

Compliance and Convictions:

Provincial **CONV**

This database summarizes the fines and convictions handed down by the Ontario courts beginning in 1989. Companies and individuals named here have been found guilty of environmental offenses in Ontario courts of law.

Government Publication Date: 1989-Mar 2019

Certificates of Property Use:

Provincial **CPU**

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all CPU's on the registry such as (EPA s. 168.6) - Certificate of Property Use.

Government Publication Date: 1994-Mar 31, 2019

Drill Hole Database:

Provincial **DRL**

The Ontario Drill Hole Database contains information on more than 113,000 percussion, overburden, sonic and diamond drill holes from assessment files on record with the department of Mines and Minerals. Please note that limited data is available for southern Ontario, as it was the last area to be completed. The database was created when surveys submitted to the Ministry were converted in the Assessment File Research Image Database (AFRI) project. However, the degree of accuracy (coordinates) as to the exact location of drill holes is dependent upon the source document submitted to the MNDM. Levels of accuracy used to locate holes are: centering on the mining claim; a sketch of the mining claim; a 1:50,000 map; a detailed company map; or from submitted a "Report of Work".

Government Publication Date: 1886 - Oct 2018

Dry Cleaning Facilities:

Federal **DRYCLEANERS**

List of dry cleaning facilities made available by Environment and Climate Change Canada. Environment and Climate Change Canada's Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations (SOR/2003-79) are intended to reduce releases of tetrachloroethylene to the environment from dry cleaning facilities.

Government Publication Date: Jan 2004-Dec 2017

Environmental Activity and Sector Registry:

Provincial **EASR**

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. The EASR allows businesses to register certain activities with the ministry, rather than apply for an approval. The registry is available for common systems and processes, to which preset rules of operation can be applied. The EASR is currently available for: heating systems, standby power systems and automotive refinishing. Businesses whose activities aren't subject to the EASR may apply for an ECA (Environmental Compliance Approval), Please see our ECA database.

Government Publication Date: Oct 2011-Mar 31, 2019

Environmental Registry:

Provincial

EBR

The Environmental Registry lists proposals, decisions and exceptions regarding policies, Acts, instruments, or regulations that could significantly affect the environment. Through the Registry, thirteen provincial ministries notify the public of upcoming proposals and invite their comments. For example, if a local business is requesting a permit, license, or certificate of approval to release substances into the air or water; these are notified on the registry. Data includes: Approval for discharge into the natural environment other than water (i.e. Air) - EPA s. 9, Approval for sewage works - OWRA s. 53(1), and EPA s. 27 - Approval for a waste disposal site. For information regarding Permit to Take Water (PTTW), Certificate of Property Use (CPU) and (ORD) Orders please refer to those individual databases.

Government Publication Date: 1994-Mar 31, 2019**Environmental Compliance Approval:**

Provincial

ECA

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. In the past, a business had to apply for multiple approvals (known as certificates of approval) for individual processes and pieces of equipment. Today, a business either registers itself, or applies for a single approval, depending on the types of activities it conducts. Businesses whose activities aren't subject to the EASR may apply for an ECA. A single ECA addresses all of a business's emissions, discharges and wastes. Separate approvals for air, noise and waste are no longer required. This database will also include Renewable Energy Approvals. For certificates of approval prior to Nov 1st, 2011, please refer to the CA database. For all Waste Disposal Sites please refer to the WDS database.

Government Publication Date: Oct 2011-Mar 31, 2019**Environmental Effects Monitoring:**

Federal

EEM

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

Government Publication Date: 1992-2007***ERIS Historical Searches:**

Private

EHS

ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

Government Publication Date: 1999-Jan 31, 2019**Environmental Issues Inventory System:**

Federal

EIIS

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

Government Publication Date: 1992-2001***Emergency Management Historical Event:**

Provincial

EMHE

List of locations of historical occurrences of emergency events, including those assigned to the Ministry of Natural Resources by Order-In-Council (OIC) under the Emergency Management and Civil Protection Act, as well as events where MNR provided requested emergency response assistance. Many of these events will have involved community evacuations, significant structural loss, and/or involvement of MNR emergency response staff. These events fall into one of ten (10) type categories: Dam Failure; Drought / Low Water; Erosion; Flood; Forest Fire; Soil and Bedrock Instability; Petroleum Resource Center Event, EMO Requested Assistance, Continuity of Operations Event, Other Requested Assistance. EMHE record details are reproduced by ERIS under License with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2017.

Government Publication Date: Dec 31, 2016**List of TSSA Expired Facilities:**

Provincial

EXP

List of facilities and tanks - for which there was once a registration - no longer registered with the Fuels Safety Program of the Technical Standards and Safety Authority (TSSA). Includes private fuel outlets, bulk plants, fuel oil tanks, gasoline stations, marinas, propane filling stations, liquid fuel tanks, piping systems, etc. Tanks which have been removed from the ground are included in the expired facilities inventory held by the TSSA. Notes: the Fuels Safety Division did not register private fuel underground/aboveground storage tanks prior to January of 1990, or furnace oil tanks prior to May 1, 2002; nor does the Division register waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of expired tanks/tank facilities in the province. The TSSA updates information in its system on an ongoing basis; this listing is hence limited by the record date provided here.

Government Publication Date: Feb 28, 2017**Federal Convictions:**

Federal

FCON

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

Government Publication Date: 1988-Jun 2007*

Contaminated Sites on Federal Land:

Federal

FCS

The Federal Contaminated Sites Inventory includes information on known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government.

Government Publication Date: Jun 2000-Oct 2018

Fisheries & Oceans Fuel Tanks:

Federal

FOFT

Fisheries & Oceans Canada maintains an inventory of aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation.

Government Publication Date: 1964-Sep 2018

Fuel Storage Tank:

Provincial

FST

List of registered private and retail fuel storage tanks made available by the Fuels Safety Program of the Technical Standards & Safety Authority (TSSA). Ontario Regulation 213/01 of the Technical Standards and Safety Act (2000) requires that all underground tanks be registered with the TSSA. Notes: the Fuels Safety Division did not register private fuel underground/aboveground storage tanks prior to January of 1990, or furnace oil tanks prior to May 1, 2002; nor does the Division register waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of fuel storage tanks/tank facilities in the province. The TSSA updates information in its system on an ongoing basis; this listing is hence limited by the record date provided here.

Government Publication Date: Feb 28, 2017

Fuel Storage Tank - Historic:

Provincial

FSTH

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks. Public records of private fuel storage tanks are only available since the registration became effective in September 1989. This information is now collected by the Technical Standards and Safety Authority.

Government Publication Date: Pre-Jan 2010*

Ontario Regulation 347 Waste Generators Summary:

Provincial

GEN

Regulation 347 of the Ontario EPA defines a waste generation site as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number, company name and address of registered generators including the types of hazardous wastes generated. It includes data on waste generating facilities such as: drycleaners, waste treatment and disposal facilities, machine shops, electric power distribution etc. This information is a summary of all years from 1986 including the most currently available data. Some records may contain, within the company name, the phrase "See & Use..." followed by a series of letters and numbers. This occurs when one company is amalgamated with or taken over by another registered company. The number listed as "See & Use", refers to the new ownership and the other identification number refers to the original ownership. This phrase serves as a link between the 2 companies until operations have been fully transferred.

Government Publication Date: 1986-Dec 31, 2018

Greenhouse Gas Emissions from Large Facilities:

Federal

GHG

List of greenhouse gas emissions from large facilities made available by Environment Canada. Greenhouse gas emissions in kilotonnes of carbon dioxide equivalents (kt CO₂ eq).

Government Publication Date: 2013-Dec 2016

TSSA Historic Incidents:

Provincial

HINC

List of historic incidences of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen recorded by the TSSA in their previous incident tracking system. The TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, the TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of historical fuel spills and leaks in the province. This listing is a copy of the data captured at one moment in time and is hence limited by the record date provided here.

Government Publication Date: 2006-June 2009*

Indian & Northern Affairs Fuel Tanks:

Federal

IAFT

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

Government Publication Date: 1950-Aug 2003*

TSSA Incidents:

Provincial [INC](#)

List of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen reported to the Spills Action Centre (SAC) and made available by the Technical Standards and Safety Authority (TSSA). Under the Technical Standards & Safety Act (2000), the TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors, and equipment or appliances that use fuels. Includes incidents from fuel-related hazards such as spills, fires, and explosions. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of fuel-related leaks, spills, and incidents in the province. The TSSA updates information in its system on an ongoing basis; this listing is hence limited by the record date provided here.

Government Publication Date: Feb 28, 2017

Landfill Inventory Management Ontario:

Provincial [LIMO](#)

The Landfill Inventory Management Ontario (LIMO) database is updated every year, as the ministry compiles new and updated information. The inventory will include small and large landfills. Additionally, each year the ministry will request operators of the larger landfills complete a landfill data collection form that will be used to update LIMO and will include the following information from the previous operating year. This will include additional information such as estimated amount of total waste received, landfill capacity, estimated total remaining landfill capacity, fill rates, engineering designs, reporting and monitoring details, size of location, service area, approved waste types, leachate of site treatment, contaminant attenuation zone and more. The small landfills will include information such as site owner, site location and certificate of approval # and status.

Government Publication Date: Sep 30, 2017

Canadian Mine Locations:

Private [MINE](#)

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

Government Publication Date: 1998-2009*

Environmental Penalty Annual Report:

Provincial [MISA PENALTY](#)

This database contains data from Ontario's annual environmental penalty report published by the Ministry of the Environment and Climate Change. These reports provide information on environmental penalties for land or water violations issued to companies in one of the nine industrial sectors covered by the Municipal Industrial Strategy for Abatement (MISA) regulations.

Government Publication Date: Jan 1, 2011 - Dec 31, 2018

Mineral Occurrences:

Provincial [MNR](#)

In the early 70's, the Ministry of Northern Development and Mines created an inventory of approximately 19,000 mineral occurrences in Ontario, in regard to metallic and industrial minerals, as well as some information on building stones and aggregate deposits. Please note that the "Horizontal Positional Accuracy" is approximately +/- 200 m. Many reference elements for each record were derived from field sketches using pace or chain/tape measurements against claim posts or topographic features in the area. The primary limiting factor for the level of positional accuracy is the scale of the source material. The testing of horizontal accuracy of the source materials was accomplished by comparing the plan metric (X and Y) coordinates of that point with the coordinates of the same point as defined from a source of higher accuracy.

Government Publication Date: 1846-Jan 2018

National Analysis of Trends in Emergencies System (NATES):

Federal [NATE](#)

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

Government Publication Date: 1974-1994*

Non-Compliance Reports:

Provincial [NCPL](#)

The Ministry of the Environment provides information about non-compliant discharges of contaminants to air and water that exceed legal allowable limits, from regulated industrial and municipal facilities. A reported non-compliance failure may be in regard to a Control Order, Certificate of Approval, Sectoral Regulation or specific regulation/act.

Government Publication Date: Dec 31, 2017

National Defense & Canadian Forces Fuel Tanks:

Federal [NDFT](#)

The Department of National Defense and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

Government Publication Date: Up to May 2001*

National Defense & Canadian Forces Spills:

Federal

[NDSP](#)

The Department of National Defense and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

Government Publication Date: Mar 1999-Apr 2018

National Defence & Canadian Forces Waste Disposal Sites:

Federal

[NDWD](#)

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

Government Publication Date: 2001-Apr 2007*

National Energy Board Pipeline Incidents:

Federal

[NEBI](#)

Locations of pipeline incidents from 2008 to present, made available by the National Energy Board (NEB). Includes incidents reported under the Onshore Pipeline Regulations and the Processing Plant Regulations related to pipelines under federal jurisdiction, does not include incident data related to pipelines under provincial or territorial jurisdiction.

Government Publication Date: 2008-Dec 31, 2018

National Energy Board Wells:

Federal

[NEBW](#)

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release date.

Government Publication Date: 1920-Feb 2003*

National Environmental Emergencies System (NEES):

Federal

[NEES](#)

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for previous Environment Canada spill datasets. NEES is composed of the historic datasets ' or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

Government Publication Date: 1974-2003*

National PCB Inventory:

Federal

[NPCB](#)

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. Federal out-of-service PCB containing equipment and PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

Government Publication Date: 1988-2008*

National Pollutant Release Inventory:

Federal

[NPRI](#)

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

Government Publication Date: 1993-May 2017

Oil and Gas Wells:

Private

[OGW](#)

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Government Publication Date: 1988-Feb 28, 2019

Ontario Oil and Gas Wells:

Provincial

[OOGW](#)

In 1998, the MNR handed over to the Ontario Oil, Gas and Salt Resources Corporation, the responsibility of maintaining a database of oil and gas wells drilled in Ontario. The OGSR Library has over 20,000+ wells in their database. Information available for all wells in the ERIS database include well owner/operator, location, permit issue date, and well cap date, license No., status, depth and the primary target (rock unit) of the well being drilled. All geology/stratigraphy table information, plus all water table information is also provide for each well record.

Government Publication Date: 1800-May 2018

Inventory of PCB Storage Sites:

Provincial [OPCB](#)

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of PCB storage sites within the province. Ontario Regulation 11/82 (Waste Management - PCB) and Regulation 347 (Generator Waste Management) under the Ontario EPA requires the registration of inactive PCB storage equipment and/or disposal sites of PCB waste with the Ontario Ministry of Environment. This database contains information on: 1) waste quantities; 2) major and minor sites storing liquid or solid waste; and 3) a waste storage inventory.

Government Publication Date: 1987-Oct 2004; 2012-Dec 2013

Orders:

Provincial [ORD](#)

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all Orders on the registry such as (EPA s. 17) - Order for remedial work, (EPA s. 18) - Order for preventative measures, (EPA s. 43) - Order for removal of waste and restoration of site, (EPA s. 44) - Order for conformity with Act for waste disposal sites, (EPA s. 136) - Order for performance of environmental measures.

Government Publication Date: 1994-Mar 31, 2019

Canadian Pulp and Paper:

Private [PAP](#)

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

Government Publication Date: 1999, 2002, 2004, 2005, 2009-2014

Parks Canada Fuel Storage Tanks:

Federal [PCFT](#)

Canadian Heritage maintains an inventory of known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

Government Publication Date: 1920-Jan 2005*

Pesticide Register:

Provincial [PES](#)

The Ontario Ministry of the Environment and Climate Change maintains a database of licensed operators and vendors of registered pesticides.

Government Publication Date: 1988-Sep 2018

TSSA Pipeline Incidents:

Provincial [PINC](#)

List of pipeline incidents (strikes, leaks, spills) made available by the Technical Standards and Safety Authority (TSSA). Under the Technical Standards & Safety Act (2000), the TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors, and equipment or appliances that use fuels. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of pipeline incidents in the province. The TSSA updates information in its system on an ongoing basis; this listing is hence limited by the record date provided here.

Government Publication Date: Feb 28, 2017

Private and Retail Fuel Storage Tanks:

Provincial [PRT](#)

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks and licensed retail fuel outlets. This database includes an inventory of locations that have gasoline, oil, waste oil, natural gas and/or propane storage tanks on their property. The MCCR no longer collects this information. This information is now collected by the Technical Standards and Safety Authority (TSSA).

Government Publication Date: 1989-1996*

Permit to Take Water:

Provincial [PTTW](#)

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all PTTW's on the registry such as OWRA s. 34 - Permit to take water.

Government Publication Date: 1994-Mar 31, 2019

Ontario Regulation 347 Waste Receivers Summary:

Provincial [REC](#)

Part V of the Ontario Environmental Protection Act ("EPA") regulates the disposal of regulated waste through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. Regulation 347 of the Ontario EPA defines a waste receiving site as any site or facility to which waste is transferred by a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address, and includes receivers of waste such as: landfills, incinerators, transfer stations, PCB storage sites, sludge farms and water pollution control plants. This information is a summary of all years from 1986 including the most currently available data.

Government Publication Date: 1986-2016

Record of Site Condition:

Provincial **RSC**

The Record of Site Condition (RSC) is part of the Ministry of the Environment's Brownfields Environmental Site Registry. Protection from environmental cleanup orders for property owners is contingent upon documentation known as a record of site condition (RSC) being filed in the Environmental Site Registry. In order to file an RSC, the property must have been properly assessed and shown to meet the soil, sediment and groundwater standards appropriate for the use (such as residential) proposed to take place on the property. The Record of Site Condition Regulation (O. Reg. 153/04) details requirements related to site assessment and clean up.

RSCs filed after July 1, 2011 will also be included as part of the new (O.Reg. 511/09).

Government Publication Date: 1997-Sept 2001, Oct 2004-Mar 2019

Retail Fuel Storage Tanks:

Private **RST**

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

Government Publication Date: 1999-Jan 31, 2019

Scott's Manufacturing Directory:

Private **SCT**

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

Government Publication Date: 1992-Mar 2011*

Ontario Spills:

Provincial **SPL**

This database identifies information such as location (approximate), type and quantity of contaminant, date of spill, environmental impact, cause, nature of impact, etc. Information from 1988-2002 was part of the ORIS (Occurrence Reporting Information System). The SAC (Spills Action Centre) handles all spills reported in Ontario. Regulations for spills in Ontario are part of the MOE's Environmental Protection Act, Part X.

Government Publication Date: 1988-Dec 2018

Wastewater Discharger Registration Database:

Provincial **SRDS**

Information under this heading is combination of the following 2 programs. The Municipal/Industrial Strategy for Abatement (MISA) division of the Ontario Ministry of Environment maintained a database of all direct dischargers of toxic pollutants within nine sectors including: Electric Power Generation; Mining; Petroleum Refining; Organic Chemicals; Inorganic Chemicals; Pulp & Paper; Metal Casting; Iron & Steel; and Quarries. All sampling information is now collected and stored within the Sample Result Data Store (SRDS).

Government Publication Date: 1990-Dec 31, 2016

Anderson's Storage Tanks:

Private **TANK**

The information provided in this database was collected by examining various historical documents, which identified the location of former storage tanks, containing substances such as fuel, water, gas, oil, and other various types of miscellaneous products. Information is available in regard to business operating at tank site, tank location, permit year, permit & installation type, no. of tanks installed & configuration and tank capacity. Data contained within this database pertains only to the city of Toronto and is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1915-1953*

Transport Canada Fuel Storage Tanks:

Federal **TCFT**

List of fuel storage tanks currently or previously owned or operated by Transport Canada. This inventory also includes tanks on The Pickering Lands, which refers to 7,530 hectares (18,600 acres) of land in Pickering, Markham, and Uxbridge owned by the Government of Canada since 1972; properties on this land has been leased by the government since 1975, and falls under the Site Management Policy of Transport Canada, but is administered by Public Works and Government Services Canada. This inventory provides information on the site name, location, tank age, capacity and fuel type.

Government Publication Date: 1970-Aug 2018

TSSA Variances for Abandonment of Underground Storage Tanks:

Provincial **VAR**

List of variances granted for abandoned tanks. Under the Technical Standards and Safety Authority (TSSA) Liquid Fuels Handling Code and Fuel Oil Code, all underground storage tanks must be removed within two years of disuse. If removal of a tank is not feasible, an application may be sought for a variance from this code requirement.

Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of tank variances in the province. The TSSA updates information in its system on an ongoing basis; this listing is hence limited by the record date provided here.

Government Publication Date: Feb 28, 2017

Waste Disposal Sites - MOE CA Inventory:

Provincial

[WDS](#)

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of known open (active or inactive) and closed disposal sites in the Province of Ontario. Active sites maintain a Certificate of Approval, are approved to receive and are receiving waste. Inactive sites maintain Certificate(s) of Approval but are not receiving waste. Closed sites are not receiving waste. The data contained within this database was compiled from the MOE's Certificate of Approval database. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number. All new Environmental Compliance Approvals handed out after Oct 31, 2011 for Waste Disposal Sites will still be found in this database.

Government Publication Date: Oct 2011-Mar 31, 2019

Waste Disposal Sites - MOE 1991 Historical Approval Inventory:

Provincial

[WDSH](#)

In June 1991, the Ontario Ministry of Environment, Waste Management Branch, published the "June 1991 Waste Disposal Site Inventory", of all known active and closed waste disposal sites as of October 30st, 1990. For each "active" site as of October 31st 1990, information is provided on site location, site/CA number, waste type, site status and site classification. For each "closed" site as of October 31st 1990, information is provided on site location, site/CA number, closure date and site classification. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number.

Government Publication Date: Up to Oct 1990*

Water Well Information System:

Provincial

[WWIS](#)

This database describes locations and characteristics of water wells found within Ontario in accordance with Regulation 903. It includes such information as coordinates, construction date, well depth, primary and secondary use, pump rate, static water level, well status, etc. Also included are detailed stratigraphy information, approximate depth to bedrock and the approximate depth to the water table.

Government Publication Date: Dec 31, 2017

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

APPENDIX I

BOREHOLE LOGS

Soil Symbols

	Sand		Silty Sand		Sandy Silt		Clayey Sand
	Sand and Gravel		Gravel		Silt		Clayey Silt
	Clay		Silty Clay		Sandy Silty Clay		Silty Sand and Gravel
	Silty Gravel		Silty Clay and Gravel		Topsoil		Peat
	Limestone		Shale		Fill		

Well Symbols

	Risior with Native Backfill		Risior with Clay Backfill		Risior with Silt Backfill		Risior
	PVC Casing		Risior with Native Backfill		Risior in Bedrock		Bentonite Seal
	Screen with Sand Packing		Screen with Sand and Gravel Packing		Screen with Gravel Packing		Screen
	Screen in Peat		Screen in Limestone		Screen in Shale		Screen

Sample Symbols

	Split Spoon		Auger		Core		Grab
	Shelby Tube		Excavation		Undisturbed		No Recovery

Log of Borehole No. BH1/MW1

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	216.84			OVM		Soil	GW		
0	0	<i>Topsoil/Sod</i>									
		<i>Silty Sand Fill</i>	216.5	1	DT	0	No Odour				
2		with some gravel; brown									
		<i>Medium to Coarse Sand</i>	216	2	DT	0	No Odour	Metals			
		with some gravel and trace silt; brown									
4			215.5								
			215	3	DT	0	No Odour				
6			214.5								
			214	4	DT	5	No Odour				
8			213.5								
			213	5	DT	0	No Odour				
10			212.5								
			212	6	DT	0	No Odour				
12			211.5								
			211	7	DT	0	No Odour				
14			210.5								
				8	DT	45	No Odour				
16											
18											
20											
22											

wet

Sandy Silt
with some clay; brown; wet grey

Borehole terminated at 6.1 m bgs;
caved in to 5.3 m bgs prior to well installation

Metals; VOCs

4.26 m bgs
March 26, 2020
4.31 m bgs
April 28, 2020

Drill Date: 03/24/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 32 mm

Log of Borehole No. BH2/MW2

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.28			OVM		Soil	GW		
0 0		Topsoil/Sod	217								
2		Silty Sand Fill with some gravel; brown	216.5	1	DT	0	No Odour				
4			216								
6			215.5	2	DT	0	No Odour				
8		Sandy Silt with some clay; brown; wet	215	3	DT	0	No Odour				
10			214.5								
12			214	4	DT	0	No Odour				
14		Medium to Coarse Sand with some gravel and trace silt; brown; wet	213.5	5	DT	0	No Odour				
16			213								
18			212.5	6	DT	20	No Odour				
20			212								
			211.5	7	DT	120	No Odour	PHC F2-F4; VOCs			
		Borehole terminated at 6.1 m bgs; caved in to 5.9 m bgs prior to well installation	211								

4.46 m bgs
 March 26, 2020
 4.50 m bgs
 April 28, 2020

Drill Date: 03/24/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 32 mm

Log of Borehole No. BH3/MW3

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.13			OVM		Soil	GW		
0 0		Asphalt Pavement	217								
2 2		Sand Fill with some gravel; brown	216.5	1	DT	0	No Odour				
4 1		Sandy Silt with some clay; brown; wet	216	2	DT	0	No Odour				
6 2			215.5	3	DT	0	No Odour				
8 2			215	4	DT	0	No Odour				
10 3			214.5	4	DT	0	No Odour				
12 3			214	5	DT	0	No Odour				
14 4		grey	213.5	6	DT	0	No Odour		PHC F1 + BTEX		3.46 m bgs March 26, 2020
16 5		brown	213	6	DT	0	No Odour				3.54 m bgs April 28, 2020
18 5			212.5	7	DT	60	No Odour	PHC F1-F4 + BTEX			
20 6		Medium to Coarse Sand with some gravel and trace silt; brown; wet	212	7	DT	0	No Odour				
22 6		Borehole terminated at 6.1 m bgs; caved in to 3.7 m bgs prior to well installation	211.5	8	DT	0	No Odour				
			211								
			210.5								

Drill Date: 03/24/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 32 mm

Log of Borehole No. BH4/MW4

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.38			OVM		Soil	GW		
0		Asphalt Pavement									
0		Sand Fill with some gravel; brown	-217								
2			-216.5	1	DT	0	No Odour				
4		Sandy Silt with some clay; brown; wet	-216	2	DT	0	No Odour				
6			-215.5	3	DT	5	No Odour				
8		<i>grey</i>	-215	4	DT	25	Faint PHC Odour	PHC F1-F4 + BTEX			
10			-214.5	5	DT	10	No Odour				
12			-214	6	DT	0	No Odour				
14			-213.5	7	DT	0	No Odour				
16			-213	8	DT	0	No Odour	Metals; PHC F1-F4 + BTEX			4.58 m bgs March 26, 2020
18			-212.5	9	DT	0	No Odour				4.61 m bgs April 28, 2020
20		Medium to Coarse Sand with some gravel and trace silt; brown with trace black staining from 18 to 19 ft.; wet	-212	10	DT	5	Faint PHC Odour				
22			-211.5			0	No Odour				
24			-211								
26			-210.5								
			-210								
			-209.5								
		Borehole terminated at 7.6 m bgs; caved in to 6.1 m bgs prior to well installation									

Drill Date: 03/24/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 32 mm

Log of Borehole No. BH5

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.24			OVM		Soil	GW		
0 1 2 3 4 5 6 7 8 9 10 11 12		Gravel Fill with some sand; grey/brown	217	1	DT	0	No Odour				
		Silty Sand Fill with some gravel; brown	216.5	2	DT	0	No Odour	Metals; PHC F2-F4			
		Sandy Silt with some clay; brown	215.5	3	DT	0	No Odour				
			215								
			214.5	4	DT	0	No Odour				
		Borehole terminated at 3.0 m bgs	214								

Drill Date: 03/24/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 0 mm

Log of Borehole No. BH6

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.50			OVM		Soil	GW		
0		Asphalt Pavement	217.5								
1		Silty Sand Fill with some gravel; brown	217	1	DT	0	No Odour	Metals			
2			216.5								
3			216								
4		Sandy Silt with some clay; brown with some grey staining	215.5	2	DT	480	PHC Odour	PHC F1-F4 + BTEX			
5		<i>wet</i>	215								
6			214.5								
7			214	3	DT	360	PHC Odour				
8			213.5								
9			213								
10			212.5	4	DT	160	PHC Odour	PHC F1 + BTEX			
11			212								
12			211.5								
13			211	5	DT	5	Faint PHC Odour				
14			210.5								
15			210								
16		Borehole terminated at 4.6 m bgs	212.5								
17											

Drill Date: 03/24/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 0 mm

Log of Borehole No. BH7

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.55			OVM		Soil	GW		
0		Concrete Floor Slab	217.5								
1		Silty Sand Fill with some gravel and trace brick fragments; brown	217	1	DT	0	No Odour				
2			216.5	2	DT	5	No Odour	PHC F2-F4; VOCs			
3			216	3	DT	0	No Odour				
4			215.5	4	DT	5	No Odour				
5		Sandy Silt with some clay; brown; wet	215								
6			214.5								
7			214								
8											
9											
10		Borehole terminated at 3.0 m bgs									
11											
12											

Drill Date: 03/24/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 0 mm

Log of Borehole No. BH8

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.55			OVM		Soil	GW		
0		Concrete Floor Slab	217.5								
1		Sand and Gravel Fill Brown	217	1	DT	0	No Odour				
2		Sandy Silt with some clay; brown	216.5	2	DT	5	No Odour	Metals			
3				3	DT	5	No Odour				
4				4	DT	5	No Odour				
5											
6			216								
7			215.5								
8			215								
9			214.5								
10		Borehole terminated at 3.0 m bgs	214								
11											
12											

Drill Date: 03/24/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 0 mm

Log of Borehole No. BH9

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.60			OVM		Soil	GW		
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17		Topsoil Fill with trace rootlets; dark brown	217.5 217 216.5	1	DT	5	No Odour				
		Sandy Silt with some clay; brown; wet	216 215.5	2	DT	5	No Odour				
			215	3	DT	5	No Odour	PHC F2-F4			
			214.5								
			214	4	DT	5	No Odour				
		Medium to Coarse Sand with some gravel and trace silt; brown	213.5	5	DT	0	No Odour				
		Borehole terminated at 4.6 m bgs	213 212.5								

Drill Date: 03/24/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 0 mm

Log of Borehole No. BH10

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.24			OVM		Soil	GW		
0 1 2 3 4 5 6 7 8 9 10 11 12		Silty Sand Fill with some gravel; brown	217 216.5 216 215.5 215 214.5	1	DT	0	No Odour	Metals			
		Sandy Silt with some clay; brown Borehole terminated at 3.0 m bgs	214	2	DT	0	No Odour				
				3	DT	0	No Odour				
				4	DT	0	No Odour				

Drill Date: 03/24/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 0 mm

Log of Borehole No. BH101

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.42			OVM		Soil	GW		
0		Asphalt Pavement									
0		Sand Fill with some gravel; brown	217								
2			216.5	1	DT	0	No Odour				
4			216								
6		Sandy Silt with some clay; brown; wet	215.5	2	DT	0	No Odour				
8			215								
10			214.5	3	DT	0	No Odour				
12			214	4	DT	5	No Odour				
14			213.5								
16			213	5	DT	5	No Odour				
18			212.5								
20			212	6	DT	35	PHC Odour	PHC F1-F4 + BTEX			
22			211.5	7	DT	15	No Odour				
		Medium to Coarse Sand with some gravel and trace silt; brown with some black staining from 19 to 19.5 ft.; wet	211								
			210.5								

Drill Date: 04/28/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 0 mm

Log of Borehole No. BH102

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.48			OVM		Soil	GW		
0		Asphalt Pavement									
0		Sand Fill with some gravel; brown	-217								
2			-216.5	1	DT	15	No Odour				
4			-216								
6		Sandy Silt with some clay; brown with some grey staining below 14 ft.; wet	-215.5	2	DT	20	No Odour				
8			-215	3	DT	15	No Odour				
10			-214.5								
12			-214	4	DT	15	No Odour				
14			-213.5								
16			-213	5	DT	80	No Odour				
18			-212.5								
20			-212	6	DT	610	Faint PHC Odour				
20		Medium to Coarse Sand with some gravel and trace silt; brown with some black staining from 18.5 to 19 ft.; wet	-211.5	7	DT	50%	PHC Odour	PHC			
20			-211	8	DT	190	Faint PHC Odour	F1-F4 + BTEX			
22			-210.5					PHC F1 + BTEX			

Drill Date: 04/28/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 0 mm

Log of Borehole No. BH103/MW103

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.50			OVM		Soil	GW		
0 0		Asphalt Pavement	217.5								
2 1		Sand Fill with some gravel; brown	217	1	DT	10	No Odour				
4 2		Sandy Silt with some clay; brown; wet	216	2	DT	0	No Odour				
6 3			215.5	3	DT	5	No Odour				
8 4			215	4	DT	10	No Odour				
10 5		<i>grey from 12 to 14.5 ft.</i>	214.5	5	DT	5	No Odour				
12 6			214	6	DT	30	No Odour	PHC F1-F4 + BTEX	PHC F1-F4 + BTEX		
14 7			213.5	7	DT	5	No Odour				
16 8		Medium to Coarse Sand with some gravel and trace silt; brown; wet	213								
18 9			212.5								
20 10			212								
22 11			211.5								
			211								
			210.5								

4.72 m bgs
 April 28, 2020

Drill Date: 04/28/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 32 mm

Log of Borehole No. BH104/MW104

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.28			OVM		Soil	GW		
0		Asphalt Pavement									
0		Sand Fill with some gravel; brown	-217								
2			-216.5	1	DT	15	No Odour				
4			-216								
6			-215.5								
8			-215	2	DT	30	No Odour	PHC F1 + BTEX			
10			-214.5								
12			-214								
14			-213.5	3	DT	25	No Odour				
16			-213								
16		Sandy Silt with some clay; grey; wet	-212.5	4	DT	10	No Odour		PHC F1-F4 + BTEX		4.45 m bgs April 28, 2020
18			-212								
18		Medium to Coarse Sand with some gravel and trace silt; brown; wet	-212								
20			-211.5	5	DT	20	No Odour				
22			-211								
22			-210.5								

Drill Date: 04/28/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 32 mm

Log of Borehole No. BH105

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.30			OVM		Soil	GW		
0		Asphalt Pavement									
0		Sand Fill with some gravel; brown	217								
2			216.5	1	DT	15	No Odour				
4			216								
6			215.5	2	DT	5	No Odour				
8		Sandy Silt with some clay; brown; wet	215								
10			214.5	3	DT	15	No Odour				
12			214								
14			213.5	4	DT	15	No Odour				
16			213								
18			212.5	5	DT	25	No Odour	PHC F1 + BTEX			
20			212								
22			211.5	6	DT	20	No Odour				
		Medium to Coarse Sand with some gravel and trace silt; brown; wet	211								
		Sandy Silt with some clay; brown/grey; wet	210.5								

Drill Date: 04/28/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 0 mm

Log of Borehole No. BH106

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.46			OVM		Soil	GW		
0	0	Asphalt Pavement									
		Sand Fill with some gravel; brown	217								
2			216.5	1	DT	25	No Odour				
4			216								
6		Sandy Silt with some clay; brown with some grey staining below 7 ft.; wet	215.5	2	DT	10	No Odour				
8			215	3	DT	390	PHC Odour	PHC F1-F4 + BTEX			
10			214.5								
12			214	4	DT	180	PHC Odour				
14			213.5								
16			213	5	DT	55	Faint PHC Odour				
18			212.5								
20		Medium to Coarse Sand with some gravel and trace silt; brown; wet	212	6	DT	70	Faint PHC Odour				
22			211.5	7	DT	35	No Odour				
			211								
			210.5								

Drill Date: 04/28/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 0 mm

Log of Borehole No. BH107/MW107

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.28			OVM		Soil	GW		
0 0		Asphalt Pavement	-217								
2 1		Sand Fill with some gravel; brown	-216.5	1	DT	15	No Odour				
4 1		Sandy Silt with some clay; brown; wet	-216	2	DT	10	No Odour				
6 2			-215.5	3	DT	20	No Odour				
8 2			-215	4	DT	15	No Odour				
10 3			-214.5	4	DT	15	No Odour				
12 3			-214	5	DT	30	No Odour	PHC F1 + BTEX			
14 4			-213.5	6	DT	15	No Odour				
16 4			-213	6	DT	15	No Odour		PHC F1-F4 + BTEX		
18 5			-212.5	7	DT	10	No Odour				
20 6		Medium to Coarse Sand with some gravel and trace silt; brown; wet	-212	7	DT	10	No Odour				
18 5			-211.5	8	DT	20	No Odour				
22 7			-211								
			-210.5								

4.50 m bgs
 April 28, 2020

Drill Date: 04/28/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 32 mm

Log of Borehole No. BH108

SUBSURFACE PROFILE				SAMPLE				LABORATORY		WELL DATA	
Depth	Symbol	Lithographic Description	Geodetic Elevation (m asl)	Number	Type	Vapour Screening (ppm or %LEL)	Remarks	Laboratory Analysis		Well Construction	Monitoring Data
								Soil	GW		
ft m		Ground Surface	217.44			OVM		Soil	GW		
0		Asphalt Pavement									
0		Sand Fill with some gravel; brown	217								
2			216.5	1	DT	20	No Odour				
4			216								
6		Sandy Silt with some clay; brown; wet	215.5								
8			215	2	DT	10	No Odour				
10			214.5								
12			214	3	DT	10	No Odour				
14			213.5								
16			213	4	DT	15	No Odour				
18			212.5								
20		Medium to Coarse Sand with some gravel and trace silt; brown with some grey staining from 18 to 18.5 ft.; wet	212	5	DT	10	No Odour				
20			211.5	6	DT	45	PHC Odour	PHC			
20			211	7	DT	30	No Odour	F1-F4 + BTEX			
22			210.5								

Drill Date: 04/28/2020

AiMS Field Supervisor: DK

Approved By: FF

Contractor: Strata Drilling Group

Borehole Ø: 60 mm

Equipment: Geoprobe 7822 Direct Push Machine with Dual Tubes

Well Ø: 0 mm

APPENDIX J

LABORATORY CERTIFICATES OF ANALYSIS

Maxxam Guideline Comparison Tables

CLIENT: AIMS Consulting Environmental Services
 PROJECT #: AR128A-19; BV LABS JOB: C078640

VOLATILE ORGANIC COMPOUNDS | 2011 Table 2-Potable GW - Ind/Comm/Commt'y, Coarse Grained

NOTE: Window zoom values other than 75% may cause unstable performance. ** See Note #5 at bottom of sheet for more information about Guideline Rounding

Matrix: Select Guideline from list above for comparison.

Laboratory ID / Guideline ID BV Labs Job # Units Sampling Date	Guideline 2011 Table 2-Potable GW Ind/Comm/Commt'y ug/g Coarse Grained	REPORTING LIMIT ug/g	BH2-7	BH7-2	Matrix Spike 99995 C078640 %	SPIKED BLANK 99998 C078640 %	Method Blank 99999 C078640 ug/g
			MIC431 C078640 ug/g 24-March-2020	MIC438 C078640 ug/g 24-March-2020			
Acetone	16	0.49	<0.49	<0.49	82	88	<0.49
Benzene	0.32	0.006	<0.0060	<0.0060	89	88	<0.0060
Bromodichloromethane	1.5	0.04	<0.040	<0.040	87	89	<0.040
Bromoform	0.61	0.04	<0.040	<0.040	102	108	<0.040
Bromomethane	0.05	0.04	<0.040	<0.040	88	88	<0.040
Carbon Tetrachloride	0.21	0.04	<0.040	<0.040	119	91	<0.040
Chlorobenzene	2.4	0.04	<0.040	<0.040	90	90	<0.040
Chloroform	0.47	0.04	<0.040	<0.040	85	85	<0.040
Dibromochloromethane	2.3	0.04	<0.040	<0.040	96	100	<0.040
1,2-Dichlorobenzene	1.2	0.04	<0.040	<0.040	88	88	<0.040
1,3-Dichlorobenzene	9.6	0.04	<0.040	<0.040	87	87	<0.040
1,4-Dichlorobenzene	0.2	0.04	<0.040	<0.040	93	94	<0.040
1,1-Dichloroethane	0.47	0.04	<0.040	<0.040	83	82	<0.040
1,2-Dichloroethane	0.05	0.04	<0.040	<0.040	90	91	<0.040
1,1-Dichloroethylene	0.064	0.04	<0.040	<0.040	87	84	<0.040
Cis-1,2-Dichloroethylene	1.9	0.04	<0.040	<0.040	89	88	<0.040
Trans-1,2-Dichloroethylene	1.3	0.04	<0.040	<0.040	93	90	<0.040
1,2-Dichloropropane	0.16	0.04	<0.040	<0.040	80	81	<0.040
Cis-1,3-Dichloropropylene	NV	0.03	<0.030	<0.030	90	93	<0.030
Trans-1,3-Dichloropropylene	NV	0.04	<0.040	<0.040	93	98	<0.040
Ethylbenzene	1.1	0.01	<0.010	<0.010	85	84	<0.010
Ethylene Dibromide	0.05	0.04	<0.040	<0.040	93	97	<0.040
Methyl Ethyl Ketone	70	0.4	<0.40	<0.40	82	80	<0.40
Methylene Chloride	1.6	0.049	<0.049	<0.049	84	83	<0.049
Methyl Isobutyl Ketone	31	0.4	<0.40	<0.40	85	94	<0.40
Methyl-t-Butyl Ether	1.6	0.04	<0.040	<0.040	82	81	<0.040
Styrene	34	0.04	<0.040	<0.040	98	100	<0.040
1,1,1,2-Tetrachloroethane	0.087	0.04	<0.040	<0.040	100	101	<0.040
1,1,2,2-Tetrachloroethane	0.05	0.04	<0.040	<0.040	90	95	<0.040
Toluene	6.4	0.02	<0.020	<0.020	90	88	<0.020
Tetrachloroethylene	1.9	0.04	<0.040	<0.040	98	93	<0.040
1,1,1-Trichloroethane	6.1	0.04	<0.040	<0.040	94	91	<0.040
1,1,2-Trichloroethane	0.05	0.04	<0.040	<0.040	87	87	<0.040
Trichloroethylene	0.55	0.01	<0.010	<0.010	103	100	<0.010
Vinyl Chloride	0.032	0.019	<0.019	<0.019	79	77	<0.019
m-Xylene & p-Xylene	NV	0.02	<0.020	<0.020	98	96	<0.020
o-Xylene	NV	0.02	<0.020	<0.020	92	92	<0.020
Total Xylenes	26	0.02	<0.020	<0.020	-	-	<0.020
Dichlorodifluoromethane	16	0.04	<0.040	<0.040	87	85	<0.040
Dioxane, 1,4-	1.8	-	-	-	-	-	-
Hexane(n)	46	0.04	<0.040	<0.040	89	85	<0.040
Trichlorofluoromethane	4	0.04	<0.040	<0.040	94	90	<0.040
1,3-Dichloropropane (cis + trans)	0.059	-	-	-	-	-	-

Criteria exceedences will turn BOLD with Yellow Background.
 BOLD with Blue Background indicates non-detected but RDL > Guideline criteria (due to dilution etc)

NOTES:

- NV = No value
- Criteria refers to Ministry of Environment "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of July 1, 2011
- This table represents a summary of the data presented in the Laboratory Certificate of Analysis for convenience purposes only
- New parameters indicated in the July 1, 2011 amendment, will appear at the bottom of each criteria page.
- Guideline flagging accuracy only guaranteed when result units correspond with guideline units on spreadsheet.

Maxxam Guideline Comparison Tables

CLIENT: AIMS Consulting Environmental Services
 PROJECT #: AR128A-19, BV LABS JOB: C078640
 INORGANIC PARAMETERS

2011 Table 2-Potable GW - Ind/Comm/Commtty; Coarse Grained

Select Guideline from list above for comparison.

Note: Window zoom values other than 75% may cause unreliable performance. - See Note #6 at bottom of sheet for more information about Guideline Flagging.

Laboratory ID / Guideline ID BV Labs Job # Units Sampling Date	Sample ID Guideline 2011 Table 2-Potable GW Ind/Comm/Commtty ug/g Coarse Grained	REPORTING LIMIT	Units	BHT-2 MIC430 C078640 24-March-2020										Matrix Spike 99995 C078640 %	SPIKED BLANK 99998 C078640 %	Method Blank 99999 C078640
				BH6-1 MIC436 C078640 24-March-2020	BH5-2 MIC435 C078640 24-March-2020	BH4-10 MIC434 C078640 24-March-2020	BH1-2 MIC430 C078640 24-March-2020	BH5-2 MIC435 C078640 24-March-2020	BH6-1 MIC436 C078640 24-March-2020	BH5-2 MIC439 C078640 24-March-2020	BH10-1 MIC441 C078640 24-March-2020					
Antimony	40	0.2	ug/g	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	97	103	<0.20
Arsenic	18	1	ug/g	-	1.4	-	3.1	-	<1.0	-	1.1	-	4	96	103	<1.0
Barium	670	0.5	ug/g	-	9.5	-	18	-	14	-	14	-	30	101	104	<0.50
Beryllium	8	0.2	ug/g	-	<0.20	-	0.25	-	<0.20	-	0.21	-	0.31	101	99	<0.20
Boron (Hot Water Soluble)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	1.9	0.1	ug/g	-	<0.10	-	0.12	-	0.11	-	0.12	-	0.15	103	101	<0.10
Chromium	180	1	ug/g	-	4.1	-	9.1	-	6.6	-	8.9	-	11	NC	97	<1.0
Chromium VI	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	80	0.1	ug/g	-	2.3	-	3.6	-	1.7	-	2.2	-	4.6	95	97	<0.10
Copper	230	0.5	ug/g	-	13	-	7	-	4.1	-	4.3	-	16	94	98	<0.50
Lead	120	1	ug/g	-	4.2	-	12	-	10	-	5.3	-	18	97	98	<1.0
Mercury	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Molybdenum	40	0.5	ug/g	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	95	100	<0.50
Nickel	270	0.5	ug/g	-	5.4	-	6.7	-	4.8	-	5	-	10	100	99	<0.50
Selenium	5.5	0.5	ug/g	-	<0.50	-	<0.50	-	<0.50	-	<0.50	-	<0.50	100	100	<0.50
Silver	40	0.2	ug/g	-	<0.20	-	<0.20	-	<0.20	-	<0.20	-	<0.20	103	103	<0.20
Thallium	3.3	0.05	ug/g	-	0.051	-	0.06	-	<0.050	-	<0.050	-	0.052	96	96	<0.050
Vanadium	86	5	ug/g	-	7.5	-	22	-	14	-	23	-	23	NC	99	<5.0
Zinc	340	5	ug/g	-	23	-	38	-	20	-	18	-	72	NC	103	<5.0
pH (pH Units)	NV	-	%	-	-	-	-	-	-	-	-	-	-	-	-	-
Conductivity (mS/cm)	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium Adsorption Ratio	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide, Free	0.051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloride	NV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Boron (Total)	120	5	ug/g	-	<5.0	-	<5.0	-	<5.0	-	<5.0	-	<5.0	101	99	<5.0
Uranium	33	0.05	ug/g	-	0.26	-	0.28	-	0.35	-	0.24	-	0.36	96	98	<0.050

Criteria exceedences will turn BOLD with Yellow Background.

BOLD with Blue Background indicates non-detected but RDL > Guideline criteria (due to dilution etc)

NOTES:

- NV = No value
- Criteria refers to Ministry of Environment *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* March 9, 2004, amended as of July 1, 2011
- This table represents a summary of the data presented in the Laboratory Certificate of Analysis for convenience purposes only
- This summary is to be used in conjunction with, not as a replacement of the Laboratory Certificate of Analysis which contains all QA/QC information
- New parameters indicated in the July 1, 2011 amendment, will appear at the bottom of each criteria page.
- Guideline flagging accuracy only guaranteed when result units correspond with guideline units on spreadsheet.

Maxxam Guideline Comparison Tables

CLIENT: AIMS Consulting Environmental Services
 PROJECT #: ARI126A-19, BV LABS JOB: C078640
 BTEX, COME PETROLEUM HYDROCARBONS | 2011 Table 2-Potable GW - IndComm/Comm'y, Coarse Grained

MATRIX: SOIL
 Note: Zoom values other than 75% may cause unstable performance.
 ** See Note #1 at bottom of sheet for more information about Guidelines flagging.

REPORTING LIMIT ug/g

Select Guideline from list above for comparison.

Sample ID	Guideline	BH2-7	BH3-7	BH4-4	BH5-2	BH6-2	BH7-2	BH9-3	Matrix Spike	SPIKED BLANK	Method Blank
Laboratory ID / Guideline ID	2011 Table 2-Potable GW	MIC431	MIC432	MIC433	MIC435	MIC437	MIC438	MIC440	96985	96986	96989
BV Labs Job #	IndComm/Comm'y	C078640	C078640	C078640	C078640						
Units	Coarse Grained	ug/g	%	%	ug/g						
Sampling Date		24-March-2020									
REPORTING LIMIT	ug/g	0.02	0.02	0.02	0.02	0.02	0.02	0.02	91	87	<0.020
Benzene	0.32	-	<0.020	<0.020	-	<0.020	-	-	90	88	<0.020
Toluene	6.4	-	<0.020	<0.020	-	1.4	-	-	100	98	<0.020
Ethylbenzene	1.1	-	<0.020	<0.020	-	3.9	-	-	98	96	<0.020
m,p-xylenes	NV	-	<0.040	<0.040	-	18	-	-	97	95	<0.020
o-xylene	NV	-	<0.020	<0.020	-	9.3	-	-	102	101	<0.020
Total Xylenes	26	-	<0.040	<0.040	-	28	-	-	99	85	<0.020
F1 (G2-C10)	55	-	<10	13	-	110	-	-	100	85	<10
F1 (G2-C10) - B TEX	55	-	<10	13	-	79	-	-	102	101	<10
F2 (C10-C16)	230	-	<10	41	<10	31	<10	<10	99	85	<10
F3 (C16-C24)	1700	<50	<50	<50	<50	<50	<50	<50	102	88	<50
F4 (C24-C50)	3300	<50	<50	<50	<50	<50	<50	<50	100	85	<50
Residual Baseline at C50	NV	YES	-	-	-						
F4 Granular	3300	YES	-	-	-						

Criteria exceedences will turn BOLD with Yellow Background.
 BOLD with Blue Background indicates non-detected but RDL > Guideline criteria (due to dilution etc)

NOTES:

1. Criteria values
2. Criteria refers to Ministry of Environment "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of July 1, 2011
3. This table represents a summary of the data presented in the Laboratory Certificate of Analysis for convenience purposes only
4. New summary is to be use in conjunction with, not as a replacement of the Laboratory Certificate of Analysis which contains all OACOC information
5. Guideline flagging accuracy only guaranteed when result units correspond with guideline units on spreadsheet.



Your Project #: AR128A-19
 Site Location: 395-401 QUEENSWAY W.
 Your C.O.C. #: N/A

Attention: Damian Khan

AiMS Consulting Environmental Services
 1020 Denison St
 Suite 111
 Markham, ON
 CANADA L3R 3W5

Report Date: 2020/03/31
 Report #: R6130476
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C078640

Received: 2020/03/25, 15:51

Sample Matrix: Soil
 # Samples Received: 12

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Petroleum Hydro. CCME F1 & BTEX in Soil (1)	3	N/A	2020/03/27	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (2)	4	2020/03/27	2020/03/30	CAM SOP-00316	CCME CWS m
Petroleum Hydrocarbons F2-F4 in Soil (2)	3	2020/03/27	2020/03/31	CAM SOP-00316	CCME CWS m
Strong Acid Leachable Metals by ICPMS	5	2020/03/26	2020/03/26	CAM SOP-00447	EPA 6020B m
Moisture	7	N/A	2020/03/26	CAM SOP-00445	Carter 2nd ed 51.2 m
pH CaCl2 EXTRACT	1	2020/03/30	2020/03/30	CAM SOP-00413	EPA 9045 D m
Sieve, 75um	1	N/A	2020/03/27	CAM SOP-00467	ASTM D1140 -17 m
Volatile Organic Compounds in Soil	2	N/A	2020/03/26	CAM SOP-00228	EPA 8260C m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta



Your Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Your C.O.C. #: N/A

Attention: Damian Khan

AiMS Consulting Environmental Services
1020 Denison St
Suite 111
Markham, ON
CANADA L3R 3W5

Report Date: 2020/03/31
Report #: R6130476
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C078640

Received: 2020/03/25, 15:51

Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Sara Singh, B.Sc, Senior Project Manager

Email: Sara.Singh@bvlab.com

Phone# (905)817-5827

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This report has been generated and distributed using a secure automated process.

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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VERITAS

BV Labs Job #: C078640
Report Date: 2020/03/31

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

O.REG 153 ICPMS METALS (SOIL)

BV Labs ID			MIC430	MIC435	MIC436	MIC439	MIC441		
Sampling Date			2020/03/24 10:00	2020/03/24 11:30	2020/03/24 12:30	2020/03/24 15:00	2020/03/24 11:15		
COC Number			N/A	N/A	N/A	N/A	N/A		
	UNITS	Criteria	BH1-2	BH5-2	BH6-1	BH8-2	BH10-1	RDL	QC Batch
Metals									
Acid Extractable Antimony (Sb)	ug/g	40	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6655869
Acid Extractable Arsenic (As)	ug/g	18	1.4	3.1	<1.0	1.1	4.0	1.0	6655869
Acid Extractable Barium (Ba)	ug/g	670	9.5	18	14	14	30	0.50	6655869
Acid Extractable Beryllium (Be)	ug/g	8	<0.20	0.25	<0.20	0.21	0.31	0.20	6655869
Acid Extractable Boron (B)	ug/g	120	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	6655869
Acid Extractable Cadmium (Cd)	ug/g	1.9	<0.10	0.12	0.11	<0.10	0.15	0.10	6655869
Acid Extractable Chromium (Cr)	ug/g	160	4.1	9.1	6.6	8.9	11	1.0	6655869
Acid Extractable Cobalt (Co)	ug/g	80	2.3	3.6	1.7	2.2	4.6	0.10	6655869
Acid Extractable Copper (Cu)	ug/g	230	13	7.0	4.1	4.3	16	0.50	6655869
Acid Extractable Lead (Pb)	ug/g	120	4.2	12	10	5.3	18	1.0	6655869
Acid Extractable Molybdenum (Mo)	ug/g	40	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6655869
Acid Extractable Nickel (Ni)	ug/g	270	5.4	6.7	4.8	5.0	10	0.50	6655869
Acid Extractable Selenium (Se)	ug/g	5.5	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6655869
Acid Extractable Silver (Ag)	ug/g	40	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6655869
Acid Extractable Thallium (Tl)	ug/g	3.3	0.051	0.060	<0.050	<0.050	0.052	0.050	6655869
Acid Extractable Uranium (U)	ug/g	33	0.26	0.28	0.35	0.24	0.36	0.050	6655869
Acid Extractable Vanadium (V)	ug/g	86	7.5	22	14	23	23	5.0	6655869
Acid Extractable Zinc (Zn)	ug/g	340	23	38	20	18	72	5.0	6655869
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)									
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition									
Soil - Industrial/Commercial/Community - Coarse Textured Soil									

BUREAU
VERITASBV Labs Job #: C078640
Report Date: 2020/03/31AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK**O.REG 153 PHCS, BTEX/F1-F4 (SOIL)**

BV Labs ID			MIC432	MIC433		MIC437		
Sampling Date			2020/03/24 12:00	2020/03/24 13:00		2020/03/24 12:30		
COC Number			N/A	N/A		N/A		
	UNITS	Criteria	BH3-7	BH4-4	QC Batch	BH6-2	RDL	QC Batch
Inorganics								
Moisture	%	-	18	14	6655578	21	1.0	6655131
BTEX & F1 Hydrocarbons								
Benzene	ug/g	0.32	<0.020	<0.020	6657045	<0.020	0.020	6657045
Toluene	ug/g	68	<0.020	<0.020	6657045	1.4	0.020	6657045
Ethylbenzene	ug/g	9.5	<0.020	<0.020	6657045	3.9	0.020	6657045
o-Xylene	ug/g	-	<0.020	<0.020	6657045	9.3	0.020	6657045
p+m-Xylene	ug/g	-	<0.040	<0.040	6657045	18	0.040	6657045
Total Xylenes	ug/g	26	<0.040	<0.040	6657045	28	0.040	6657045
F1 (C6-C10)	ug/g	55	<10	13	6657045	110	10	6657045
F1 (C6-C10) - BTEX	ug/g	55	<10	13	6657045	79	10	6657045
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	230	<10	41	6657032	31	10	6657032
F3 (C16-C34 Hydrocarbons)	ug/g	1700	<50	<50	6657032	<50	50	6657032
F4 (C34-C50 Hydrocarbons)	ug/g	3300	<50	<50	6657032	<50	50	6657032
Reached Baseline at C50	ug/g	-	Yes	Yes	6657032	Yes		6657032
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	-	102	103	6657045	104		6657045
4-Bromofluorobenzene	%	-	101	101	6657045	101		6657045
D10-Ethylbenzene	%	-	85	87	6657045	90		6657045
D4-1,2-Dichloroethane	%	-	99	101	6657045	103		6657045
o-Terphenyl	%	-	86	92	6657032	89		6657032
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community - Coarse Textured Soil								



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BV Labs Job #: C078640
Report Date: 2020/03/31

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

RESULTS OF ANALYSES OF SOIL

BV Labs ID		MIC431			MIC434		MIC434			MIC435		
Sampling Date		2020/03/24 10:45			2020/03/24 13:00		2020/03/24 13:00			2020/03/24 11:30		
COC Number		N/A			N/A		N/A			N/A		
	UNITS	BH2-7	RDL	QC Batch	BH4-10	QC Batch	BH4-10 Lab-Dup	RDL	QC Batch	BH5-2	RDL	QC Batch
Inorganics												
Moisture	%	13	1.0	6655578						7.4	1.0	6655578
Available (CaCl2) pH	pH				8.16	6659933						
Miscellaneous Parameters												
Grain Size	%				COARSE	6657042	COARSE	N/A	6657042			
Sieve - #200 (<0.075mm)	%				14	6657042	16	1	6657042			
Sieve - #200 (>0.075mm)	%				86	6657042	84	1	6657042			
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable												

BV Labs ID		MIC438	MIC440	MIC440		
Sampling Date		2020/03/24 15:30	2020/03/24 14:45	2020/03/24 14:45		
COC Number		N/A	N/A	N/A		
	UNITS	BH7-2	BH9-3	BH9-3 Lab-Dup	RDL	QC Batch
Inorganics						
Moisture	%	15	23	24	1.0	6655131
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate						

BUREAU
VERITASBV Labs Job #: C078640
Report Date: 2020/03/31AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

VOLATILE ORGANICS BY GC/MS (SOIL)

BV Labs ID			MIC431	MIC438		
Sampling Date			2020/03/24 10:45	2020/03/24 15:30		
COC Number			N/A	N/A		
	UNITS	Criteria	BH2-7	BH7-2	RDL	QC Batch
Volatile Organics						
Acetone (2-Propanone)	ug/g	16	<0.49	<0.49	0.49	6655412
Benzene	ug/g	0.32	<0.0060	<0.0060	0.0060	6655412
Bromodichloromethane	ug/g	18	<0.040	<0.040	0.040	6655412
Bromoform	ug/g	0.61	<0.040	<0.040	0.040	6655412
Bromomethane	ug/g	0.05	<0.040	<0.040	0.040	6655412
Carbon Tetrachloride	ug/g	0.21	<0.040	<0.040	0.040	6655412
Chlorobenzene	ug/g	2.4	<0.040	<0.040	0.040	6655412
Chloroform	ug/g	0.47	<0.040	<0.040	0.040	6655412
Dibromochloromethane	ug/g	13	<0.040	<0.040	0.040	6655412
1,2-Dichlorobenzene	ug/g	6.8	<0.040	<0.040	0.040	6655412
1,3-Dichlorobenzene	ug/g	9.6	<0.040	<0.040	0.040	6655412
1,4-Dichlorobenzene	ug/g	0.2	<0.040	<0.040	0.040	6655412
Dichlorodifluoromethane (FREON 12)	ug/g	16	<0.040	<0.040	0.040	6655412
1,1-Dichloroethane	ug/g	17	<0.040	<0.040	0.040	6655412
1,2-Dichloroethane	ug/g	0.05	<0.040	<0.040	0.040	6655412
1,1-Dichloroethylene	ug/g	0.064	<0.040	<0.040	0.040	6655412
cis-1,2-Dichloroethylene	ug/g	55	<0.040	<0.040	0.040	6655412
trans-1,2-Dichloroethylene	ug/g	1.3	<0.040	<0.040	0.040	6655412
1,2-Dichloropropane	ug/g	0.16	<0.040	<0.040	0.040	6655412
cis-1,3-Dichloropropene	ug/g	0.18	<0.030	<0.030	0.030	6655412
trans-1,3-Dichloropropene	ug/g	0.18	<0.040	<0.040	0.040	6655412
Ethylbenzene	ug/g	9.5	<0.010	<0.010	0.010	6655412
Ethylene Dibromide	ug/g	0.05	<0.040	<0.040	0.040	6655412
Hexane	ug/g	46	<0.040	<0.040	0.040	6655412
Methylene Chloride(Dichloromethane)	ug/g	1.6	<0.049	<0.049	0.049	6655412
Methyl Ethyl Ketone (2-Butanone)	ug/g	70	<0.40	<0.40	0.40	6655412
Methyl Isobutyl Ketone	ug/g	31	<0.40	<0.40	0.40	6655412
Methyl t-butyl ether (MTBE)	ug/g	11	<0.040	<0.040	0.040	6655412
Styrene	ug/g	34	<0.040	<0.040	0.040	6655412
1,1,1,2-Tetrachloroethane	ug/g	0.087	<0.040	<0.040	0.040	6655412
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)						
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition						
Soil - Industrial/Commercial/Community - Coarse Textured Soil						



BUREAU
VERITAS

BV Labs Job #: C078640
Report Date: 2020/03/31

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

VOLATILE ORGANICS BY GC/MS (SOIL)

BV Labs ID			MIC431	MIC438		
Sampling Date			2020/03/24 10:45	2020/03/24 15:30		
COC Number			N/A	N/A		
	UNITS	Criteria	BH2-7	BH7-2	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/g	0.05	<0.040	<0.040	0.040	6655412
Tetrachloroethylene	ug/g	4.5	<0.040	<0.040	0.040	6655412
Toluene	ug/g	68	<0.020	<0.020	0.020	6655412
1,1,1-Trichloroethane	ug/g	6.1	<0.040	<0.040	0.040	6655412
1,1,2-Trichloroethane	ug/g	0.05	<0.040	<0.040	0.040	6655412
Trichloroethylene	ug/g	0.91	<0.010	<0.010	0.010	6655412
Trichlorofluoromethane (FREON 11)	ug/g	4	<0.040	<0.040	0.040	6655412
Vinyl Chloride	ug/g	0.032	<0.019	<0.019	0.019	6655412
p+m-Xylene	ug/g	-	<0.020	<0.020	0.020	6655412
o-Xylene	ug/g	-	<0.020	<0.020	0.020	6655412
Total Xylenes	ug/g	26	<0.020	<0.020	0.020	6655412
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	-	102	101		6655412
D10-o-Xylene	%	-	95	97		6655412
D4-1,2-Dichloroethane	%	-	102	102		6655412
D8-Toluene	%	-	88	88		6655412
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community - Coarse Textured Soil						



BUREAU
VERITAS

BV Labs Job #: C078640
Report Date: 2020/03/31

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID			MIC431	MIC435	MIC435	MIC438	MIC440		
Sampling Date			2020/03/24 10:45	2020/03/24 11:30	2020/03/24 11:30	2020/03/24 15:30	2020/03/24 14:45		
COC Number			N/A	N/A	N/A	N/A	N/A		
	UNITS	Criteria	BH2-7	BH5-2	BH5-2 Lab-Dup	BH7-2	BH9-3	RDL	QC Batch
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	230	<10	<10	<10	<10	<10	10	6657032
F3 (C16-C34 Hydrocarbons)	ug/g	1700	<50	<50	<50	<50	<50	50	6657032
F4 (C34-C50 Hydrocarbons)	ug/g	3300	<50	<50	<50	<50	<50	50	6657032
Reached Baseline at C50	ug/g	-	Yes	Yes	Yes	Yes	Yes		6657032
Surrogate Recovery (%)									
o-Terphenyl	%	-	95	89	88	99	84		6657032
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate Criteria: Ontario Reg. 153/04 (Amended April 15, 2011) Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition Soil - Industrial/Commercial/Community - Coarse Textured Soil									



BUREAU
VERITAS

BV Labs Job #: C078640
Report Date: 2020/03/31

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

TEST SUMMARY

BV Labs ID: MIC430
Sample ID: BH1-2
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6655869	2020/03/26	2020/03/26	Daniel Teclu

BV Labs ID: MIC431
Sample ID: BH2-7
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6657032	2020/03/27	2020/03/30	Prabhjot Gulati
Moisture	BAL	6655578	N/A	2020/03/26	Prgya Panchal
Volatile Organic Compounds in Soil	GC/MS	6655412	N/A	2020/03/26	Chandni Khawas

BV Labs ID: MIC432
Sample ID: BH3-7
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6657045	N/A	2020/03/27	Abdi Mohamud
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6657032	2020/03/27	2020/03/30	Prabhjot Gulati
Moisture	BAL	6655578	N/A	2020/03/26	Prgya Panchal

BV Labs ID: MIC433
Sample ID: BH4-4
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6657045	N/A	2020/03/27	Abdi Mohamud
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6657032	2020/03/27	2020/03/30	Prabhjot Gulati
Moisture	BAL	6655578	N/A	2020/03/26	Prgya Panchal

BV Labs ID: MIC434
Sample ID: BH4-10
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	6659933	2020/03/30	2020/03/30	Yogesh Patel
Sieve, 75um	SIEV	6657042	N/A	2020/03/27	Gurpreet Kaur (ONT)

BV Labs ID: MIC434 Dup
Sample ID: BH4-10
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sieve, 75um	SIEV	6657042	N/A	2020/03/27	Gurpreet Kaur (ONT)



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BV Labs Job #: C078640
Report Date: 2020/03/31

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

TEST SUMMARY

BV Labs ID: MIC435
Sample ID: BH5-2
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6657032	2020/03/27	2020/03/30	Prabhjot Gulati
Strong Acid Leachable Metals by ICPMS	ICP/MS	6655869	2020/03/26	2020/03/26	Daniel Teclu
Moisture	BAL	6655578	N/A	2020/03/26	Prgya Panchal

BV Labs ID: MIC435 Dup
Sample ID: BH5-2
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6657032	2020/03/27	2020/03/31	Prabhjot Gulati

BV Labs ID: MIC436
Sample ID: BH6-1
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6655869	2020/03/26	2020/03/26	Daniel Teclu

BV Labs ID: MIC437
Sample ID: BH6-2
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6657045	N/A	2020/03/27	Abdi Mohamud
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6657032	2020/03/27	2020/03/31	Prabhjot Gulati
Moisture	BAL	6655131	N/A	2020/03/26	Prgya Panchal

BV Labs ID: MIC438
Sample ID: BH7-2
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6657032	2020/03/27	2020/03/31	Prabhjot Gulati
Moisture	BAL	6655131	N/A	2020/03/26	Prgya Panchal
Volatile Organic Compounds in Soil	GC/MS	6655412	N/A	2020/03/26	Chandni Khawas

BV Labs ID: MIC439
Sample ID: BH8-2
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6655869	2020/03/26	2020/03/26	Daniel Teclu



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BV Labs Job #: C078640
Report Date: 2020/03/31

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

TEST SUMMARY

BV Labs ID: MIC440
Sample ID: BH9-3
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6657032	2020/03/27	2020/03/31	Prabhjot Gulati
Moisture	BAL	6655131	N/A	2020/03/26	Prgya Panchal

BV Labs ID: MIC440 Dup
Sample ID: BH9-3
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	6655131	N/A	2020/03/26	Prgya Panchal

BV Labs ID: MIC441
Sample ID: BH10-1
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/03/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6655869	2020/03/26	2020/03/26	Daniel Teclu



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BV Labs Job #: C078640
Report Date: 2020/03/31

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	0.0°C
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Results relate only to the items tested.



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BV Labs Job #: C078640
Report Date: 2020/03/31

QUALITY ASSURANCE REPORT

AIMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6655412	4-Bromofluorobenzene	2020/03/26	112	60 - 140	112	60 - 140	103	%				
6655412	D10-o-Xylene	2020/03/26	119	60 - 130	108	60 - 130	90	%				
6655412	D4-1,2-Dichloroethane	2020/03/26	93	60 - 140	96	60 - 140	106	%				
6655412	D8-Toluene	2020/03/26	102	60 - 140	102	60 - 140	85	%				
6657032	o-Terphenyl	2020/03/30	101 (3)	60 - 130	89	60 - 130	91	%				
6657045	1,4-Difluorobenzene	2020/03/27	101	60 - 140	102	60 - 140	101	%				
6657045	4-Bromofluorobenzene	2020/03/27	100	60 - 140	101	60 - 140	101	%				
6657045	D10-Ethylbenzene	2020/03/27	99	60 - 140	85	60 - 140	85	%				
6657045	D4-1,2-Dichloroethane	2020/03/27	100	60 - 140	101	60 - 140	101	%				
6655131	Moisture	2020/03/26								4.3 (1)	20	
6655412	1,1,1,2-Tetrachloroethane	2020/03/26	100	60 - 140	101	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	1,1,1,1-Trichloroethane	2020/03/26	94	60 - 140	91	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	1,1,2,2-Tetrachloroethane	2020/03/26	90	60 - 140	95	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	1,1,2-Trichloroethane	2020/03/26	83	60 - 140	87	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	1,1-Dichloroethane	2020/03/26	83	60 - 140	82	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	1,1-Dichloroethylene	2020/03/26	87	60 - 140	84	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	1,2-Dichlorobenzene	2020/03/26	88	60 - 140	90	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	1,2-Dichloroethane	2020/03/26	90	60 - 140	91	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	1,2-Dichloropropane	2020/03/26	80	60 - 140	81	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	1,3-Dichlorobenzene	2020/03/26	87	60 - 140	87	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	1,4-Dichlorobenzene	2020/03/26	93	60 - 140	94	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	Acetone (2-Propanone)	2020/03/26	82	60 - 140	88	60 - 140	<0.49	ug/g		NC (2)	50	
6655412	Benzene	2020/03/26	89	60 - 140	88	60 - 130	<0.0060	ug/g		NC (2)	50	
6655412	Bromodichloromethane	2020/03/26	87	60 - 140	89	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	Bromoform	2020/03/26	102	60 - 140	108	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	Bromomethane	2020/03/26	88	60 - 140	88	60 - 140	<0.040	ug/g		NC (2)	50	
6655412	Carbon Tetrachloride	2020/03/26	119	60 - 140	91	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	Chlorobenzene	2020/03/26	90	60 - 140	90	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	Chloroform	2020/03/26	85	60 - 140	85	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	cis-1,2-Dichloroethylene	2020/03/26	89	60 - 140	88	60 - 130	<0.040	ug/g		NC (2)	50	
6655412	cis-1,3-Dichloropropene	2020/03/26	90	60 - 140	93	60 - 130	<0.030	ug/g		NC (2)	50	



BUREAU VERITAS

BV Labs Job #: C078640
Report Date: 2020/03/31

QUALITY ASSURANCE REPORT(CONT'D)

AIMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6655412	Dibromochloromethane	2020/03/26	96	60 - 140	100	60 - 130	<0.040	ug/g	NC (2)	50		
6655412	Dichlorodifluoromethane (FREON 12)	2020/03/26	87	60 - 140	85	60 - 140	<0.040	ug/g	NC (2)	50		
6655412	Ethylbenzene	2020/03/26	85	60 - 140	84	60 - 130	<0.010	ug/g	NC (2)	50		
6655412	Ethylene Dibromide	2020/03/26	93	60 - 140	97	60 - 130	<0.040	ug/g	NC (2)	50		
6655412	Hexane	2020/03/26	89	60 - 140	85	60 - 130	<0.040	ug/g	NC (2)	50		
6655412	Methyl Ethyl Ketone (2-Butanone)	2020/03/26	82	60 - 140	90	60 - 140	<0.40	ug/g	NC (2)	50		
6655412	Methyl Isobutyl Ketone	2020/03/26	85	60 - 140	94	60 - 130	<0.40	ug/g	NC (2)	50		
6655412	Methyl t-butyl ether (MTBE)	2020/03/26	82	60 - 140	81	60 - 130	<0.040	ug/g	NC (2)	50		
6655412	Methylene Chloride(Dichloromethane)	2020/03/26	84	60 - 140	83	60 - 130	<0.049	ug/g	NC (2)	50		
6655412	o-Xylene	2020/03/26	92	60 - 140	92	60 - 130	<0.020	ug/g	NC (2)	50		
6655412	p+m-Xylene	2020/03/26	98	60 - 140	96	60 - 130	<0.020	ug/g	NC (2)	50		
6655412	Styrene	2020/03/26	98	60 - 140	100	60 - 130	<0.040	ug/g	NC (2)	50		
6655412	Tetrachloroethylene	2020/03/26	98	60 - 140	93	60 - 130	<0.040	ug/g	NC (2)	50		
6655412	Toluene	2020/03/26	90	60 - 140	88	60 - 130	<0.020	ug/g	NC (2)	50		
6655412	Total Xylenes	2020/03/26					<0.020	ug/g	NC (2)	50		
6655412	trans-1,2-Dichloroethylene	2020/03/26	93	60 - 140	90	60 - 130	<0.040	ug/g	NC (2)	50		
6655412	trans-1,3-Dichloropropene	2020/03/26	93	60 - 140	98	60 - 130	<0.040	ug/g	NC (2)	50		
6655412	Trichloroethylene	2020/03/26	103	60 - 140	100	60 - 130	<0.010	ug/g	NC (2)	50		
6655412	Trichlorofluoromethane (FREON 11)	2020/03/26	94	60 - 140	90	60 - 130	<0.040	ug/g	NC (2)	50		
6655412	Vinyl Chloride	2020/03/26	79	60 - 140	77	60 - 130	<0.019	ug/g	NC (2)	50		
6655578	Moisture	2020/03/26							0.40 (2)	20		
6655869	Acid Extractable Antimony (Sb)	2020/03/26	97	75 - 125	103	80 - 120	<0.20	ug/g	NC (2)	30		
6655869	Acid Extractable Arsenic (As)	2020/03/26	98	75 - 125	103	80 - 120	<1.0	ug/g	11 (2)	30		
6655869	Acid Extractable Barium (Ba)	2020/03/26	NC	75 - 125	104	80 - 120	<0.50	ug/g	1.8 (2)	30		
6655869	Acid Extractable Beryllium (Be)	2020/03/26	101	75 - 125	99	80 - 120	<0.20	ug/g	2.6 (2)	30		
6655869	Acid Extractable Boron (B)	2020/03/26	101	75 - 125	99	80 - 120	<5.0	ug/g	2.4 (2)	30		
6655869	Acid Extractable Cadmium (Cd)	2020/03/26	103	75 - 125	101	80 - 120	<0.10	ug/g	NC (2)	30		
6655869	Acid Extractable Chromium (Cr)	2020/03/26	NC	75 - 125	97	80 - 120	<1.0	ug/g	3.5 (2)	30		
6655869	Acid Extractable Cobalt (Co)	2020/03/26	95	75 - 125	97	80 - 120	<0.10	ug/g	1.9 (2)	30		
6655869	Acid Extractable Copper (Cu)	2020/03/26	94	75 - 125	98	80 - 120	<0.50	ug/g	2.2 (2)	30		
6655869	Acid Extractable Lead (Pb)	2020/03/26	97	75 - 125	98	80 - 120	<1.0	ug/g	3.4 (2)	30		



BUREAU
VERITAS

BV Labs Job #: C078640
Report Date: 2020/03/31

QUALITY ASSURANCE REPORT(CONT'D)

AIMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6655869	Acid Extractable Molybdenum (Mo)	2020/03/26	99	75 - 125	100	80 - 120	<0.50	ug/g	NC (2)	30		
6655869	Acid Extractable Nickel (Ni)	2020/03/26	100	75 - 125	99	80 - 120	<0.50	ug/g	0.33 (2)	30		
6655869	Acid Extractable Selenium (Se)	2020/03/26	100	75 - 125	100	80 - 120	<0.50	ug/g	NC (2)	30		
6655869	Acid Extractable Silver (Ag)	2020/03/26	103	75 - 125	103	80 - 120	<0.20	ug/g	NC (2)	30		
6655869	Acid Extractable Thallium (Tl)	2020/03/26	96	75 - 125	99	80 - 120	<0.050	ug/g	12 (2)	30		
6655869	Acid Extractable Uranium (U)	2020/03/26	96	75 - 125	98	80 - 120	<0.050	ug/g	2.0 (2)	30		
6655869	Acid Extractable Vanadium (V)	2020/03/26	NC	75 - 125	99	80 - 120	<5.0	ug/g	0.28 (2)	30		
6655869	Acid Extractable Zinc (Zn)	2020/03/26	NC	75 - 125	103	80 - 120	<5.0	ug/g	7.6 (2)	30		
6657032	F2 (C10-C16 Hydrocarbons)	2020/03/31	99 (3)	50 - 130	85	80 - 120	<10	ug/g	NC (4)	30		
6657032	F3 (C16-C34 Hydrocarbons)	2020/03/31	102 (3)	50 - 130	88	80 - 120	<50	ug/g	NC (4)	30		
6657032	F4 (C34-C50 Hydrocarbons)	2020/03/31	100 (3)	50 - 130	85	80 - 120	<50	ug/g	NC (4)	30		
6657042	Sieve - #200 (<0.075mm)	2020/03/27							13 (5)	20	55	53 - 58
6657042	Sieve - #200 (>0.075mm)	2020/03/27							2.3 (5)	20	45	42 - 47
6657045	Benzene	2020/03/27	91	60 - 140	87	60 - 140	<0.020	ug/g	NC (2)	50		
6657045	Ethylbenzene	2020/03/27	100	60 - 140	98	60 - 140	<0.020	ug/g	NC (2)	50		
6657045	F1 (C6-C10) - BTEX	2020/03/27					<10	ug/g	NC (2)	30		
6657045	F1 (C6-C10)	2020/03/27	102	60 - 140	101	80 - 120	<10	ug/g	NC (2)	30		
6657045	o-Xylene	2020/03/27	97	60 - 140	95	60 - 140	<0.020	ug/g	NC (2)	50		
6657045	p+m-Xylene	2020/03/27	98	60 - 140	96	60 - 140	<0.040	ug/g	NC (2)	50		
6657045	Toluene	2020/03/27	90	60 - 140	88	60 - 140	<0.020	ug/g	NC (2)	50		
6657045	Total Xylenes	2020/03/27					<0.040	ug/g	NC (2)	50		



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BV Labs Job #: C078640
Report Date: 2020/03/31

QUALITY ASSURANCE REPORT(CONT'D)

AIMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6659933	Available (CaCl ₂) pH	2020/03/30			99	97 - 103			0.37 (2)	N/A		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

- (1) Duplicate Parent ID [MIC440-01]
- (2) Duplicate Parent ID
- (3) Matrix Spike Parent ID [MIC435-01]
- (4) Duplicate Parent ID [MIC435-01]
- (5) Duplicate Parent ID [MIC434-01]



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VERITAS

BV Labs Job #: C078640
Report Date: 2020/03/31

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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 CAM FCD-01191/5

CHAIN OF CUSTODY RECORD

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Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required	
Company Name: AIMS Environmental Consulting Services Contact Name: Fory Fong Address: 1020 Denison Street, Suite 111 Markham ON, L3R 3W5 Phone: 905-474-0058 ext 102 Fax: 905-474-0601 Email: ffong@aimsconsulting.com		Company Name: AIMS Environmental Consulting Services Contact Name: Damian Khan Address: 1020 Denison Street, Suite 111 Markham ON, L3R 3W5 Phone: 905-474-0058 ext. 106 Fax: 905-474-0601 Email: dkhan@aimsconsulting.com		Quotation #: _____ P.O. # / AFER: _____ Project #: AK-128A-19 Site Location: 315-401 Queen'sway W Site #: _____ Site Location Province: _____ ON		<input type="checkbox"/> Regular TAT (5-7 days) Most analyses <input checked="" type="checkbox"/> Rush TAT (Surcharges will be applied) <input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Days <input checked="" type="checkbox"/> 3-4 Days	
Regulation 153 <input type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Med/ Fine <input type="checkbox"/> Table 2 <input checked="" type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse <input checked="" type="checkbox"/> Table 3 <input type="checkbox"/> Agr/ Other <input type="checkbox"/> Table _____ FOR RSC (PLEASE CIRCLE) Y / N		Other Regulations <input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> MISA <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> PWQO <input type="checkbox"/> Region <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> REG 558 (MIN. 3 DAY TAT REQUIRED)		Analysis Requested REG 153 METALS <input checked="" type="checkbox"/> REG 153 CPMS METALS <input checked="" type="checkbox"/> REG 153 METALS & INORGANICS VOCs <input checked="" type="checkbox"/> PHCs F2 - F4 <input checked="" type="checkbox"/> BTEX/ PHC F1 <input checked="" type="checkbox"/> FIELD FILTERED (CIRCLE) Metals / Hg / CrVI <input checked="" type="checkbox"/> # OF CONTAINERS SUBMITTED <input checked="" type="checkbox"/> PHCs F2 - F4 <input checked="" type="checkbox"/> REG 153 CPMS METALS <input checked="" type="checkbox"/> REG 153 METALS HOLD - DO NOT ANALYZE		LABORATORY USE ONLY CUSTODY SEAL <input checked="" type="checkbox"/> Present <input type="checkbox"/> Intact COOLING MEDIA PRESENT: Y / N COMMENTS PH Green Size ± 75µm	
Include Criteria on Certificate of Analysis: Y / N		SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS		Date Required: _____ Rush Confirmation #: _____		Date: _____ Time: _____ RECEIVED BY: (Signature/Print) _____ TIME: (HH:MM) _____	
SAMPLE IDENTIFICATION 1 BH1-2 DATE SAMPLED (YYYY/MM/DD) 2020/03/24 TIME SAMPLED (HH:MM) 10:00 MATRIX Soil 2 BH2-7 10:45 3 BH3-7 12:00 4 BH4-4 13:00 5 BH4-10 13:00 6 BH5-2 11:30 7 BH6-1 12:30 8 BH6-2 12:30 9 BH7-2 15:30 10 BH8-2 2020/03/24 15:00 Soil		RELINQUISHED BY: (Signature/Print) Damian Khan		DATE: (YYYY/MM/DD) 2020/03/25 TIME: (HH:MM) 15:50 RECEIVED BY: (Signature/Print) [Signature]		25-Mar-20 15:51 Sara Singh C078640 JCC ENV-1181	

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Bureau Veritas Laboratories' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and acceptance of our terms available at <http://www.bvlabs.com/terms-and-conditions>



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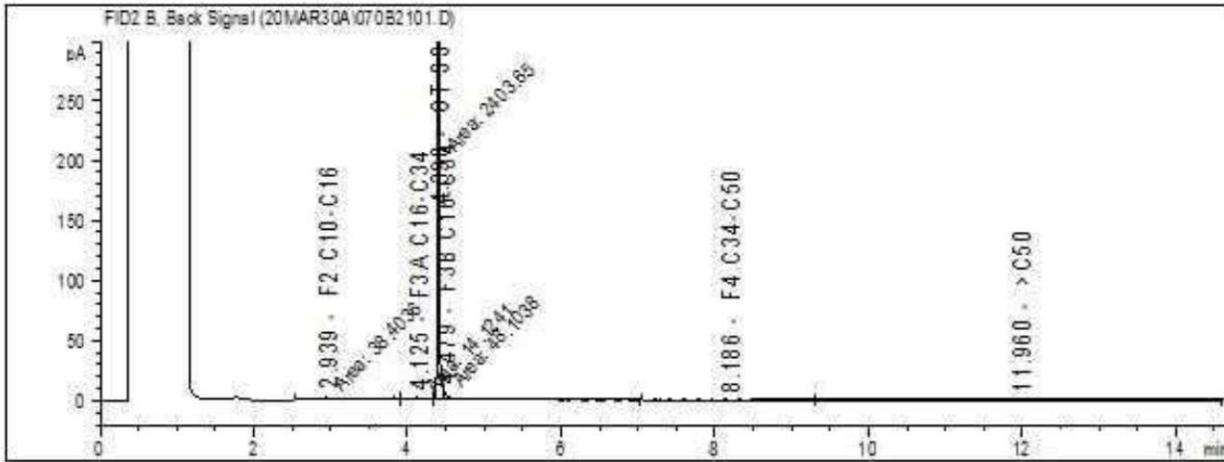
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CHAIN OF CUSTODY RECORD

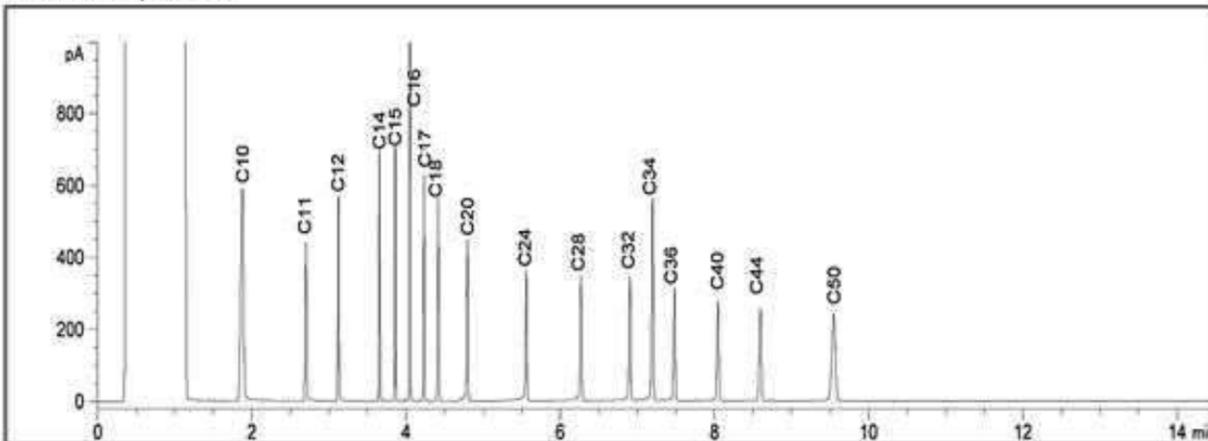
Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required									
Company Name: AIMS Environmental Consulting Services Contact Name: Foryong Address: 1020 Denison Street, Suite 111 Markham ON, L3R 3W5 Phone: 905-474-0058 ext: 102 Fax: 905-474-0601 Email: ffong@aimsconsulting.com		Company Name: AIMS Environmental Consulting Services Contact Name: Damian Khan Address: 1020 Denison Street, Suite 111 Markham ON, L3R 3W5 Phone: 905-474-0058 ext: 106 Fax: 905-474-0601 Email: dkhan@aimsconsulting.com		Quotation #: _____ P.O. # / A/FER: _____ Project #: AR128A-19 Site Location: 395-401 Queensway W Site #: _____ Site Location Province: _____ ON		<input type="checkbox"/> Regular TAT (5-7 days) Most analyses <input checked="" type="checkbox"/> Rush TAT (Surcharges will be applied) <input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Days <input checked="" type="checkbox"/> 3-4 Days									
Regulation 153 <input type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Med/Fine <input type="checkbox"/> Table 2 <input checked="" type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse <input type="checkbox"/> Table 3 <input type="checkbox"/> Agr/Other <input type="checkbox"/> Table _____ FOR RSC (PLEASE CIRCLE) Y / N		Other Regulations <input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> MISA <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> PWQO <input type="checkbox"/> Region _____ <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> REG 558 (MIN. 3 DAY TAT REQUIRED)		Analysis Requested Sampled By: <u>DK</u> Analysis Requested: _____ LABORATORY USE ONLY CUSTODY SEAL Y / N Present Intact COOLER TEMPERATURES COOLING MEDIA PRESENT: Y / N COMMENTS		Date Required: _____ Rush Confirmation #: _____									
NOTE: REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS LABORATORIES' DRINKING WATER CHAIN OF CUSTODY.															
SAMPLE IDENTIFICATION		DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CIRCLE) Metals / Hg / CrVI	BTEX/ PHEC F1	PHC/F2 - F4	VOCS	REG 153 METALS & INORGANICS	REG 153 ICPIMS METALS	REG 153 METALS (Hg, Cr VI, ICPIMS Metals, HWS - B)	PAHS	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
1	BH9-3	2020/03/24	14:45	Soil	1 NA										
2	BH10-1	2020/03/24	11:15	Soil	1 NA										
3															
4															
5															
6															
7															
8															
9															
10															
RELINQUISHED BY: (Signature/Print)		DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	BY JOB #								
Damian Khan		2020/03/25	15:50	see page 1											

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Bureau Veritas Laboratories' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and acceptance of our terms available at <http://www.bvlab.com/terms-and-conditions>

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Reference Spectrum



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline: C6 - C12

Diesel: C10 - C24

Jet Fuels: C6 - C16

Varsol: C8 - C12

Fuel Oils: C6 - C32

Creosote: C10 - C26

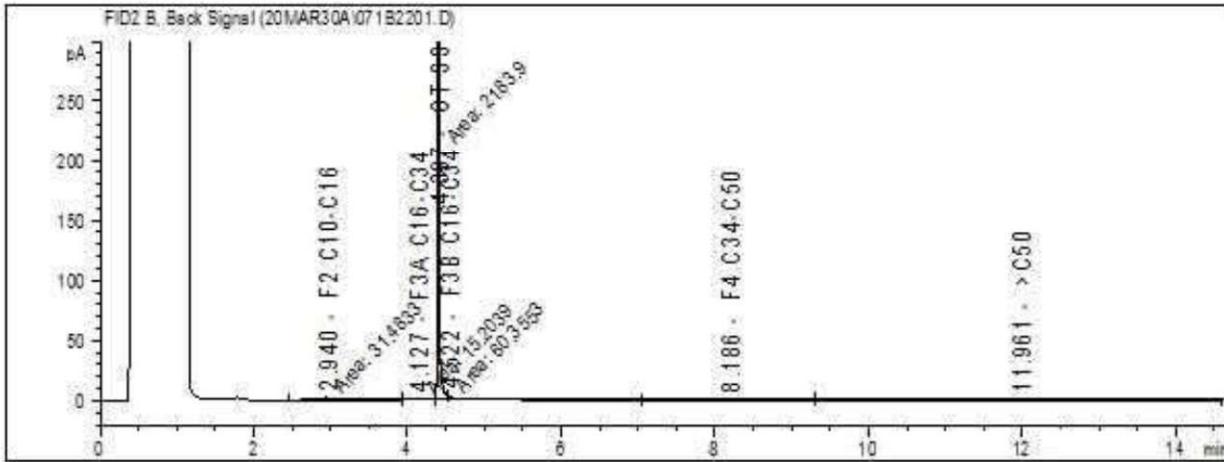
Kerosene: C8 - C16

Motor Oils: C16 - C50

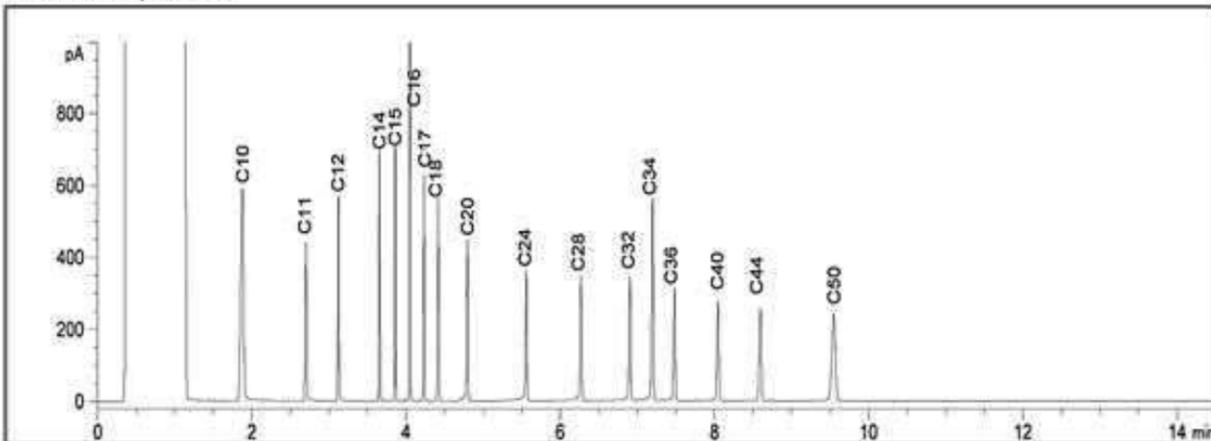
Asphalt: C18 - C50+

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Reference Spectrum



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Fuel Oils: C6 - C32

Creosote: C10 - C26

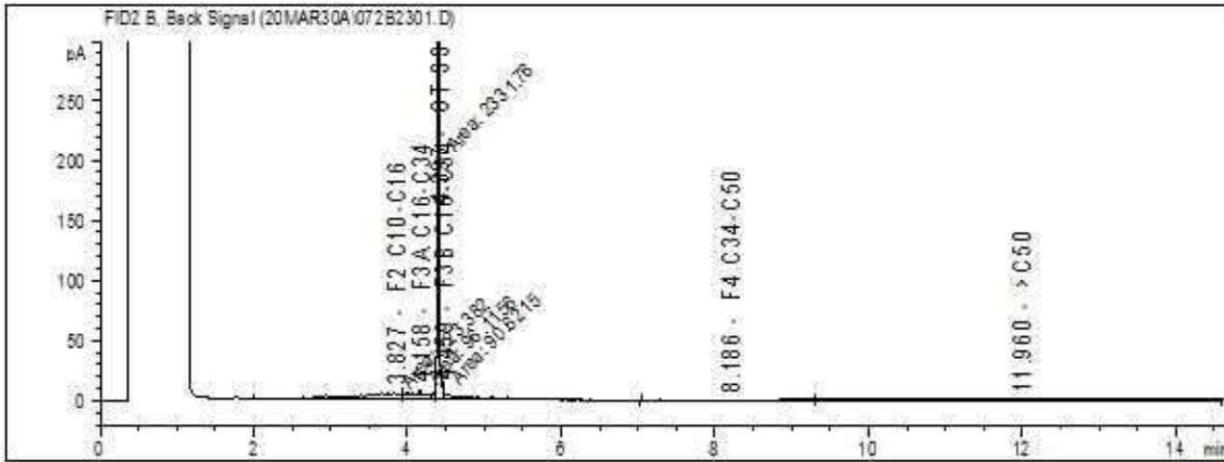
Kerosene: C8 - C16

Motor Oils: C16 - C50

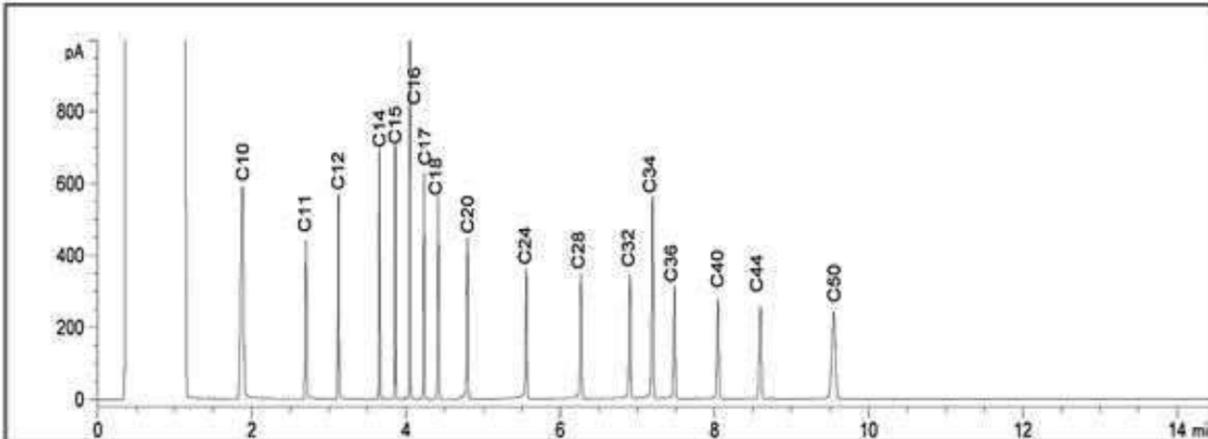
Asphalt: C18 - C50+

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Reference Spectrum



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Creosote: C10 - C26

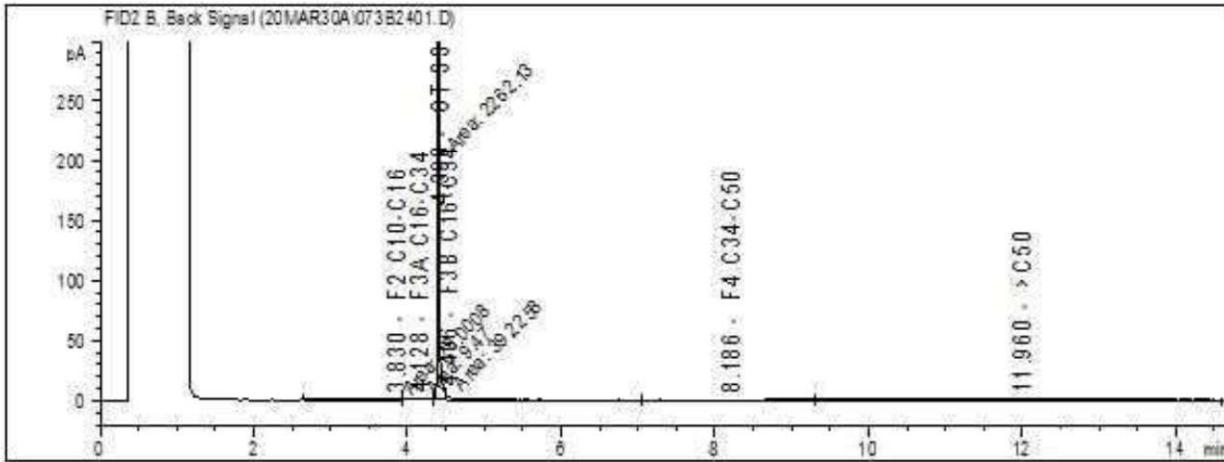
Kerosene: C8 - C16

Motor Oils: C16 - C50

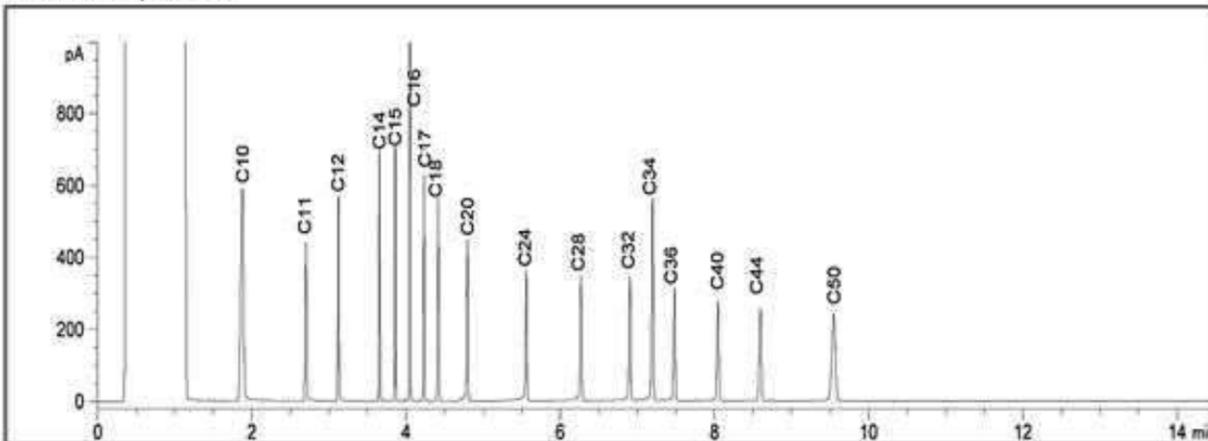
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Creosote: C10 - C26

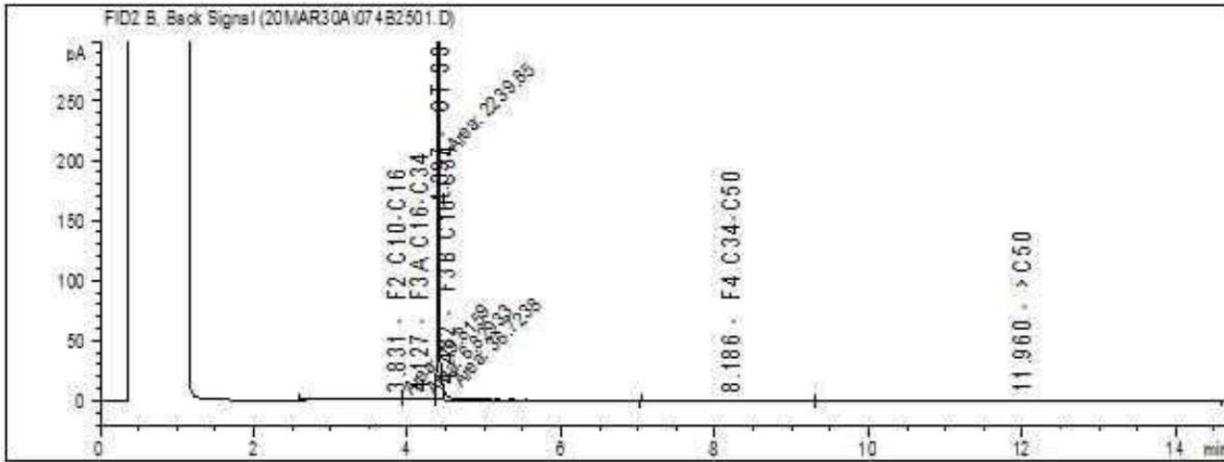
Kerosene: C8 - C16

Motor Oils: C16 - C50

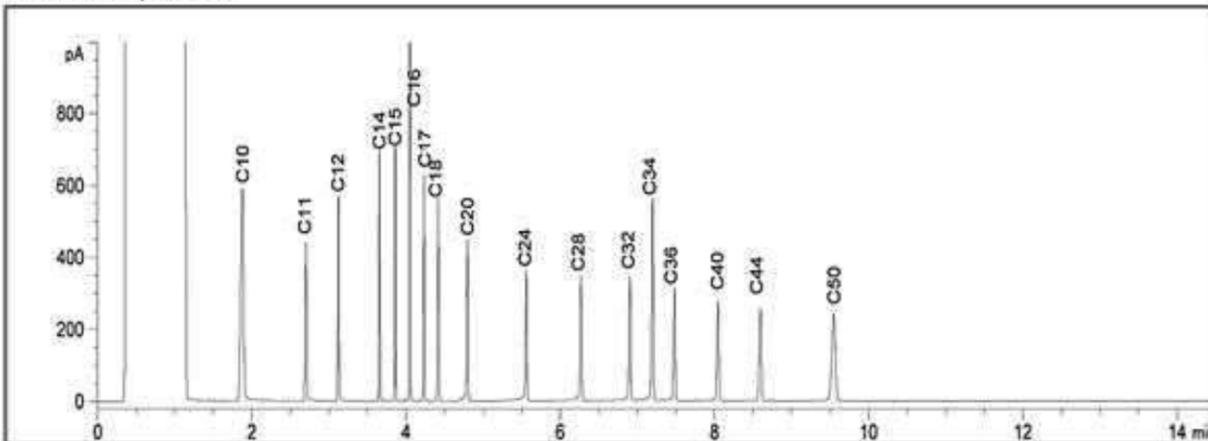
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Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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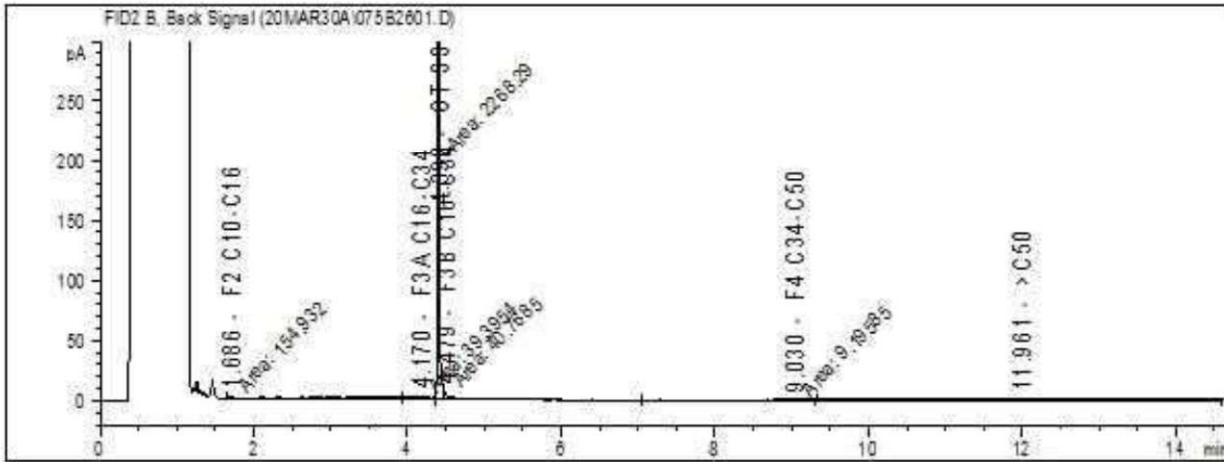
Kerosene: C8 - C16

Motor Oils: C16 - C50

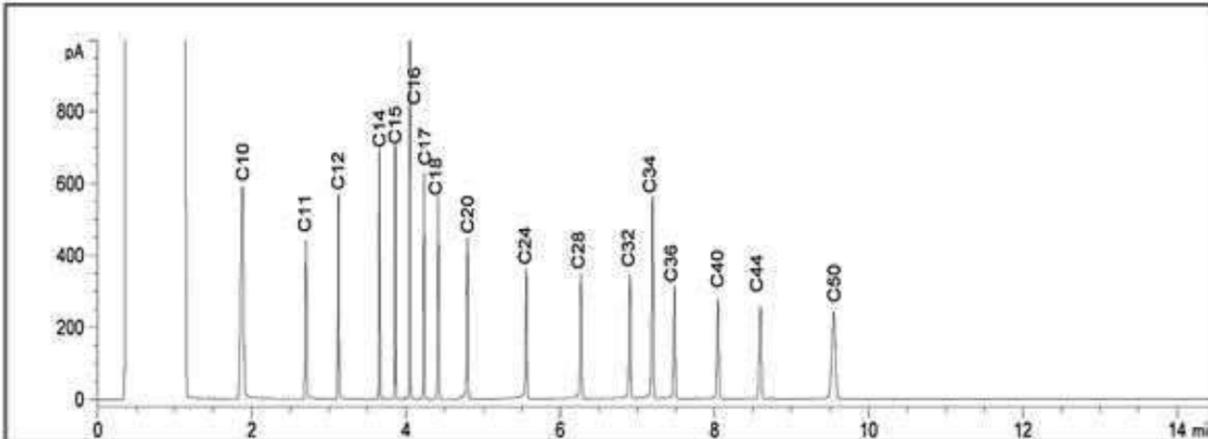
Asphalt: C18 - C50+

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Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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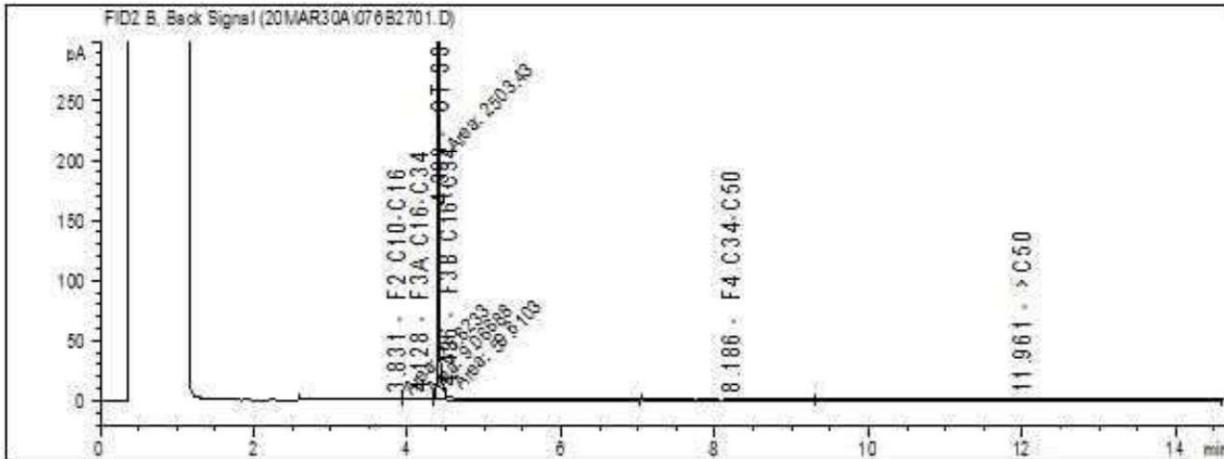
Kerosene: C8 - C16

Motor Oils: C16 - C50

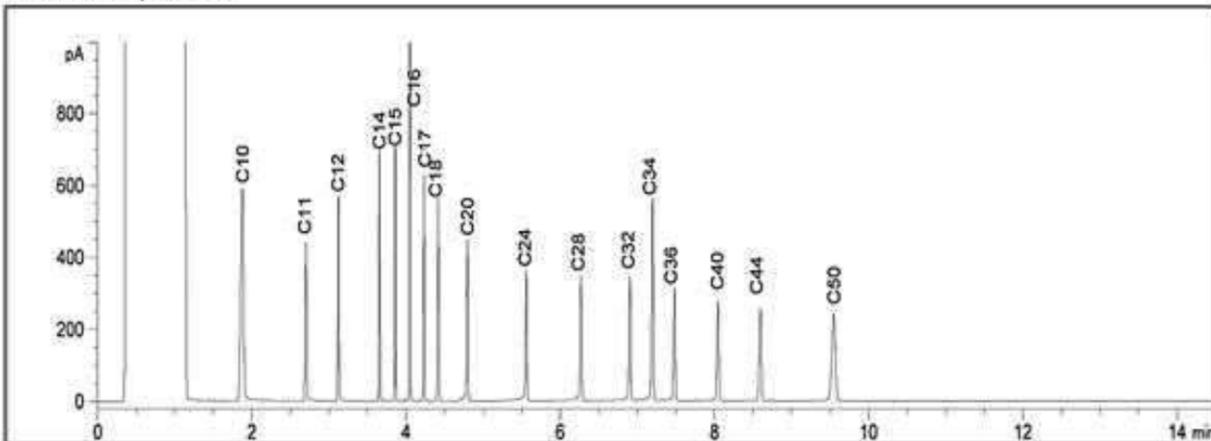
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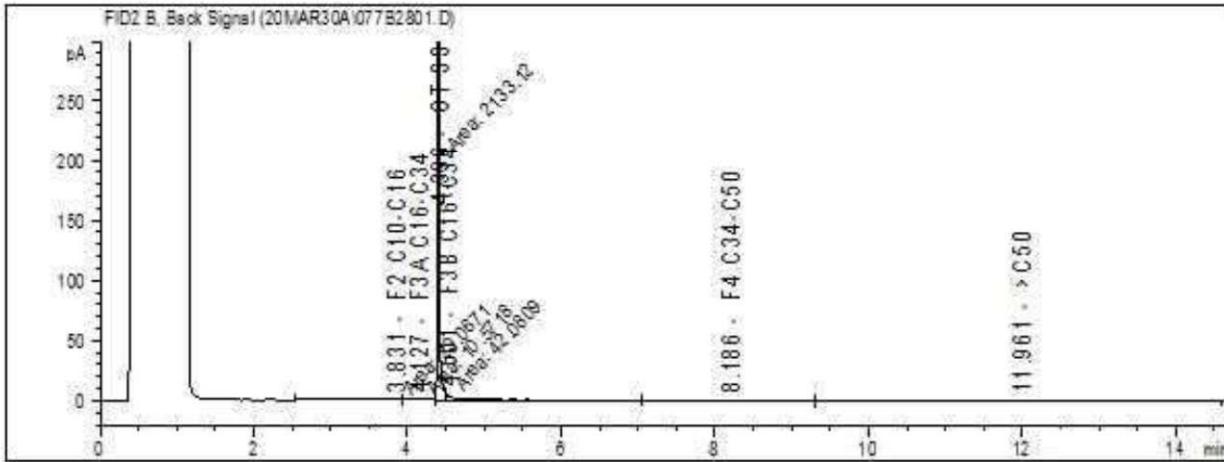
Kerosene: C8 - C16

Motor Oils: C16 - C50

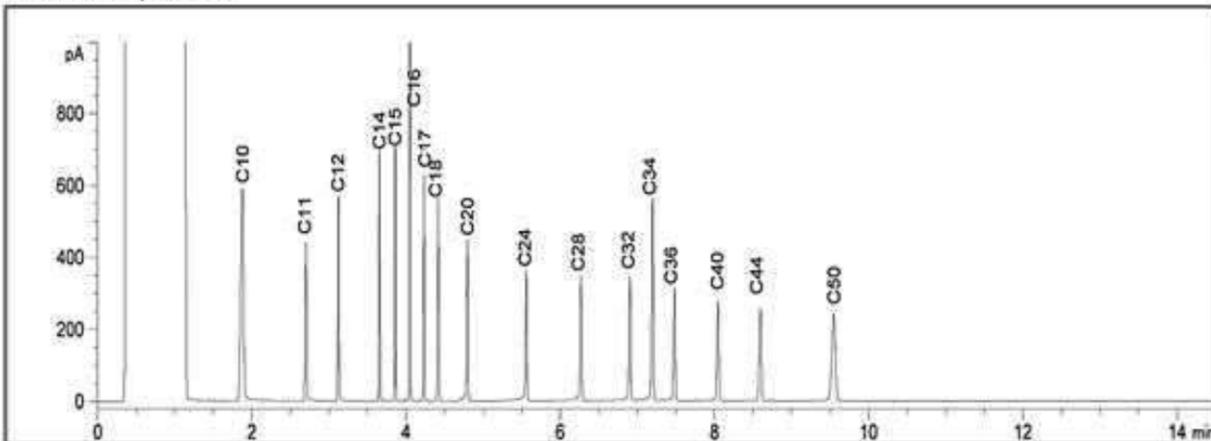
Asphalt: C18 - C50+

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Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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Kerosene: C8 - C16

Motor Oils: C16 - C50

Asphalt: C18 - C50+

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.



BUREAU
VERITAS

BV Labs Job #: C078640
Report Date: 2020/03/31

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

Exceedance Summary Table – Reg153/04 T3-Soil/Ind-C
Result Exceedances

Sample ID	BV Labs ID	Parameter	Criteria	Result	DL	UNITS
BH6-2	MIC437-02	F1 (C6-C10)	55	110	10	ug/g
BH6-2	MIC437-02	F1 (C6-C10) - BTEX	55	79	10	ug/g
BH6-2	MIC437-02	Total Xylenes	26	28	0.040	ug/g

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

CLIENT: AIMS Consulting Environmental Services
 PROJECT #: AR128A-19, BV LABS JOB: C086147

Maxxam Guideline Comparison Tables

BTEX, CCME PETROLEUM HYDROCARBONS 2011 Table 2-Potable GW - Ind/Comm/Comm'ty, Coarse Grained

MATRIX: SOIL

Select Guideline from list above for comparison.

Note: Zoom values other than 75% may cause unstable performance.

** See Note #5 at bottom of sheet for more information about Guideline Flagging.

Laboratory ID / Guideline ID	Sample ID	Guideline		REPORTING LIMIT	BH6-4	Matrix Spike	SPIKED BLANK	Method Blank
		2011 Table 2-Potable GW	Ind/Comm/Comm'ty					
		ug/g	Coarse Grained					
Benzene		0.32		0.02				
Toluene		6.4		0.02	MJR629	99995	99998	99999
Ethylbenzene		1.1		0.02	C086147	C086147	C086147	C086147
m/p xylenes		NV		0.04	ug/g	%	%	ug/g
o xylene		NV		0.02	24-March-2020			
Total Xylenes		26		0.04				
F1 (C6-C10)		55		10				
F1 (C6-C10) - BTEX		55		10				
F2 (C10-C16)		230		-				
F3 (C16-C34)		1700		-				
F4 (C34-C50)		3300		-				
Reached Baseline at C50		NV		-				
F4 Gravimetric		3300		-				

Criteria exceedences will turn BOLD with Yellow Background.

BOLD with Blue Background indicates non-detected but RDL > Guideline criteria (due to dilution etc)

NOTES:

NV = No value

1. Criteria refers to Ministry of Environment "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of July 1, 2011
2. This table represents a summary of the data presented in the Laboratory Certificate of Analysis for convenience purposes only
3. This summary is to be use in conjunction with, not as a replacement of the Laboratory Certificate of Analysis which contains all QA/QC information
4. New parameters indicated in the July 1, 2011 amendment, will appear at the bottom of each criteria page.
5. Guideline flagging accuracy only guaranteed when result units correspond with guideline units on spreadsheet.



Your Project #: AR128A-19
 Site Location: 395-401 QUEENSWAY W,
 Your C.O.C. #: N/A

Attention: Damian Khan

AiMS Consulting Environmental Services
 1020 Denison St
 Suite 111
 Markham, ON
 CANADA L3R 3W5

Report Date: 2020/04/08
 Report #: R6138364
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C086147

Received: 2020/04/03, 12:30

Sample Matrix: Soil
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Petroleum Hydro. CCME F1 & BTEX in Soil (1)	1	N/A	2020/04/07	CAM SOP-00315	CCME PHC-CWS m
Moisture	1	N/A	2020/04/03	CAM SOP-00445	Carter 2nd ed 51.2 m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.



Your Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W,
Your C.O.C. #: N/A

Attention: Damian Khan

AiMS Consulting Environmental Services
1020 Denison St
Suite 111
Markham, ON
CANADA L3R 3W5

Report Date: 2020/04/08
Report #: R6138364
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C086147
Received: 2020/04/03, 12:30

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Sara Singh, B.Sc, Senior Project Manager
Email: Sara.Singh@bvlabs.com
Phone# (905)817-5827

=====

This report has been generated and distributed using a secure automated process.
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



BUREAU
VERITAS

BV Labs Job #: C086147
Report Date: 2020/04/08

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W,
Sampler Initials: DK

RESULTS OF ANALYSES OF SOIL

BV Labs ID		MJR629		
Sampling Date		2020/03/24 12:30		
COC Number		N/A		
	UNITS	BH6-4	RDL	QC Batch
Inorganics				
Moisture	%	26	1.0	6668618
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



BUREAU
VERITAS

BV Labs Job #: C086147
Report Date: 2020/04/08

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W,
Sampler Initials: DK

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID			MJR629		
Sampling Date			2020/03/24 12:30		
COC Number			N/A		
	UNITS	Criteria	BH6-4	RDL	QC Batch
BTEX & F1 Hydrocarbons					
Benzene	ug/g	0.32	<0.020	0.020	6670043
Toluene	ug/g	6.4	<0.020	0.020	6670043
Ethylbenzene	ug/g	1.1	0.22	0.020	6670043
o-Xylene	ug/g	-	0.029	0.020	6670043
p+m-Xylene	ug/g	-	0.15	0.040	6670043
Total Xylenes	ug/g	26	0.18	0.040	6670043
F1 (C6-C10)	ug/g	55	<10	10	6670043
F1 (C6-C10) - BTEX	ug/g	55	<10	10	6670043
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	-	97		6670043
4-Bromofluorobenzene	%	-	106		6670043
D10-Ethylbenzene	%	-	102		6670043
D4-1,2-Dichloroethane	%	-	97		6670043
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ontario Reg. 153/04 (Amended April 15, 2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soil					



BUREAU
VERITAS

BV Labs Job #: C086147
Report Date: 2020/04/08

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W,
Sampler Initials: DK

TEST SUMMARY

BV Labs ID: MJR629
Sample ID: BH6-4
Matrix: Soil

Collected: 2020/03/24
Shipped:
Received: 2020/04/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6670043	N/A	2020/04/07	Domnica Andronesco
Moisture	BAL	6668618	N/A	2020/04/03	Kruti Jitesh Patel



BUREAU
VERITAS

BV Labs Job #: C086147
Report Date: 2020/04/08

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W,
Sampler Initials: DK

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.7°C
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Results relate only to the items tested.



BUREAU VERITAS

BV Labs Job #: C086147
Report Date: 2020/04/08

QUALITY ASSURANCE REPORT

AIMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W,
Sampler Initials: DK

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6670043	1,4-Difluorobenzene	2020/04/07	97	60 - 140	98	60 - 140	96	%		
6670043	4-Bromofluorobenzene	2020/04/07	105	60 - 140	107	60 - 140	105	%		
6670043	D10-Ethylbenzene	2020/04/07	101	60 - 140	97	60 - 140	95	%		
6670043	D4-1,2-Dichloroethane	2020/04/07	95	60 - 140	95	60 - 140	93	%		
6670043	Benzene	2020/04/07	74	60 - 140	84	60 - 140	<0.020	ug/g	NC (1)	50
6670043	Ethylbenzene	2020/04/07	93	60 - 140	107	60 - 140	<0.020	ug/g	NC (1)	50
6670043	F1 (C6-C10) - BTEX	2020/04/07					<10	ug/g	NC (1)	30
6670043	F1 (C6-C10)	2020/04/07	83	60 - 140	81	80 - 120	<10	ug/g	NC (1)	30
6670043	o-Xylene	2020/04/07	90	60 - 140	102	60 - 140	<0.020	ug/g	NC (1)	50
6670043	p+m-Xylene	2020/04/07	85	60 - 140	97	60 - 140	<0.040	ug/g	NC (1)	50
6670043	Toluene	2020/04/07	82	60 - 140	92	60 - 140	<0.020	ug/g	NC (1)	50
6670043	Total Xylenes	2020/04/07					<0.040	ug/g	NC (1)	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Duplicate Parent ID



BUREAU
VERITAS

BV Labs Job #: C086147
Report Date: 2020/04/08

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W,
Sampler Initials: DK

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



6740 Campobello Road, Mississauga, Ontario L5N 2L8
 Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266
 CAM FCD-01191/5

CHAIN OF CUSTODY RECORD

Page 1 of 1

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required	
Company Name:	AIMS Environmental Consulting Services	Company Name:	AIMS Environmental Consulting Services	Quotation #:		<input type="checkbox"/> Regular TAT (5-7 days) Most analyses	
Contact Name:	Fory Fong	Contact Name:	Damian Khan	P.O. # / AFE#:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS	
Address:	1020 Denison Street, Suite 111 Markham ON, L3R 3W5	Address:	1020 Denison Street, Suite 111 Markham ON, L3R 3W5	Project #:	AR128A-19	Rush TAT (Surcharges will be applied)	
Phone:	905-474-0058 ext. 102 Fax: 905-474-0601	Phone:	905-474-0058 ext. 106 Fax: 905-474-0601	Site Location:	395-401 Queen's Quay W	<input type="checkbox"/> 1 Day	<input type="checkbox"/> 2 Days
Email:	ffong@aimsconsulting.com	Email:	dkhan@aimsconsulting.com	Site #:		<input checked="" type="checkbox"/> 3-4 Days	
NOTE: REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS LABORATORIES DRINKING WATER CHAIN OF CUSTODY.				Site Location Province:	ON	Date Required:	
Regulation 153				Sampled By:	DK	Rush Confirmation #:	
<input type="checkbox"/> Table 1 <input type="checkbox"/> Table 2 <input type="checkbox"/> Table 3 <input type="checkbox"/> Table 4 <input checked="" type="checkbox"/> Res/Park <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Agri/Other <input checked="" type="checkbox"/> Med./Fine <input checked="" type="checkbox"/> Coarse <input type="checkbox"/> Other (Specify) <input type="checkbox"/> FOR RSC (PLEASE CIRCLE) Y / N	<input type="checkbox"/> CCME <input type="checkbox"/> MISA <input type="checkbox"/> PWQO <input type="checkbox"/> Other (Specify) <input type="checkbox"/> REG 558 (MIN. 3 DAY TAT REQUIRED)	<input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> Region <input type="checkbox"/> Other (Specify) <input type="checkbox"/> REG 558 (MIN. 3 DAY TAT REQUIRED)	<input type="checkbox"/> BTEX/PHC F1 <input checked="" type="checkbox"/> FIELD FILTERED (CIRCLE) Metals / Hg / CrVI <input type="checkbox"/> VOCs <input type="checkbox"/> REG 153 METALS & INORGANICS <input type="checkbox"/> REG 153 ICPMS METALS <input type="checkbox"/> REG 153 METALS <input type="checkbox"/> PHAs <input type="checkbox"/> HOLD - DO NOT ANALYZE	LABORATORY USE ONLY	CUSTODY SEAL Y / N Present <input checked="" type="checkbox"/> Intact <input type="checkbox"/>	COOLER TEMPERATURES	09/10/16
Include Criteria on Certificate of Analysis: <input checked="" type="checkbox"/> Y / <input type="checkbox"/> N				COOLING MEDIA PRESENT:		COMMENTS:	F1 + BTEX Only
SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS				DATE SAMPLED (YYYY/MM/DD)	2020/03/24	TIME SAMPLED (HH:MM)	12:30
SAMPLE IDENTIFICATION				DATE (YYYY/MM/DD)	2020/04/03	TIME (HH:MM)	12:30
1 BHG-4				RECEIVED BY: (Signature/Print)	Sara Singh		
2				RECEIVED BY: (Signature/Print)	C086147		
3				RECEIVED BY: (Signature/Print)	03-Apr-20 12:30		
4				RECEIVED BY: (Signature/Print)	Sara Singh		
5				RECEIVED BY: (Signature/Print)	C086147		
6				RECEIVED BY: (Signature/Print)	03-Apr-20 12:30		
7				RECEIVED BY: (Signature/Print)	Sara Singh		
8				RECEIVED BY: (Signature/Print)	C086147		
9				RECEIVED BY: (Signature/Print)	03-Apr-20 12:30		
10				RECEIVED BY: (Signature/Print)	Sara Singh		

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Bureau Veritas Laboratories' standard Terms and Conditions. Signing of this Chain of Custody KVG ENV-990
 our terms available at <http://www.bvlabs.com/terms-and-conditions>



BUREAU
VERITAS

BV Labs Job #: C086147
Report Date: 2020/04/08

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY W,
Sampler Initials: DK

Exceedance Summary Table – Reg153/04 T2-Soil/Ind-C
Result Exceedances

Sample ID	BV Labs ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						

CLIENT: AIMS Consulting Environmental Services
 PROJECT #: AR128-A, BV LABS JOB: C079507
 VOLATILE ORGANIC COMPOUNDS | 2011 Table 2-Potable GW - All Types of Property Use, Coarse Grained
 MATRIX: GROUND WATER

Maxxam Guideline Comparison Tables

Note: Window zoom values other than 75% may cause unstable performance. ** See Note #5 at bottom of sheet for more information about Guideline Flagging.
 Select Guideline from list above for comparison.

Sample ID Laboratory ID / Guideline ID BV Labs Job # Units Sampling Date	Guideline 2011 Table 2-Potable GW All Types of Property Use ug/L Coarse Grained	REPORTING		MW1 MIH202 C079507 ug/L 26-March-2020	MW2 MIH203 C079507 ug/L 26-March-2020	MW2 DUP 1 MIH203 DUP 1 C079507 ug/L 26-March-2020	Matrix Spike 99995 C079507 %	SPIKED BLANK 99998 C079507 %	Method Blank 99999 C079507 ug/L
		LIMIT ug/L	ug/L						
Acetone	2700	10	<10	<10	<10	<10	84	93	<10
Benzene	5	0.1	<0.10	<0.10	<0.10	<0.10	102	101	<0.10
Bromochloromethane	16	0.1	<0.10	<0.10	<0.10	<0.10	97	102	<0.10
Bromoform	25	0.2	<0.20	<0.20	<0.20	<0.20	101	109	<0.20
Bromomethane	0.89	0.5	<0.50	<0.50	<0.50	<0.50	125	113	<0.50
Carbon Tetrachloride	0.79	0.1	<0.10	<0.10	<0.10	<0.10	102	101	<0.10
Chlorobenzene	30	0.1	<0.10	<0.10	<0.10	<0.10	97	97	<0.10
Chloroform	2.4	0.1	<0.10	<0.10	<0.10	<0.10	94	95	<0.10
Dibromochloromethane	25	0.2	<0.20	<0.20	<0.20	<0.20	102	110	<0.20
1,2-Dichlorobenzene	3	0.2	<0.20	<0.20	<0.20	<0.20	93	93	<0.20
1,3-Dichlorobenzene	59	0.2	<0.20	<0.20	<0.20	<0.20	97	93	<0.20
1,4-Dichlorobenzene	1	0.2	<0.20	<0.20	<0.20	<0.20	102	98	<0.20
1,1-Dichloroethane	5	0.1	<0.10	<0.10	<0.10	<0.10	97	96	<0.10
1,2-Dichloroethane	1.6	0.2	<0.20	<0.20	<0.20	<0.20	94	100	<0.20
1,1-Dichloroethylene	1.6	0.1	<0.10	<0.10	<0.10	<0.10	111	106	<0.10
Cis-1,2-Dichloroethylene	1.6	0.1	<0.10	<0.10	<0.10	<0.10	96	96	<0.10
Trans-1,2-Dichloroethylene	1.6	0.1	<0.10	<0.10	<0.10	<0.10	100	100	<0.10
1,2-Dichloropropane	5	0.1	<0.10	<0.10	<0.10	<0.10	92	96	<0.10
Cis-1,3-Dichloropropylene	NV	0.2	<0.20	<0.20	<0.20	<0.20	100	105	<0.20
Trans-1,3-Dichloropropylene	NV	0.2	<0.20	<0.20	<0.20	<0.20	101	107	<0.20
Ethylbenzene	2.4	0.1	<0.10	<0.10	<0.10	<0.10	96	95	<0.10
Ethylene Dibromide	0.2	0.2	<0.20	<0.20	<0.20	<0.20	95	103	<0.20
Methyl Ethyl Ketone	1800	5	<5.0	<5.0	<5.0	<5.0	81	95	<5.0
Methylene Chloride	50	0.5	<0.50	<0.50	<0.50	<0.50	95	93	<0.50
Methyl Isobutyl Ketone	640	5	<5.0	<5.0	<5.0	<5.0	82	96	<5.0
Methyl-t-Butyl Ether	15	0.2	<0.20	<0.20	<0.20	<0.20	80	94	<0.20
Styrene	5.4	0.2	<0.20	<0.20	<0.20	<0.20	97	100	<0.20
1,1,1,2-Tetrachloroethane	1	0.2	<0.20	<0.20	<0.20	<0.20	103	107	<0.20
1,1,2,2-Tetrachloroethane	24	0.2	<0.20	<0.20	<0.20	<0.20	99	103	<0.20
Toluene	24	0.2	<0.20	<0.20	<0.20	<0.20	99	95	<0.20
Tetrachloroethylene	1.6	0.1	<0.10	<0.10	<0.10	<0.10	96	93	<0.10
1,1,1-Trichloroethane	200	0.2	<0.20	<0.20	<0.20	<0.20	101	99	<0.20
1,1,2-Trichloroethane	4.7	0.2	<0.20	<0.20	<0.20	<0.20	95	102	<0.20
Trichloroethylene	1.6	0.1	<0.10	<0.10	<0.10	<0.10	105	102	<0.10
Vinyl Chloride	0.5	0.2	<0.20	<0.20	<0.20	<0.20	101	100	<0.20
m-Xylene & p-Xylene	NV	0.1	<0.10	<0.10	<0.10	<0.10	103	101	<0.10
o-Xylene	NV	0.1	<0.10	<0.10	<0.10	<0.10	97	97	<0.10
Total Xylenes	300	0.1	<0.10	<0.10	<0.10	<0.10	-	-	<0.10
Dichlorodifluoromethane	590	0.5	<0.50	<0.50	<0.50	<0.50	97	97	<0.50
Dioxane, 1,4-	50	-	-	-	-	-	-	-	-
Hexane(n)	51	0.5	<0.50	<0.50	<0.50	<0.50	111	99	<0.50
Trichlorofluoromethane	150	0.2	<0.20	<0.20	<0.20	<0.20	108	113	<0.20
1,3-Dichloropropene (cis + trans)	0.5	0.28	<0.28	<0.28	<0.28	<0.28	-	-	-

Criteria exceedances will turn BOLD with Yellow Background.
 BOLD with Blue Background indicates non-detected but RDL > Guideline criteria (due to dilution etc)

NOTES:

- 1. Criteria refers to Ministry of Environment "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of July 1, 2011
- 2. This table represents a summary of the data presented in the Laboratory Certificate of Analysis for convenience purposes only
- 3. This summary is to be used in conjunction with, not as a replacement of the Laboratory Certificate of Analysis which contains all QA/QC information
- 4. New parameters indicated in the July 1, 2011 amendment, will appear at the bottom of each criteria page.
- 5. Guideline flagging accuracy only guaranteed when result units correspond with guideline units on spreadsheet.

Maxxam Guideline Comparison Tables

INORGANIC PARAMETERS
 MATRIX: GROUND WATER
 2011 Table 2-Potable GW - All Types of Property Use, Coarse Grained
 Select Guideline from list above for comparison.

Note: Window zoom values other than 75% may cause unstable performance. See Note #5 at bottom of sheet for more information about Guideline Flagging.

Sample ID Laboratory ID / Guideline ID BV Labs Job # Units Sampling Date	Guideline 2011 Table 2-Potable GW All Types of Property Use ug/L Coarse Grained	REPORTING		Units	MW1 MIH202 C079507 26-March-2020	MW2 MIH203 C079507 26-March-2020	MW4 MIH205 C079507 26-March-2020	Matrix Spike 99995 C079507 %	SPIKED BLANK 99998 C079507 %	Method Blank 99999 C079507
		LIMIT								
Antimony	6	0.5		ug/L	<0.50	<0.50	<0.50	119	101	<0.50
Arsenic	25	1		ug/L	<1.0	1.1	<1.0	106	98	<1.0
Barium	1000	2		ug/L	24	16	35	112	99	<2.0
Beryllium	4	0.5		ug/L	<0.50	<0.50	<0.50	104	98	<0.50
Boron	5000	10		ug/L	21	23	43	106	101	<10
Cadmium	2.7	0.1		ug/L	<0.10	<0.10	<0.10	110	100	<0.10
Chromium	50	5		ug/L	<5.0	<5.0	<5.0	103	98	<5.0
Chromium VI	25	-		ug/L	-	-	-	-	-	-
Cobalt	3.8	0.5		ug/L	<0.50	<0.50	<0.50	103	100	<0.50
Copper	87	1		ug/L	<1.0	<1.0	<1.0	114	101	3.2
Lead	10	0.5		ug/L	<0.50	<0.50	<0.50	99	96	<0.50
Mercury	0.29	-		ug/L	-	-	-	-	-	-
Molybdenum	70	0.5		ug/L	1.3	5.2	3.9	117	99	<0.50
Nickel	100	1		ug/L	<1.0	<1.0	1.3	97	99	<1.0
Sodium	490000	100		ug/L	52000	8700	130000	NC	99	<100
Selenium	10	2		ug/L	<2.0	<2.0	<2.0	103	97	<2.0
Silver	1.5	0.1		ug/L	<0.10	<0.10	<0.10	100	97	<0.10
Thallium	2	0.05		ug/L	<0.050	<0.050	<0.050	101	97	<0.050
Vanadium	6.2	0.5		ug/L	<0.50	<0.50	<0.50	105	96	<0.50
Zinc	1100	5		ug/L	<5.0	<5.0	<5.0	98	98	<5.0
Cyanide, Free	66	-		ug/L	-	-	-	-	-	-
Nitrate (mg/L) (SEE FOOTNOTE 6)	NV	-		ug/L	-	-	-	-	-	-
Nitrite (mg/L) (SEE FOOTNOTE 6)	NV	-		ug/L	-	-	-	-	-	-
Chloride (mg/L) (SEE FOOTNOTE 6)	790	-		ug/L	-	-	-	-	-	-
Uranium	20	0.1		ug/L	0.17	0.25	1.3	104	99	<0.10

Criteria exceedances will turn BOLD with Yellow Background.

BOLD with Blue Background indicates non-detected but RDL > Guideline criteria (due to dilution etc)

NOTES:

NV = No value

1. Criteria refers to Ministry of Environment "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of July 1, 2011

2. This table represents a summary of the data presented in the Laboratory Certificate of Analysis for convenience purposes only

3. This summary is to be use in conjunction with, not as a replacement of the Laboratory Certificate of Analysis which contains all QA/QC information

4. New parameters indicated in the July 1, 2011 amendment, will appear at the bottom of each criteria page.

5. Guideline flagging accuracy only guaranteed when result units correspond with guideline units on spreadsheet.

6. Units of ug/L described in row 9 apply to all parameters on this sheet EXCEPT Nitrate, Nitrite and Chloride which are reported in mg/L

CLIENT: AIMS Consulting Environmental Services
 PROJECT #: AR128-A, BV LABS JOB: C079507

Maxxam Guideline Comparison Tables

BTEX, CCOME PETROLEUM HYDROCARBONS | 2011 Table 2-Potable GW - All Types of Property Use, Coarse Grained

MATRIX: GROUND WATER

Select Guideline from list above for comparison.

Note: Window zoom values other than 75% may cause unstable performance.

** See Note #5 at bottom of sheet for more information about Guideline Flagging.

Sample ID	Laboratory ID / Guideline ID	Guideline		REPORTING LIMIT	MW2	MW3	MW4	Matrix Spike	SPIKED BLANK	Method Blank
		2011 Table 2-Potable GW	All Types of Property Use							
BV Labs Job #	Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	%	%	ug/L
Sampling Date	Coarse Grained									
	Benzene	5		0.2	-	0.28	0.49	99	98	<0.20
	Toluene	24		0.2	-	0.6	0.44	96	92	<0.20
	Ethylbenzene	2.4		0.2	-	<0.20	66	105	102	<0.20
	m/p xylenes	NV		0.4	-	<0.40	7.4	101	99	<0.40
	o xylene	NV		0.2	-	<0.20	1.8	103	100	<0.20
	Total Xylenes	300		0.4	-	<0.40	9.1	-	-	<0.40
	F1 (C6-C10)	750		25	-	<25	160	86	99	<25
	F1 (C6-C10) - BTEX	750		25	-	<25	88	-	-	<25
	F2 (C10-C16)	150		100	<100	-	270	106	103	<100
	F3 (C16-C34)	500		200	<200	-	<200	98	98	<200
	F4 (C34-C50)	500		200	<200	-	<200	88	84	<200
	Reached Baseline at C50	NV		YES	YES	-	YES	-	-	-
	F4 Gravimetric	500		-	-	-	-	-	-	-

Criteria exceedences will turn BOLD with Yellow Background.

BOLD with Blue Background indicates non-detected but RDL > Guideline criteria (due to dilution etc

NOTES:

NV = No value

- Criteria refers to Ministry of Environment "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of July 1, 2011
- This table represents a summary of the data presented in the Laboratory Certificate of Analysis for convenience purposes only
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- New parameters indicated in the July 1, 2011 amendment, will appear at the bottom of each criteria page.
- Guideline flagging accuracy only guaranteed when result units correspond with guideline units on spreadsheet.



Your Project #: AR128-A
 Site Location: 395-401 QUEENSWAY W.
 Your C.O.C. #: na

Attention: Damian Khan

AiMS Consulting Environmental Services
 1020 Denison St
 Suite 111
 Markham, ON
 CANADA L3R 3W5

Report Date: 2020/04/01
 Report #: R6131544
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C079507

Received: 2020/03/26, 14:05

Sample Matrix: Water
 # Samples Received: 4

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
1,3-Dichloropropene Sum	2	N/A	2020/03/31		EPA 8260C m
Petroleum Hydro. CCME F1 & BTEX in Water	2	N/A	2020/03/31	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1)	2	2020/03/30	2020/03/31	CAM SOP-00316	CCME PHC-CWS m
Lab Filtered Metals by ICPMS	3	2020/03/30	2020/03/31	CAM SOP-00447	EPA 6020B m
Volatile Organic Compounds in Water	2	N/A	2020/03/30	CAM SOP-00226	EPA 8260C m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.



Your Project #: AR128-A
Site Location: 395-401 QUEENSWAY W.
Your C.O.C. #: na

Attention: Damian Khan

AiMS Consulting Environmental Services
1020 Denison St
Suite 111
Markham, ON
CANADA L3R 3W5

Report Date: 2020/04/01
Report #: R6131544
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C079507
Received: 2020/03/26, 14:05

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Sara Singh, B.Sc, Senior Project Manager
Email: Sara.Singh@bvlabs.com
Phone# (905)817-5827

=====

This report has been generated and distributed using a secure automated process.
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BUREAU
VERITASBV Labs Job #: C079507
Report Date: 2020/04/01AiMS Consulting Environmental Services
Client Project #: AR128-A
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK**ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)**

BV Labs ID			MIH202	MIH203	MIH205		
Sampling Date			2020/03/26 11:30	2020/03/26 11:00	2020/03/26 10:30		
COC Number			na	na	na		
	UNITS	Criteria	MW1	MW2	MW4	RDL	QC Batch
Metals							
Dissolved Aluminum (Al)	ug/L	-	<5.0	<5.0	<5.0	5.0	6660312
Dissolved Antimony (Sb)	ug/L	6.0	<0.50	<0.50	<0.50	0.50	6660312
Dissolved Arsenic (As)	ug/L	25	<1.0	1.1	<1.0	1.0	6660312
Dissolved Barium (Ba)	ug/L	1000	24	16	35	2.0	6660312
Dissolved Beryllium (Be)	ug/L	4.0	<0.50	<0.50	<0.50	0.50	6660312
Dissolved Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	1.0	6660312
Dissolved Boron (B)	ug/L	5000	21	23	43	10	6660312
Dissolved Cadmium (Cd)	ug/L	2.7	<0.10	<0.10	<0.10	0.10	6660312
Dissolved Calcium (Ca)	ug/L	-	89000	90000	90000	200	6660312
Dissolved Chromium (Cr)	ug/L	50	<5.0	<5.0	<5.0	5.0	6660312
Dissolved Cobalt (Co)	ug/L	3.8	<0.50	<0.50	<0.50	0.50	6660312
Dissolved Copper (Cu)	ug/L	87	<1.0	<1.0	<1.0	1.0	6660312
Dissolved Iron (Fe)	ug/L	-	<100	<100	<100	100	6660312
Dissolved Lead (Pb)	ug/L	10	<0.50	<0.50	<0.50	0.50	6660312
Dissolved Lithium (Li)	ug/L	-	<5.0	<5.0	5.7	5.0	6660312
Dissolved Magnesium (Mg)	ug/L	-	17000	8300	19000	50	6660312
Dissolved Manganese (Mn)	ug/L	-	50	13	620	2.0	6660312
Dissolved Molybdenum (Mo)	ug/L	70	1.3	5.2	3.9	0.50	6660312
Dissolved Nickel (Ni)	ug/L	100	<1.0	<1.0	1.3	1.0	6660312
Dissolved Phosphorus (P)	ug/L	-	110	370	<100	100	6660312
Dissolved Potassium (K)	ug/L	-	880	3200	2200	200	6660312
Dissolved Selenium (Se)	ug/L	10	<2.0	<2.0	<2.0	2.0	6660312
Dissolved Silicon (Si)	ug/L	-	3700	4700	6600	50	6660312
Dissolved Silver (Ag)	ug/L	1.5	<0.10	<0.10	<0.10	0.10	6660312
Dissolved Sodium (Na)	ug/L	490000	52000	8700	130000	100	6660312
Dissolved Strontium (Sr)	ug/L	-	280	460	350	1.0	6660312
Dissolved Tellurium (Te)	ug/L	-	<1.0	<1.0	<1.0	1.0	6660312
Dissolved Thallium (Tl)	ug/L	2.0	<0.050	<0.050	<0.050	0.050	6660312
Dissolved Tin (Sn)	ug/L	-	<1.0	<1.0	<1.0	1.0	6660312
Dissolved Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	5.0	6660312
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)							
Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition							
Potable Ground Water- All Types of Property Uses - Medium and Fine Textured Soil							



BUREAU
VERITAS

BV Labs Job #: C079507
Report Date: 2020/04/01

AiMS Consulting Environmental Services
Client Project #: AR128-A
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

BV Labs ID			MIH202	MIH203	MIH205		
Sampling Date			2020/03/26 11:30	2020/03/26 11:00	2020/03/26 10:30		
COC Number			na	na	na		
	UNITS	Criteria	MW1	MW2	MW4	RDL	QC Batch
Dissolved Tungsten (W)	ug/L	-	<1.0	<1.0	<1.0	1.0	6660312
Dissolved Uranium (U)	ug/L	20	0.17	0.25	1.3	0.10	6660312
Dissolved Vanadium (V)	ug/L	6.2	<0.50	<0.50	<0.50	0.50	6660312
Dissolved Zinc (Zn)	ug/L	1100	<5.0	<5.0	<5.0	5.0	6660312
Dissolved Zirconium (Zr)	ug/L	-	<1.0	<1.0	<1.0	1.0	6660312
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)							
Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition							
Potable Ground Water- All Types of Property Uses - Medium and Fine Textured Soil							



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BV Labs Job #: C079507
Report Date: 2020/04/01

AiMS Consulting Environmental Services
Client Project #: AR128-A
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID			MIH203			MIH204		
Sampling Date			2020/03/26 11:00			2020/03/26 10:00		
COC Number			na			na		
	UNITS	Criteria	MW2	RDL	QC Batch	MW3	RDL	QC Batch
BTEX & F1 Hydrocarbons								
Benzene	ug/L	5.0				0.28	0.20	6659256
Toluene	ug/L	24				0.60	0.20	6659256
Ethylbenzene	ug/L	2.4				<0.20	0.20	6659256
o-Xylene	ug/L	-				<0.20	0.20	6659256
p+m-Xylene	ug/L	-				<0.40	0.40	6659256
Total Xylenes	ug/L	300				<0.40	0.40	6659256
F1 (C6-C10)	ug/L	750				<25	25	6659256
F1 (C6-C10) - BTEX	ug/L	750				<25	25	6659256
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/L	150	<100	100	6659757			
F3 (C16-C34 Hydrocarbons)	ug/L	500	<200	200	6659757			
F4 (C34-C50 Hydrocarbons)	ug/L	500	<200	200	6659757			
Reached Baseline at C50	ug/L	-	Yes		6659757			
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	-				104		6659256
4-Bromofluorobenzene	%	-				99		6659256
D10-Ethylbenzene	%	-				115		6659256
D4-1,2-Dichloroethane	%	-				104		6659256
o-Terphenyl	%	-	107		6659757			
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ontario Reg. 153/04 (Amended April 15, 2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Potable Ground Water- All Types of Property Uses - Medium and Fine Textured Soil								



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BV Labs Job #: C079507
Report Date: 2020/04/01

AiMS Consulting Environmental Services
Client Project #: AR128-A
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID			MIH205		
Sampling Date			2020/03/26 10:30		
COC Number			na		
	UNITS	Criteria	MW4	RDL	QC Batch
BTEX & F1 Hydrocarbons					
Benzene	ug/L	5.0	0.49	0.20	6659256
Toluene	ug/L	24	0.44	0.20	6659256
Ethylbenzene	ug/L	2.4	66	0.20	6659256
o-Xylene	ug/L	-	1.8	0.20	6659256
p+m-Xylene	ug/L	-	7.4	0.40	6659256
Total Xylenes	ug/L	300	9.1	0.40	6659256
F1 (C6-C10)	ug/L	750	160	25	6659256
F1 (C6-C10) - BTEX	ug/L	750	88	25	6659256
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	150	270	100	6659757
F3 (C16-C34 Hydrocarbons)	ug/L	500	<200	200	6659757
F4 (C34-C50 Hydrocarbons)	ug/L	500	<200	200	6659757
Reached Baseline at C50	ug/L	-	Yes		6659757
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	-	102		6659256
4-Bromofluorobenzene	%	-	98		6659256
D10-Ethylbenzene	%	-	113		6659256
D4-1,2-Dichloroethane	%	-	103		6659256
o-Terphenyl	%	-	106		6659757
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ontario Reg. 153/04 (Amended April 15, 2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Potable Ground Water- All Types of Property Uses - Medium and Fine Textured Soil					

BUREAU
VERITASBV Labs Job #: C079507
Report Date: 2020/04/01AiMS Consulting Environmental Services
Client Project #: AR128-A
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK**O.REG 153 VOCS (WATER)**

BV Labs ID			MIH202	MIH203			MIH203		
Sampling Date			2020/03/26 11:30	2020/03/26 11:00			2020/03/26 11:00		
COC Number			na	na			na		
	UNITS	Criteria	MW1	MW2	RDL	QC Batch	MW2 Lab-Dup	RDL	QC Batch
Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/L	0.5	<0.28	<0.28	0.28	6656250			
Volatile Organics									
Acetone (2-Propanone)	ug/L	2700	<10	<10	10	6657022	<10	10	6657022
Benzene	ug/L	5.0	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
Bromodichloromethane	ug/L	16.0	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
Bromoform	ug/L	25.0	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
Bromomethane	ug/L	0.89	<0.50	<0.50	0.50	6657022	<0.50	0.50	6657022
Carbon Tetrachloride	ug/L	5.0	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
Chlorobenzene	ug/L	30	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
Chloroform	ug/L	22	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
Dibromochloromethane	ug/L	25.0	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
1,2-Dichlorobenzene	ug/L	3.0	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
1,3-Dichlorobenzene	ug/L	59	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
1,4-Dichlorobenzene	ug/L	1.0	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
Dichlorodifluoromethane (FREON 12)	ug/L	590	<0.50	<0.50	0.50	6657022	<0.50	0.50	6657022
1,1-Dichloroethane	ug/L	5	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
1,2-Dichloroethane	ug/L	5	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
1,1-Dichloroethylene	ug/L	14	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
cis-1,2-Dichloroethylene	ug/L	17	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
trans-1,2-Dichloroethylene	ug/L	17	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
1,2-Dichloropropane	ug/L	5.0	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
cis-1,3-Dichloropropene	ug/L	0.5	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
trans-1,3-Dichloropropene	ug/L	0.5	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
Ethylbenzene	ug/L	2.4	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
Ethylene Dibromide	ug/L	0.2	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
Hexane	ug/L	520	<0.50	<0.50	0.50	6657022	<0.50	0.50	6657022
Methylene Chloride(Dichloromethane)	ug/L	50	<0.50	<0.50	0.50	6657022	<0.50	0.50	6657022
Methyl Ethyl Ketone (2-Butanone)	ug/L	1800	<5.0	<5.0	5.0	6657022	<5.0	5.0	6657022
Methyl Isobutyl Ketone	ug/L	640	<5.0	<5.0	5.0	6657022	<5.0	5.0	6657022
Methyl t-butyl ether (MTBE)	ug/L	15	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate Criteria: Ontario Reg. 153/04 (Amended April 15, 2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Potable Ground Water- All Types of Property Uses - Medium and Fine Textured Soil									



O.REG 153 VOCS (WATER)

BV Labs ID			MIH202	MIH203			MIH203		
Sampling Date			2020/03/26 11:30	2020/03/26 11:00			2020/03/26 11:00		
COC Number			na	na			na		
	UNITS	Criteria	MW1	MW2	RDL	QC Batch	MW2 Lab-Dup	RDL	QC Batch
Styrene	ug/L	5.4	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
1,1,1,2-Tetrachloroethane	ug/L	1.1	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
1,1,2,2-Tetrachloroethane	ug/L	1.0	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
Tetrachloroethylene	ug/L	17	<0.10	0.12	0.10	6657022	0.13	0.10	6657022
Toluene	ug/L	24	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
1,1,1-Trichloroethane	ug/L	200	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
1,1,2-Trichloroethane	ug/L	5	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
Trichloroethylene	ug/L	5	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
Trichlorofluoromethane (FREON 11)	ug/L	150	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
Vinyl Chloride	ug/L	1.7	<0.20	<0.20	0.20	6657022	<0.20	0.20	6657022
p+m-Xylene	ug/L	-	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
o-Xylene	ug/L	-	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
Total Xylenes	ug/L	300	<0.10	<0.10	0.10	6657022	<0.10	0.10	6657022
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	-	98	99		6657022	99		6657022
D4-1,2-Dichloroethane	%	-	99	109		6657022	100		6657022
D8-Toluene	%	-	99	99		6657022	100		6657022
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate Criteria: Ontario Reg. 153/04 (Amended April 15, 2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Potable Ground Water- All Types of Property Uses - Medium and Fine Textured Soil									



BUREAU
VERITAS

BV Labs Job #: C079507
Report Date: 2020/04/01

AiMS Consulting Environmental Services
Client Project #: AR128-A
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

TEST SUMMARY

BV Labs ID: MIH202
Sample ID: MW1
Matrix: Water

Collected: 2020/03/26
Shipped:
Received: 2020/03/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6656250	N/A	2020/03/31	Automated Statchk
Lab Filtered Metals by ICPMS	ICP/MS	6660312	2020/03/30	2020/03/31	Nan Raykha
Volatile Organic Compounds in Water	P&T/MS	6657022	N/A	2020/03/30	Gladys Guerrero

BV Labs ID: MIH203
Sample ID: MW2
Matrix: Water

Collected: 2020/03/26
Shipped:
Received: 2020/03/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6656250	N/A	2020/03/31	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6659757	2020/03/30	2020/03/31	(Kent) Maolin Li
Lab Filtered Metals by ICPMS	ICP/MS	6660312	2020/03/30	2020/03/31	Nan Raykha
Volatile Organic Compounds in Water	P&T/MS	6657022	N/A	2020/03/30	Gladys Guerrero

BV Labs ID: MIH203 Dup
Sample ID: MW2
Matrix: Water

Collected: 2020/03/26
Shipped:
Received: 2020/03/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds in Water	P&T/MS	6657022	N/A	2020/03/30	Gladys Guerrero

BV Labs ID: MIH204
Sample ID: MW3
Matrix: Water

Collected: 2020/03/26
Shipped:
Received: 2020/03/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6659256	N/A	2020/03/31	Haibin Wu

BV Labs ID: MIH205
Sample ID: MW4
Matrix: Water

Collected: 2020/03/26
Shipped:
Received: 2020/03/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6659256	N/A	2020/03/31	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6659757	2020/03/30	2020/03/31	(Kent) Maolin Li
Lab Filtered Metals by ICPMS	ICP/MS	6660312	2020/03/30	2020/03/31	Nan Raykha



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VERITAS

BV Labs Job #: C079507

Report Date: 2020/04/01

AiMS Consulting Environmental Services

Client Project #: AR128-A

Site Location: 395-401 QUEENSWAY W.

Sampler Initials: DK

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.7°C
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Results relate only to the items tested.



BUREAU VERITAS

BV Labs Job #: C079507
Report Date: 2020/04/01

QUALITY ASSURANCE REPORT

AIMS Consulting Environmental Services
Client Project #: AR128-A
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6657022	4-Bromofluorobenzene	2020/03/30	98 (1)	70 - 130	101	70 - 130	97	%		
6657022	D4-1,2-Dichloroethane	2020/03/30	93 (1)	70 - 130	98	70 - 130	96	%		
6657022	D8-Toluene	2020/03/30	101 (1)	70 - 130	99	70 - 130	99	%		
6659256	1,4-Difluorobenzene	2020/03/31	104	70 - 130	101	70 - 130	102	%		
6659256	4-Bromofluorobenzene	2020/03/31	99	70 - 130	96	70 - 130	96	%		
6659256	D10-Ethylbenzene	2020/03/31	106	70 - 130	103	70 - 130	116	%		
6659256	D4-1,2-Dichloroethane	2020/03/31	103	70 - 130	101	70 - 130	101	%		
6659757	o-Terphenyl	2020/03/31	122	60 - 130	119	60 - 130	111	%		
6657022	1,1,1,2-Tetrachloroethane	2020/03/30	103 (1)	70 - 130	107	70 - 130	<0.20	ug/L	NC (2)	30
6657022	1,1,1-Trichloroethane	2020/03/30	101 (1)	70 - 130	99	70 - 130	<0.10	ug/L	NC (2)	30
6657022	1,1,2,2-Tetrachloroethane	2020/03/30	92 (1)	70 - 130	103	70 - 130	<0.20	ug/L	NC (2)	30
6657022	1,1,2-Trichloroethane	2020/03/30	95 (1)	70 - 130	102	70 - 130	<0.20	ug/L	NC (2)	30
6657022	1,1-Dichloroethane	2020/03/30	97 (1)	70 - 130	96	70 - 130	<0.10	ug/L	NC (2)	30
6657022	1,1-Dichloroethylene	2020/03/30	111 (1)	70 - 130	106	70 - 130	<0.10	ug/L	NC (2)	30
6657022	1,2-Dichlorobenzene	2020/03/30	93 (1)	70 - 130	93	70 - 130	<0.20	ug/L	NC (2)	30
6657022	1,2-Dichloroethane	2020/03/30	94 (1)	70 - 130	100	70 - 130	<0.20	ug/L	NC (2)	30
6657022	1,2-Dichloropropane	2020/03/30	92 (1)	70 - 130	96	70 - 130	<0.10	ug/L	NC (2)	30
6657022	1,3-Dichlorobenzene	2020/03/30	97 (1)	70 - 130	93	70 - 130	<0.20	ug/L	NC (2)	30
6657022	1,4-Dichlorobenzene	2020/03/30	102 (1)	70 - 130	98	70 - 130	<0.20	ug/L	NC (2)	30
6657022	Acetone (2-Propanone)	2020/03/30	84 (1)	60 - 140	93	60 - 140	<10	ug/L	NC (2)	30
6657022	Benzene	2020/03/30	102 (1)	70 - 130	101	70 - 130	<0.10	ug/L	NC (2)	30
6657022	Bromodichloromethane	2020/03/30	97 (1)	70 - 130	102	70 - 130	<0.10	ug/L	NC (2)	30
6657022	Bromoform	2020/03/30	101 (1)	70 - 130	109	70 - 130	<0.20	ug/L	NC (2)	30
6657022	Bromomethane	2020/03/30	125 (1)	60 - 140	113	60 - 140	<0.50	ug/L	NC (2)	30
6657022	Carbon Tetrachloride	2020/03/30	102 (1)	70 - 130	101	70 - 130	<0.10	ug/L	NC (2)	30
6657022	Chlorobenzene	2020/03/30	97 (1)	70 - 130	97	70 - 130	<0.10	ug/L	NC (2)	30
6657022	Chloroform	2020/03/30	94 (1)	70 - 130	95	70 - 130	<0.10	ug/L	NC (2)	30
6657022	cis-1,2-Dichloroethylene	2020/03/30	96 (1)	70 - 130	96	70 - 130	<0.10	ug/L	NC (2)	30
6657022	cis-1,3-Dichloropropene	2020/03/30	100 (1)	70 - 130	105	70 - 130	<0.20	ug/L	NC (2)	30
6657022	Dibromochloromethane	2020/03/30	102 (1)	70 - 130	110	70 - 130	<0.20	ug/L	NC (2)	30
6657022	Dichlorodifluoromethane (FREON 12)	2020/03/30	97 (1)	60 - 140	97	60 - 140	<0.50	ug/L	NC (2)	30



BUREAU VERITAS

BV Labs Job #: C079507
Report Date: 2020/04/01

QUALITY ASSURANCE REPORT(CONT'D)

AIMS Consulting Environmental Services
Client Project #: AR128-A
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6657022	Ethylbenzene	2020/03/30	96 (1)	70 - 130	95	70 - 130	<0.10	ug/L	NC (2)	30
6657022	Ethylene Dibromide	2020/03/30	95 (1)	70 - 130	103	70 - 130	<0.20	ug/L	NC (2)	30
6657022	Hexane	2020/03/30	111 (1)	70 - 130	99	70 - 130	<0.50	ug/L	NC (2)	30
6657022	Methyl Ethyl Ketone (2-Butanone)	2020/03/30	81 (1)	60 - 140	95	60 - 140	<5.0	ug/L	NC (2)	30
6657022	Methyl Isobutyl Ketone	2020/03/30	82 (1)	70 - 130	96	70 - 130	<5.0	ug/L	NC (2)	30
6657022	Methyl t-butyl ether (MTBE)	2020/03/30	80 (1)	70 - 130	94	70 - 130	<0.20	ug/L	NC (2)	30
6657022	Methylene Chloride(Dichloromethane)	2020/03/30	95 (1)	70 - 130	93	70 - 130	<0.50	ug/L	NC (2)	30
6657022	o-Xylene	2020/03/30	97 (1)	70 - 130	97	70 - 130	<0.10	ug/L	NC (2)	30
6657022	p+m-Xylene	2020/03/30	103 (1)	70 - 130	101	70 - 130	<0.10	ug/L	NC (2)	30
6657022	Styrene	2020/03/30	97 (1)	70 - 130	100	70 - 130	<0.20	ug/L	NC (2)	30
6657022	Tetrachloroethylene	2020/03/30	96 (1)	70 - 130	93	70 - 130	<0.10	ug/L	4.7 (2)	30
6657022	Toluene	2020/03/30	99 (1)	70 - 130	95	70 - 130	<0.20	ug/L	NC (2)	30
6657022	Total Xylenes	2020/03/30					<0.10	ug/L	NC (2)	30
6657022	trans-1,2-Dichloroethylene	2020/03/30	100 (1)	70 - 130	100	70 - 130	<0.10	ug/L	NC (2)	30
6657022	trans-1,3-Dichloropropene	2020/03/30	101 (1)	70 - 130	107	70 - 130	<0.20	ug/L	NC (2)	30
6657022	Trichloroethylene	2020/03/30	105 (1)	70 - 130	102	70 - 130	<0.10	ug/L	NC (2)	30
6657022	Trichlorofluoromethane (FREON 11)	2020/03/30	108 (1)	70 - 130	113	70 - 130	<0.20	ug/L	NC (2)	30
6657022	Vinyl Chloride	2020/03/30	101 (1)	70 - 130	100	70 - 130	<0.20	ug/L	NC (2)	30
6659256	Benzene	2020/03/31	99	70 - 130	98	70 - 130	<0.20	ug/L	NC (3)	30
6659256	Ethylbenzene	2020/03/31	105	70 - 130	102	70 - 130	<0.20	ug/L	NC (3)	30
6659256	F1 (C6-C10) - BTEX	2020/03/31					<25	ug/L		
6659256	F1 (C6-C10)	2020/03/31	86	70 - 130	99	70 - 130	<25	ug/L		
6659256	o-Xylene	2020/03/31	103	70 - 130	100	70 - 130	<0.20	ug/L	NC (3)	30
6659256	p+m-Xylene	2020/03/31	101	70 - 130	99	70 - 130	<0.40	ug/L	NC (3)	30
6659256	Toluene	2020/03/31	96	70 - 130	92	70 - 130	<0.20	ug/L	NC (3)	30
6659256	Total Xylenes	2020/03/31					<0.40	ug/L	NC (3)	30
6659757	F2 (C10-C16 Hydrocarbons)	2020/03/31	106	50 - 130	103	60 - 130	<100	ug/L	4.2 (3)	30
6659757	F3 (C16-C34 Hydrocarbons)	2020/03/31	98	50 - 130	98	60 - 130	<200	ug/L		
6659757	F4 (C34-C50 Hydrocarbons)	2020/03/31	88	50 - 130	84	60 - 130	<200	ug/L		
6660312	Dissolved Aluminum (Al)	2020/03/31	109	80 - 120	100	80 - 120	<5.0	ug/L		
6660312	Dissolved Antimony (Sb)	2020/03/31	119	80 - 120	101	80 - 120	<0.50	ug/L	NC (3)	20



BUREAU VERITAS

BV Labs Job #: C079507
Report Date: 2020/04/01

QUALITY ASSURANCE REPORT(CONT'D)

AIMS Consulting Environmental Services
Client Project #: AR128-A
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6660312	Dissolved Arsenic (As)	2020/03/31	106	80 - 120	98	80 - 120	<1.0	ug/L	NC (3)	20
6660312	Dissolved Barium (Ba)	2020/03/31	112	80 - 120	99	80 - 120	<2.0	ug/L	2.0 (3)	20
6660312	Dissolved Beryllium (Be)	2020/03/31	104	80 - 120	98	80 - 120	<0.50	ug/L	NC (3)	20
6660312	Dissolved Bismuth (Bi)	2020/03/31	97	80 - 120	96	80 - 120	<1.0	ug/L		
6660312	Dissolved Boron (B)	2020/03/31	106	80 - 120	101	80 - 120	<10	ug/L	NC (3)	20
6660312	Dissolved Cadmium (Cd)	2020/03/31	110	80 - 120	100	80 - 120	<0.10	ug/L	NC (3)	20
6660312	Dissolved Calcium (Ca)	2020/03/31	113	80 - 120	96	80 - 120	<200	ug/L		
6660312	Dissolved Chromium (Cr)	2020/03/31	103	80 - 120	98	80 - 120	<5.0	ug/L	NC (3)	20
6660312	Dissolved Cobalt (Co)	2020/03/31	103	80 - 120	100	80 - 120	<0.50	ug/L	NC (3)	20
6660312	Dissolved Copper (Cu)	2020/03/31	114	80 - 120	101	80 - 120	3.2, RDLE=1.0 (5)	ug/L	NC (3)	20
6660312	Dissolved Iron (Fe)	2020/03/31	101	80 - 120	97	80 - 120	<100	ug/L		
6660312	Dissolved Lead (Pb)	2020/03/31	99	80 - 120	96	80 - 120	<0.50	ug/L	NC (3)	20
6660312	Dissolved Lithium (Li)	2020/03/31	105	80 - 120	100	80 - 120	<5.0	ug/L		
6660312	Dissolved Magnesium (Mg)	2020/03/31	105	80 - 120	98	80 - 120	<50	ug/L		
6660312	Dissolved Manganese (Mn)	2020/03/31	105	80 - 120	98	80 - 120	<2.0	ug/L		
6660312	Dissolved Molybdenum (Mo)	2020/03/31	117	80 - 120	99	80 - 120	<0.50	ug/L	2.0 (3)	20
6660312	Dissolved Nickel (Ni)	2020/03/31	97	80 - 120	99	80 - 120	<1.0	ug/L	NC (3)	20
6660312	Dissolved Phosphorus (P)	2020/03/31	126 (4)	80 - 120	122 (4)	80 - 120	<100	ug/L		
6660312	Dissolved Potassium (K)	2020/03/31	110	80 - 120	100	80 - 120	<200	ug/L		
6660312	Dissolved Selenium (Se)	2020/03/31	103	80 - 120	97	80 - 120	<2.0	ug/L	NC (3)	20
6660312	Dissolved Silicon (Si)	2020/03/31	111	80 - 120	98	80 - 120	<50	ug/L		
6660312	Dissolved Silver (Ag)	2020/03/31	100	80 - 120	97	80 - 120	<0.10	ug/L	NC (3)	20
6660312	Dissolved Sodium (Na)	2020/03/31	NC	80 - 120	99	80 - 120	<100	ug/L	2.2 (3)	20
6660312	Dissolved Strontium (Sr)	2020/03/31	104	80 - 120	97	80 - 120	<1.0	ug/L		
6660312	Dissolved Tellurium (Te)	2020/03/31	111	80 - 120	100	80 - 120	<1.0	ug/L		
6660312	Dissolved Thallium (Tl)	2020/03/31	101	80 - 120	97	80 - 120	<0.050	ug/L	NC (3)	20
6660312	Dissolved Tin (Sn)	2020/03/31	117	80 - 120	102	80 - 120	<1.0	ug/L		
6660312	Dissolved Titanium (Ti)	2020/03/31	110	80 - 120	98	80 - 120	<5.0	ug/L		
6660312	Dissolved Tungsten (W)	2020/03/31	103	80 - 120	96	80 - 120	<1.0	ug/L		
6660312	Dissolved Uranium (U)	2020/03/31	104	80 - 120	99	80 - 120	<0.10	ug/L	6.4 (3)	20
6660312	Dissolved Vanadium (V)	2020/03/31	105	80 - 120	96	80 - 120	<0.50	ug/L	4.9 (3)	20



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VERITAS
LABORATORIES

BV Labs Job #: C079507
Report Date: 2020/04/01

QUALITY ASSURANCE REPORT(CONT'D)

AIMS Consulting Environmental Services
Client Project #: AR128-A
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6660312	Dissolved Zinc (Zn)	2020/03/31	98	80 - 120	98	80 - 120	<5.0	ug/L	NC (3)	20
6660312	Dissolved Zirconium (Zr)	2020/03/31	122 (4)	80 - 120	102	80 - 120	<1.0	ug/L		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times$ RDL).

(1) Matrix Spike Parent ID [MIH202-02]

(2) Duplicate Parent ID [MIH203-03]

(3) Duplicate Parent ID

(4) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(5) Analyte was detected in the method blank at a level marginally above the detection limit. Sample results have not been blank corrected. Those results at or near the detection limit may be biased high..



BUREAU
VERITAS

BV Labs Job #: C079507
Report Date: 2020/04/01

AiMS Consulting Environmental Services
Client Project #: AR128-A
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

VALIDATION SIGNATURE PAGE

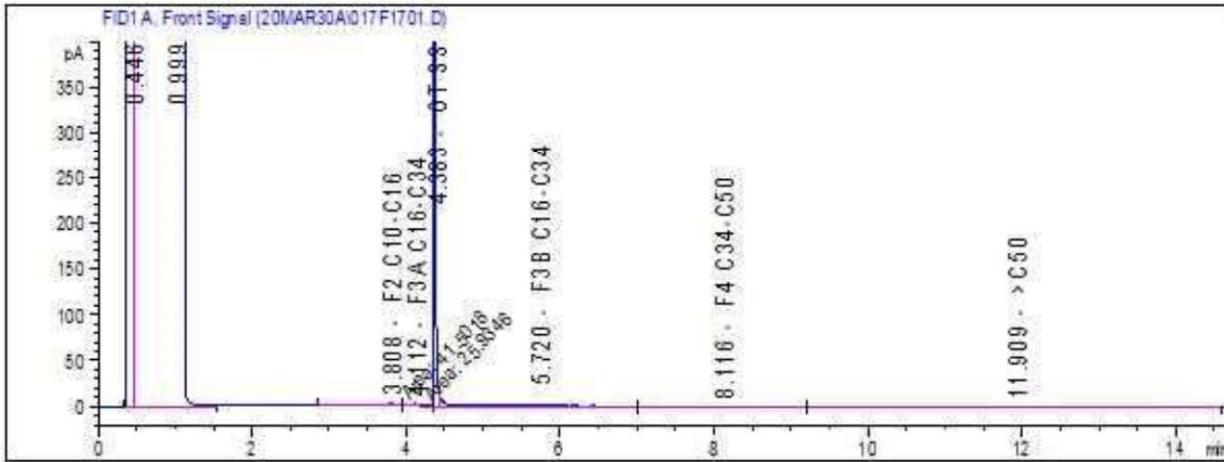
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Ewa P.

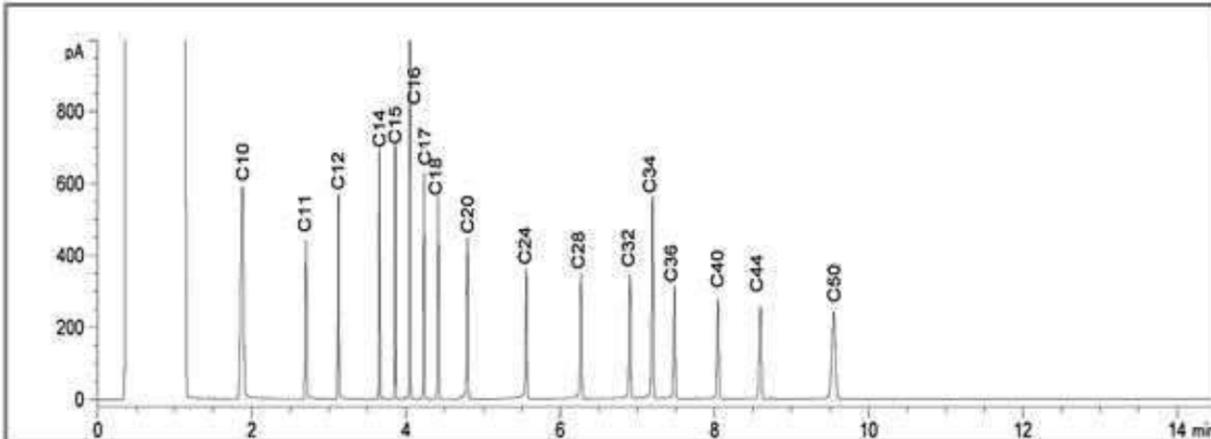
Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

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Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Reference Spectrum



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline: C6 - C12

Diesel: C10 - C24

Jet Fuels: C6 - C16

Varsol: C8 - C12

Fuel Oils: C6 - C32

Creosote: C10 - C26

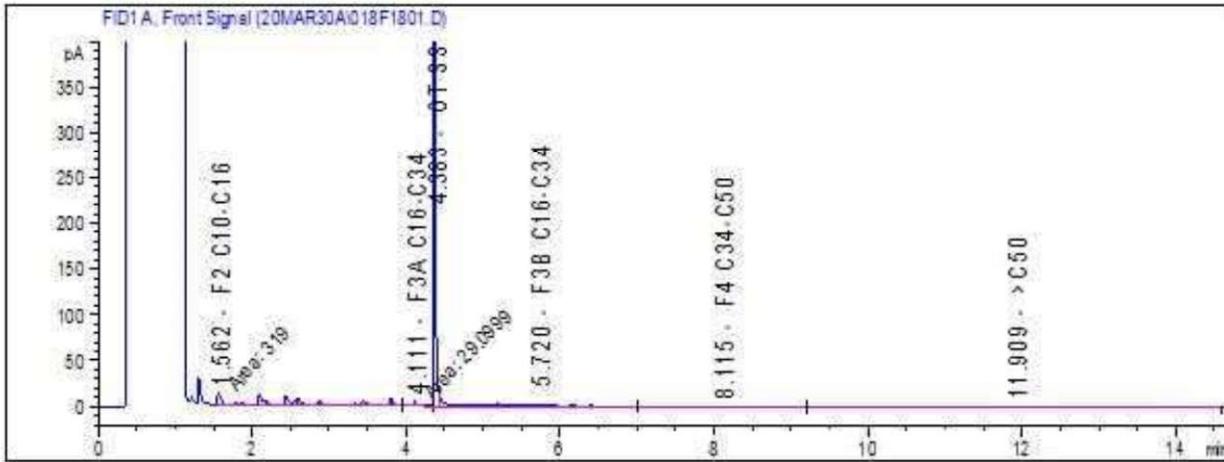
Kerosene: C8 - C16

Motor Oils: C16 - C50

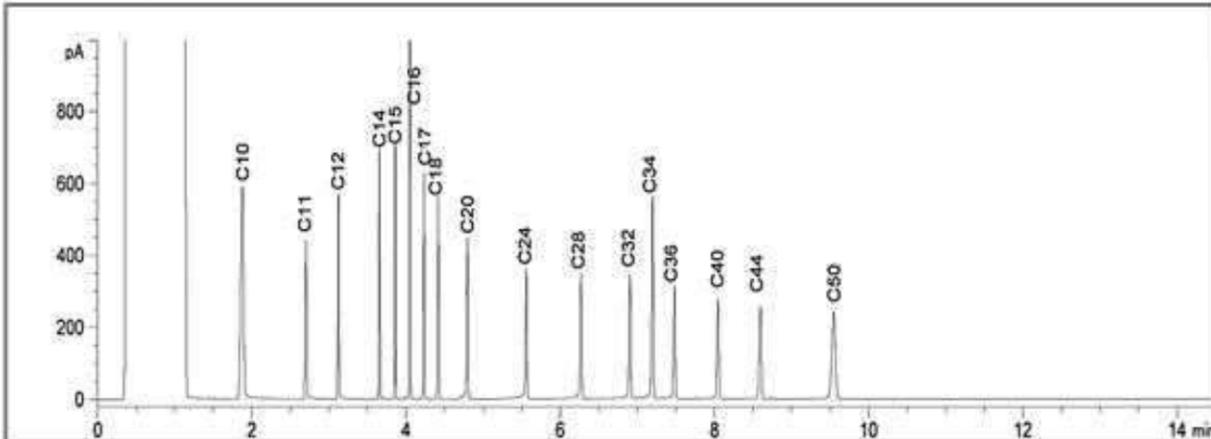
Asphalt: C18 - C50+

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Reference Spectrum



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline: C6 - C12

Diesel: C10 - C24

Jet Fuels: C6 - C16

Varsol: C8 - C12

Fuel Oils: C6 - C32

Creosote: C10 - C26

Kerosene: C8 - C16

Motor Oils: C16 - C50

Asphalt: C18 - C50+

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.



BUREAU
VERITAS

BV Labs Job #: C079507
Report Date: 2020/04/01

AiMS Consulting Environmental Services
Client Project #: AR128-A
Site Location: 395-401 QUEENSWAY W.
Sampler Initials: DK

Exceedance Summary Table – Reg153/04 T2-GW-F/M
Result Exceedances

Sample ID	BV Labs ID	Parameter	Criteria	Result	DL	UNITS
MW4	MIH205-03	Ethylbenzene	2.4	66	0.20	ug/L
MW4	MIH205-01	F2 (C10-C16 Hydrocarbons)	150	270	100	ug/L

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.



Your Project #: AR128B-19
 Site Location: 395-401 QUEENSWAY WEST
 Your C.O.C. #: N/A

Attention: Damian Khan

AiMS Consulting Environmental Services
 1020 Denison St
 Suite 111
 Markham, ON
 CANADA L3R 3W5

Report Date: 2020/05/06
 Report #: R6165930
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: COA5600

Received: 2020/04/29, 14:53

Sample Matrix: Soil
 # Samples Received: 9

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Petroleum Hydro. CCME F1 & BTEX in Soil (1)	9	N/A	2020/05/05	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (2)	5	2020/04/30	2020/05/01	CAM SOP-00316	CCME CWS m
F4G (CCME Hydrocarbons Gravimetric)	1	2020/05/04	2020/05/05	CAM SOP-00316	CCME PHC-CWS m
Moisture	9	N/A	2020/04/30	CAM SOP-00445	Carter 2nd ed 51.2 m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.



Your Project #: AR128B-19
Site Location: 395-401 QUEENSWAY WEST
Your C.O.C. #: N/A

Attention: Damian Khan

AiMS Consulting Environmental Services
1020 Denison St
Suite 111
Markham, ON
CANADA L3R 3W5

Report Date: 2020/05/06
Report #: R6165930
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: COA5600
Received: 2020/04/29, 14:53

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Sara Singh, B.Sc, Senior Project Manager

Email: Sara.Singh@bvlab.com

Phone# (905)817-5827

=====

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BUREAU
VERITASBV Labs Job #: COA5600
Report Date: 2020/05/06AiMS Consulting Environmental Services
Client Project #: AR128B-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK**O.REG 153 PHCS, BTEX/F1-F4 (SOIL)**

BV Labs ID			MNP110		MNP111		MNP113	MNP116	MNP118		
Sampling Date			2020/04/28 10:00		2020/04/28 10:15		2020/04/28 10:40	2020/04/28 11:30	2020/04/28 12:00		
COC Number			N/A		N/A		N/A	N/A	N/A		
	UNITS	Criteria	BH101-6	RDL	BH102-7	RDL	BH103-6	BH106-3	BH108-6	RDL	QC Batch
Inorganics											
Moisture	%	-	25	1.0	11	1.0	21	23	23	1.0	6704283
BTEX & F1 Hydrocarbons											
Benzene	ug/g	0.32	<0.020	0.020	<0.10	0.10	<0.020	<0.020	<0.020	0.020	6709706
Toluene	ug/g	6.4	<0.020	0.020	<0.10	0.10	<0.020	<0.020	<0.020	0.020	6709706
Ethylbenzene	ug/g	1.1	<0.020	0.020	26	0.10	0.024	0.70	<0.020	0.020	6709706
o-Xylene	ug/g	-	<0.020	0.020	6.6	0.10	0.028	<0.020	<0.020	0.020	6709706
p+m-Xylene	ug/g	-	<0.040	0.040	16	0.20	0.11	0.18	<0.040	0.040	6709706
Total Xylenes	ug/g	26	<0.040	0.040	22	0.20	0.13	0.18	<0.040	0.040	6709706
F1 (C6-C10)	ug/g	55	27	10	1400	50	<10	16	38	10	6709706
F1 (C6-C10) - BTEX	ug/g	55	27	10	1400	50	<10	16	38	10	6709706
F2-F4 Hydrocarbons											
F2 (C10-C16 Hydrocarbons)	ug/g	230	23	10	2500	10	<10	59	47	10	6704940
F3 (C16-C34 Hydrocarbons)	ug/g	1700	<50	50	960	50	<50	<50	<50	50	6704940
F4 (C34-C50 Hydrocarbons)	ug/g	3300	<50	50	<50	50	180	<50	<50	50	6704940
Reached Baseline at C50	ug/g	-	Yes		Yes		No	Yes	Yes		6704940
Surrogate Recovery (%)											
1,4-Difluorobenzene	%	-	91		95		93	92	92		6709706
4-Bromofluorobenzene	%	-	101		103		101	101	100		6709706
D10-o-Xylene	%	-	119		108		110	117	117		6709706
D4-1,2-Dichloroethane	%	-	88		84		87	87	86		6709706
o-Terphenyl	%	-	99		102		99	100	102		6704940
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ontario Reg. 153/04 (Amended April 15, 2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soil											



BUREAU
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BV Labs Job #: COA5600
Report Date: 2020/05/06

AiMS Consulting Environmental Services
Client Project #: AR128B-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

RESULTS OF ANALYSES OF SOIL

BV Labs ID		MNP112	MNP114	MNP115	MNP117		
Sampling Date		2020/04/28 10:15	2020/04/28 11:00	2020/04/28 11:15	2020/04/28 11:45		
COC Number		N/A	N/A	N/A	N/A		
	UNITS	BH102-8	BH104-2	BH105-5	BH107-5	RDL	QC Batch
Inorganics							
Moisture	%	14	12	26	22	1.0	6704283
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							

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VERITAS

BV Labs Job #: COA5600

Report Date: 2020/05/06

AiMS Consulting Environmental Services

Client Project #: AR128B-19

Site Location: 395-401 QUEENSWAY WEST

Sampler Initials: DK

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID			MNP112			MNP113	MNP113		
Sampling Date			2020/04/28 10:15			2020/04/28 10:40	2020/04/28 10:40		
COC Number			N/A			N/A	N/A		
	UNITS	Criteria	BH102-8	RDL	QC Batch	BH103-6	BH103-6 Lab-Dup	RDL	QC Batch
BTEX & F1 Hydrocarbons									
Benzene	ug/g	0.32	<0.020	0.020	6709706				
Toluene	ug/g	6.4	<0.020	0.020	6709706				
Ethylbenzene	ug/g	1.1	<0.020	0.020	6709706				
o-Xylene	ug/g	-	<0.020	0.020	6709706				
p+m-Xylene	ug/g	-	<0.040	0.040	6709706				
Total Xylenes	ug/g	26	<0.040	0.040	6709706				
F1 (C6-C10)	ug/g	55	<10	10	6709706				
F1 (C6-C10) - BTEX	ug/g	55	<10	10	6709706				
F2-F4 Hydrocarbons									
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	3300				520	520	100	6708373
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	-	92		6709706				
4-Bromofluorobenzene	%	-	101		6709706				
D10-o-Xylene	%	-	113		6709706				
D4-1,2-Dichloroethane	%	-	86		6709706				
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Lab-Dup = Laboratory Initiated Duplicate									
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)									
Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition									
Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soil									



BUREAU
VERITAS

BV Labs Job #: COA5600
Report Date: 2020/05/06

AiMS Consulting Environmental Services
Client Project #: AR128B-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID			MNP114	MNP115	MNP117		
Sampling Date			2020/04/28 11:00	2020/04/28 11:15	2020/04/28 11:45		
COC Number			N/A	N/A	N/A		
	UNITS	Criteria	BH104-2	BH105-5	BH107-5	RDL	QC Batch
BTEX & F1 Hydrocarbons							
Benzene	ug/g	0.32	<0.020	<0.020	<0.020	0.020	6709706
Toluene	ug/g	6.4	<0.020	<0.020	<0.020	0.020	6709706
Ethylbenzene	ug/g	1.1	<0.020	<0.020	<0.020	0.020	6709706
o-Xylene	ug/g	-	<0.020	<0.020	<0.020	0.020	6709706
p+m-Xylene	ug/g	-	0.047	<0.040	<0.040	0.040	6709706
Total Xylenes	ug/g	26	0.047	<0.040	<0.040	0.040	6709706
F1 (C6-C10)	ug/g	55	<10	<10	<10	10	6709706
F1 (C6-C10) - BTEX	ug/g	55	<10	<10	<10	10	6709706
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	-	92	93	93		6709706
4-Bromofluorobenzene	%	-	101	101	100		6709706
D10-o-Xylene	%	-	113	114	112		6709706
D4-1,2-Dichloroethane	%	-	88	87	88		6709706
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ontario Reg. 153/04 (Amended April 15, 2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Soil - Industrial/Commercial/Community Property Use - Coarse Textured Soil							



BUREAU
VERITAS

BV Labs Job #: COA5600
Report Date: 2020/05/06

AiMS Consulting Environmental Services
Client Project #: AR128B-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

TEST SUMMARY

BV Labs ID: MNP110
Sample ID: BH101-6
Matrix: Soil

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6709706	N/A	2020/05/05	Ravinder Gaidhu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6704940	2020/04/30	2020/05/01	Prabhjot Gulati
Moisture	BAL	6704283	N/A	2020/04/30	Prgya Panchal

BV Labs ID: MNP111
Sample ID: BH102-7
Matrix: Soil

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6709706	N/A	2020/05/05	Ravinder Gaidhu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6704940	2020/04/30	2020/05/01	Prabhjot Gulati
Moisture	BAL	6704283	N/A	2020/04/30	Prgya Panchal

BV Labs ID: MNP112
Sample ID: BH102-8
Matrix: Soil

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6709706	N/A	2020/05/05	Ravinder Gaidhu
Moisture	BAL	6704283	N/A	2020/04/30	Prgya Panchal

BV Labs ID: MNP113
Sample ID: BH103-6
Matrix: Soil

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6709706	N/A	2020/05/05	Ravinder Gaidhu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6704940	2020/04/30	2020/05/01	Prabhjot Gulati
F4G (CCME Hydrocarbons Gravimetric)	BAL	6708373	2020/05/04	2020/05/05	Rashmi Dubey
Moisture	BAL	6704283	N/A	2020/04/30	Prgya Panchal

BV Labs ID: MNP113 Dup
Sample ID: BH103-6
Matrix: Soil

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
F4G (CCME Hydrocarbons Gravimetric)	BAL	6708373	2020/05/04	2020/05/05	Rashmi Dubey

BV Labs ID: MNP114
Sample ID: BH104-2
Matrix: Soil

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6709706	N/A	2020/05/05	Ravinder Gaidhu
Moisture	BAL	6704283	N/A	2020/04/30	Prgya Panchal



BUREAU
VERITAS

BV Labs Job #: COA5600
Report Date: 2020/05/06

AiMS Consulting Environmental Services
Client Project #: AR128B-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

TEST SUMMARY

BV Labs ID: MNP115
Sample ID: BH105-5
Matrix: Soil

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6709706	N/A	2020/05/05	Ravinder Gaidhu
Moisture	BAL	6704283	N/A	2020/04/30	Prgya Panchal

BV Labs ID: MNP116
Sample ID: BH106-3
Matrix: Soil

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6709706	N/A	2020/05/05	Ravinder Gaidhu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6704940	2020/04/30	2020/05/01	Prabhjot Gulati
Moisture	BAL	6704283	N/A	2020/04/30	Prgya Panchal

BV Labs ID: MNP117
Sample ID: BH107-5
Matrix: Soil

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6709706	N/A	2020/05/05	Ravinder Gaidhu
Moisture	BAL	6704283	N/A	2020/04/30	Prgya Panchal

BV Labs ID: MNP118
Sample ID: BH108-6
Matrix: Soil

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6709706	N/A	2020/05/05	Ravinder Gaidhu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6704940	2020/04/30	2020/05/01	Prabhjot Gulati
Moisture	BAL	6704283	N/A	2020/04/30	Prgya Panchal



BUREAU
VERITAS

BV Labs Job #: COA5600
Report Date: 2020/05/06

AiMS Consulting Environmental Services
Client Project #: AR128B-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.7°C
-----------	-------

Sample MNP111 [BH102-7] : F1 BTEX analysis : Due to high concentration of target analytes, sample required dilution. Reporting limits were adjusted accordingly.

Sample MNP113 [BH103-6] : F1/BTEX Analysis: Greater than 6.8g of soil was submitted in the field preserved vial. This significantly exceeds the protocol specification of approximately 5g. Additional 5mL methanol was added to the vial to ensure extraction efficiency.

Sample MNP117 [BH107-5] : F1/BTEX Analysis: Greater than 6.8g of soil was submitted in the field preserved vial. This significantly exceeds the protocol specification of approximately 5g. Additional 5mL methanol was added to the vial to ensure extraction efficiency.

Results relate only to the items tested.



BUREAU
VERITAS

BV Labs Job #: C0A5600
Report Date: 2020/05/06

QUALITY ASSURANCE REPORT

AIMS Consulting Environmental Services
Client Project #: AR128B-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6704940	o-Terphenyl	2020/04/30	99	60 - 130	100	60 - 130	106	%		
6709706	1,4-Difluorobenzene	2020/05/05	92	60 - 140	91	60 - 140	91	%		
6709706	4-Bromofluorobenzene	2020/05/05	101	60 - 140	100	60 - 140	101	%		
6709706	D10-o-Xylene	2020/05/05	119	60 - 140	109	60 - 140	106	%		
6709706	D4-1,2-Dichloroethane	2020/05/05	86	60 - 140	87	60 - 140	90	%		
6704283	Moisture	2020/04/30								
6704940	F2 (C10-C16 Hydrocarbons)	2020/05/01	97	50 - 130	98	80 - 120	<10	ug/g	6.7 (1)	20
6704940	F3 (C16-C34 Hydrocarbons)	2020/05/01	101	50 - 130	102	80 - 120	<50	ug/g	NC (1)	30
6704940	F4 (C34-C50 Hydrocarbons)	2020/05/01	102	50 - 130	102	80 - 120	<50	ug/g	NC (1)	30
6708373	F4G-sg (Grav. Heavy Hydrocarbons)	2020/05/05	126	65 - 135	103	65 - 135	<100	ug/g	0 (2)	50
6709706	Benzene	2020/05/05	88	60 - 140	82	60 - 140	<0.020	ug/g	NC (1)	50
6709706	Ethylbenzene	2020/05/05	105	60 - 140	95	60 - 140	<0.020	ug/g	NC (1)	50
6709706	F1 (C6-C10) - BTEX	2020/05/05					<10	ug/g	NC (1)	30
6709706	F1 (C6-C10)	2020/05/05	92	60 - 140	86	80 - 120	<10	ug/g	NC (1)	30
6709706	o-Xylene	2020/05/05	105	60 - 140	96	60 - 140	<0.020	ug/g	NC (1)	50
6709706	p+m-Xylene	2020/05/05	105	60 - 140	96	60 - 140	<0.040	ug/g	NC (1)	50
6709706	Toluene	2020/05/05	97	60 - 140	90	60 - 140	<0.020	ug/g	NC (1)	50
6709706	Total Xylenes	2020/05/05					<0.040	ug/g	NC (1)	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Duplicate Parent ID

(2) Duplicate Parent ID [MNP113-01]



BUREAU
VERITAS

BV Labs Job #: COA5600
Report Date: 2020/05/06

AiMS Consulting Environmental Services
Client Project #: AR128B-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



6740 Campbell Road, Mississauga, Ontario L5N 2L8
 Phone: 905-817-5700 Fax: 905-817-3779 Toll Free: 800-563-6266
 CAM/ICD-01/03/5

CHAIN OF CUSTODY RECORD

Page 1 of 1

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required								
Company Name:	AIMS Environmental Consulting Services	Company Name:	AIMS Environmental Consulting Services	Quotation #:		<input checked="" type="checkbox"/> Regular TAT (5-7 days) Most analysts								
Contact Name:	Fory Fong	Contact Name:	Damian Khan	P.O. #/ A/E/R:		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS								
Address:	1020 Denison Street, Suite 111 Markham ON, L3R 3W5	Address:	1020 Denison Street, Suite 111 Markham ON, L3R 3W5	Project #:	AR124819	Rush TAT (Surcharges will be applied)								
Phone:	905-474-0058 ext. 102 Fax: 905-474-0601	Phone:	905-474-0058 ext. 106 Fax: 905-474-0601	Site Location:	395-401 Queenway West	<input type="checkbox"/> 1 Day	<input type="checkbox"/> 2 Days							
Email:	f.fong@aimsconsulting.com	Email:	dkhan@aimsconsulting.com	Site #:		<input type="checkbox"/> 3-4 Days								
USE RECALIBRATED CUMULATIVE WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS LABORATORIES' STANDARD WATER CHAIN OF CUSTODY		USE RECALIBRATED CUMULATIVE WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS LABORATORIES' STANDARD WATER CHAIN OF CUSTODY		Site Location Province:	ON	Date Required:								
Regulation 153		Other Regulations		Analysis Requested		Rush Confirmation #:								
Table 1:	<input type="checkbox"/> Res/Park <input type="checkbox"/> Road/Fine	<input type="checkbox"/> GC/MS	<input type="checkbox"/> Sanitary Sewer Bylaw	Analysis Requested		CUSTOMY SEAL								
Table 2:	<input checked="" type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse	<input type="checkbox"/> MISA	<input type="checkbox"/> Storm Sewer Bylaw	Analysis Requested		Y / N								
Table 3:	<input type="checkbox"/> Agr/ Other	<input type="checkbox"/> PWQO	<input type="checkbox"/> Region	Analysis Requested		Present								
Table:	<input type="checkbox"/> Other (Specify)	<input type="checkbox"/> Other (Specify)	<input type="checkbox"/> Other (Specify)	Analysis Requested		Intact								
FOR ISC (PLEASE CIRCLE) Y / (N)		FOR ISC (PLEASE CIRCLE) Y / (N)		Analysis Requested										
Include Criteria on Certificate of Analysis: (Y / N)		Include Criteria on Certificate of Analysis: (Y / N)		Analysis Requested										
SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS		SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS		Analysis Requested										
SAMPLE IDENTIFICATION	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX	# OF CONTAINERS SUBMITTED	FIELD FILTERED (CHECK) Mesh/ # / CM	FIELD PHE #1	FIELD PHE #2	FIELD PHE #3	REG 153 METALS & INORGANICS	REG 153 IONIC METALS	REG 153 METALS (MNH, HWS - B)	TCF Package 2	COOLING MEDIA PRESENT: (Y / N)	COMMENTS
1	2020/04/28	10:00	Soil	3	n/a	x	x	x						
2	2020/04/28	10:15	Soil	3	n/a	x	x	x						
3	2020/04/28	10:15	Soil	3	n/a	x	x	x						
4	2020/04/28	10:40	Soil	3	n/a	x	x	x						
5	2020/04/28	11:00	Soil	3	n/a	x	x	x						
6	2020/04/28	11:15	Soil	3	n/a	x	x	x						
7	2020/04/28	11:30	Soil	3	n/a	x	x	x						
8	2020/04/28	11:45	Soil	3	n/a	x	x	x						
9	2020/04/28	11:00	Soil	3	n/a	x	x	x						
10														
RELINQUISHED BY: (Signature/Print)		DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)		DATE: (YYYY/MM/DD)	TIME: (HH:MM)							
Damian Khan		2020/04/29	14:50	Sara Singh		2020/04/29	14:53							

29-Apr-20 14:53
 Sara Singh
 COA 5600

KVG ENV-753

Unless otherwise agreed to in writing, w/vk submitted on this Chain of Custody is subject to Bureau Veritas Laboratories' standard Terms and Conditions. Signing of this Chain of Custody
 our terms available at: <http://www.bvlab.com/terms-and-conditions>



BUREAU
VERITAS

BV Labs Job #: COA5600
Report Date: 2020/05/06

AiMS Consulting Environmental Services
Client Project #: AR128B-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

Exceedance Summary Table – Reg153/04 T2-Soil/Ind-C
Result Exceedances

Sample ID	BV Labs ID	Parameter	Criteria	Result	DL	UNITS
BH102-7	MNP111-02	Ethylbenzene	1.1	26	0.10	ug/g
BH102-7	MNP111-02	F1 (C6-C10)	55	1400	50	ug/g
BH102-7	MNP111-02	F1 (C6-C10) - BTEX	55	1400	50	ug/g
BH102-7	MNP111-01	F2 (C10-C16 Hydrocarbons)	230	2500	10	ug/g

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

CLIENT: AIMS Consulting Environmental Services
 PROJECT #: AR1288-19, BV LABS JOB: C0A5596

Maxxam Guideline Comparison Tables

BTEX, CCOME PETROLEUM HYDROCARBONS | 2011 Table 2-Potable GW - All Types of Property Use, Coarse Grained

MATRIX: GROUND WATER

Note: Window zoom values other than 75% may cause unstable performance. ** See Note #5 at bottom of sheet for more information about Guideline Flagging.

Sample ID Laboratory ID / Guideline ID BV Labs Job # Units Sampling Date	Guideline		REPORTING LIMIT ug/L	MW103 MNP085 C0A5596 ug/L 28-April-2020	MW104 MNP087 C0A5596 ug/L 28-April-2020	MW107 MNP088 C0A5596 ug/L 28-April-2020	Matrix Spike 99995 C0A5596 %	SPIKED BLANK 99998 C0A5596 %	Method Blank 99999 C0A5596 ug/L
	2011 Table 2-Potable GW	All Types of Property Use ug/L Coarse Grained							
Benzene	5		0.2	0.37	<0.20	0.37	NC	89	<0.20
Toluene	24		0.2	0.82	<0.20	0.88	97	98	<0.20
Ethylbenzene	2.4		0.2	0.35	<0.20	0.23	103	105	<0.20
m/p xylenes	NV		0.4	1.1	<0.40	0.66	103	107	<0.40
o xylene	NV		0.2	0.4	<0.20	0.25	102	104	<0.20
Total Xylenes	300		0.4	1.5	<0.40	0.92	-	-	<0.40
F1 (C6-C10)	750		25	<25	<25	<25	96	95	<25
F1 (C6-C10) - BTEX	750		25	<25	<25	<25	-	-	<25
F2 (C10-C16)	150		100	<100	<100	<100	101	100	<100
F3 (C16-C34)	500		200	<200	<200	<200	98	97	<200
F4 (C34-C50)	500		200	<200	<200	<200	81	80	<200
Reached Baseline at C50	NV		YES	YES	YES	YES	-	-	-
F4 Gravimetric	500		-	-	-	-	-	-	-

Criteria exceedences will turn BOLD with Yellow Background.

BOLD with Blue Background indicates non-detected but RDL > Guideline criteria (due to dilution etc

NOTES:

NV = No value

- Criteria refers to Ministry of Environment "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of July 1, 2011
- This table represents a summary of the data presented in the Laboratory Certificate of Analysis for convenience purposes only
- This summary is to be use in conjunction with, not as a replacement of the Laboratory Certificate of Analysis which contains all QA/QC information
- New parameters indicated in the July 1, 2011 amendment, will appear at the bottom of each criteria page.
- Guideline flagging accuracy only guaranteed when result units correspond with guideline units on spreadsheet.



Your Project #: AR1288-19
 Site Location: 395-401 QUEENSWAY WEST, ON
 Your C.O.C. #: N/A

Attention: Damian Khan

AiMS Consulting Environmental Services
 1020 Denison St
 Suite 111
 Markham, ON
 CANADA L3R 3W5

Report Date: 2020/05/05
 Report #: R6164845
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0A5596
Received: 2020/04/29, 14:57

Sample Matrix: Water
 # Samples Received: 3

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Petroleum Hydro. CCME F1 & BTEX in Water	3	N/A	2020/05/04	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1)	3	2020/05/02	2020/05/03	CAM SOP-00316	CCME PHC-CWS m

Remarks:
 Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.



Your Project #: AR1288-19
Site Location: 395-401 QUEENSWAY WEST, ON
Your C.O.C. #: N/A

Attention: Damian Khan

AiMS Consulting Environmental Services
1020 Denison St
Suite 111
Markham, ON
CANADA L3R 3W5

Report Date: 2020/05/05
Report #: R6164845
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0A5596
Received: 2020/04/29, 14:57

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Sara Singh, B.Sc, Senior Project Manager

Email: Sara.Singh@bvlab.com

Phone# (905)817-5827

=====

This report has been generated and distributed using a secure automated process.

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BUREAU
VERITAS

BV Labs Job #: COA5596
Report Date: 2020/05/05

AiMS Consulting Environmental Services
Client Project #: AR1288-19
Site Location: 395-401 QUEENSWAY WEST, ON
Sampler Initials: DK

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID			MNP085	MNP087	MNP088		
Sampling Date			2020/04/28 16:00	2020/04/28 15:30	2020/04/28 15:00		
COC Number			N/A	N/A	N/A		
	UNITS	Criteria	MW103	MW104	MW107	RDL	QC Batch
BTEX & F1 Hydrocarbons							
Benzene	ug/L	5.0	0.37	<0.20	0.37	0.20	6708423
Toluene	ug/L	24	0.82	<0.20	0.88	0.20	6708423
Ethylbenzene	ug/L	2.4	0.35	<0.20	0.23	0.20	6708423
o-Xylene	ug/L	-	0.40	<0.20	0.25	0.20	6708423
p+m-Xylene	ug/L	-	1.1	<0.40	0.66	0.40	6708423
Total Xylenes	ug/L	300	1.5	<0.40	0.92	0.40	6708423
F1 (C6-C10)	ug/L	750	<25	<25	<25	25	6708423
F1 (C6-C10) - BTEX	ug/L	750	<25	<25	<25	25	6708423
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/L	150	<100	<100	<100	100	6707717
F3 (C16-C34 Hydrocarbons)	ug/L	500	<200	<200	<200	200	6707717
F4 (C34-C50 Hydrocarbons)	ug/L	500	<200	<200	<200	200	6707717
Reached Baseline at C50	ug/L	-	Yes	Yes	Yes		6707717
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	-	94	94	95		6708423
4-Bromofluorobenzene	%	-	100	99	100		6708423
D10-o-Xylene	%	-	108	109	109		6708423
D4-1,2-Dichloroethane	%	-	84	85	86		6708423
o-Terphenyl	%	-	94	95	94		6707717
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)							
Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition							
Potable Ground Water- All Types of Property Uses - Coarse Textured Soil							



BUREAU
VERITAS

BV Labs Job #: COA5596
Report Date: 2020/05/05

AiMS Consulting Environmental Services
Client Project #: AR1288-19
Site Location: 395-401 QUEENSWAY WEST, ON
Sampler Initials: DK

TEST SUMMARY

BV Labs ID: MNP085
Sample ID: MW103
Matrix: Water

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6708423	N/A	2020/05/04	Ravinder Gaidhu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6707717	2020/05/02	2020/05/03	(Kent) Maolin Li

BV Labs ID: MNP087
Sample ID: MW104
Matrix: Water

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6708423	N/A	2020/05/04	Ravinder Gaidhu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6707717	2020/05/02	2020/05/03	(Kent) Maolin Li

BV Labs ID: MNP088
Sample ID: MW107
Matrix: Water

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6708423	N/A	2020/05/04	Ravinder Gaidhu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6707717	2020/05/02	2020/05/03	(Kent) Maolin Li



BUREAU
VERITAS

BV Labs Job #: COA5596

Report Date: 2020/05/05

AiMS Consulting Environmental Services

Client Project #: AR1288-19

Site Location: 395-401 QUEENSWAY WEST, ON

Sampler Initials: DK

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.7°C
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Results relate only to the items tested.



BUREAU VERITAS

BV Labs Job #: C0A5596
Report Date: 2020/05/05

QUALITY ASSURANCE REPORT

AIMS Consulting Environmental Services
Client Project #: AR1288-19
Site Location: 395-401 QUEENSWAY WEST, ON
Sampler Initials: DK

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6707717	o-Terphenyl	2020/05/03	95	60 - 130	97	60 - 130	94	%		
6708423	1,4-Difluorobenzene	2020/05/04	99	70 - 130	94	70 - 130	94	%		
6708423	4-Bromofluorobenzene	2020/05/04	98	70 - 130	97	70 - 130	99	%		
6708423	D10-o-Xylene	2020/05/04	104	70 - 130	99	70 - 130	109	%		
6708423	D4-1,2-Dichloroethane	2020/05/04	82	70 - 130	82	70 - 130	84	%		
6707717	F2 (C10-C16 Hydrocarbons)	2020/05/03	101	50 - 130	100	60 - 130	<100	ug/L	NC (1)	30
6707717	F3 (C16-C34 Hydrocarbons)	2020/05/03	98	50 - 130	97	60 - 130	<200	ug/L	NC (1)	30
6707717	F4 (C34-C50 Hydrocarbons)	2020/05/03	81	50 - 130	80	60 - 130	<200	ug/L	NC (1)	30
6708423	Benzene	2020/05/04	NC	70 - 130	89	70 - 130	<0.20	ug/L	0.32 (1)	30
6708423	Ethylbenzene	2020/05/04	103	70 - 130	105	70 - 130	<0.20	ug/L	NC (1)	30
6708423	F1 (C6-C10) - BTEX	2020/05/04					<25	ug/L	2.6 (1)	30
6708423	F1 (C6-C10)	2020/05/04	96	70 - 130	95	70 - 130	<25	ug/L	0.25 (1)	30
6708423	o-Xylene	2020/05/04	102	70 - 130	104	70 - 130	<0.20	ug/L	NC (1)	30
6708423	p+m-Xylene	2020/05/04	103	70 - 130	107	70 - 130	<0.40	ug/L	NC (1)	30
6708423	Toluene	2020/05/04	97	70 - 130	98	70 - 130	<0.20	ug/L	0.79 (1)	30
6708423	Total Xylenes	2020/05/04					<0.40	ug/L	NC (1)	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Duplicate Parent ID



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BV Labs Job #: COA5596
Report Date: 2020/05/05

AiMS Consulting Environmental Services
Client Project #: AR1288-19
Site Location: 395-401 QUEENSWAY WEST, ON
Sampler Initials: DK

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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BV Labs Job #: COA5596

Report Date: 2020/05/05

AiMS Consulting Environmental Services

Client Project #: AR1288-19

Site Location: 395-401 QUEENSWAY WEST, ON

Sampler Initials: DK

Exceedance Summary Table – Reg153/04 T2-GW-C
Result Exceedances

Sample ID	BV Labs ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						



Your Project #: AR128A-19
 Site Location: 395-401 QUEENSWAY WEST
 Your C.O.C. #: N/A

Attention: Damian Khan

AiMS Consulting Environmental Services
 1020 Denison St
 Suite 111
 Markham, ON
 CANADA L3R 3W5

Report Date: 2020/05/11
 Report #: R6170617
 Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0A5594

Received: 2020/04/29, 14:57

Sample Matrix: Soil
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Cyanide (WAD) in Leachates	1	N/A	2020/05/04	CAM SOP-00457	OMOE 3015 m
Fluoride by ISE in Leachates	1	2020/05/04	2020/05/04	CAM SOP-00449	SM 23 4500-F- C m
Total Metals in TCLP Leachate by ICPMS	1	2020/05/04	2020/05/04	CAM SOP-00447	EPA 6020B m
Moisture	1	N/A	2020/04/30	CAM SOP-00445	Carter 2nd ed 51.2 m
Nitrate(NO3) + Nitrite(NO2) in Leachate	1	N/A	2020/05/04	CAM SOP-00440	SM 23 4500-NO3I/NO2B
PAH Compounds in Leachate by GC/MS (SIM)	1	2020/05/07	2020/05/07	CAM SOP-00318	EPA 8270D m
Polychlorinated Biphenyl in Soil	1	2020/05/02	2020/05/02	CAM SOP-00309	EPA 8082A m
TCLP - % Solids	1	2020/05/01	2020/05/02	CAM SOP-00401	EPA 1311 Update I m
TCLP - Extraction Fluid	1	N/A	2020/05/02	CAM SOP-00401	EPA 1311 Update I m
TCLP - Initial and final pH	1	N/A	2020/05/02	CAM SOP-00401	EPA 1311 Update I m
TCLP Zero Headspace Extraction	1	2020/05/04	2020/05/05	CAM SOP-00430	EPA 1311 m
VOCs in ZHE Leachates	1	2020/05/05	2020/05/05	CAM SOP-00228	EPA 8260C m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.



Your Project #: AR128A-19
Site Location: 395-401 QUEENSWAY WEST
Your C.O.C. #: N/A

Attention: Damian Khan

AiMS Consulting Environmental Services
1020 Denison St
Suite 111
Markham, ON
CANADA L3R 3W5

Report Date: 2020/05/11
Report #: R6170617
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0A5594

Received: 2020/04/29, 14:57

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Sara Singh, B.Sc, Senior Project Manager

Email: Sara.Singh@bvlabs.com

Phone# (905)817-5827

=====

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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VERITAS

BV Labs Job #: COA5594
Report Date: 2020/05/11

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

O.REG 558 TCLP BENZO(A)PYRENE

BV Labs ID			MNP069		
Sampling Date			2020/04/28 14:00		
COC Number			N/A		
	UNITS	347	TCLP	RDL	QC Batch
Polyaromatic Hydrocarbons					
Leachable Benzo(a)pyrene	ug/L	1	<0.10	0.10	6713942
Surrogate Recovery (%)					
Leachable D10-Anthracene	%	-	128		6713942
Leachable D14-Terphenyl (FS)	%	-	106		6713942
Leachable D8-Acenaphthylene	%	-	121		6713942
RDL = Reportable Detection Limit QC Batch = Quality Control Batch 347: Ontario Reg. 347/90 Schedule 4 Leachate Quality Criteria (as amended by Reg 558/00)					



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VERITAS

BV Labs Job #: COA5594
Report Date: 2020/05/11

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

O.REG 558 TCLP LEACHATE PREPARATION (SOIL)

BV Labs ID		MNP069		
Sampling Date		2020/04/28 14:00		
COC Number		N/A		
	UNITS	TCLP	RDL	QC Batch
Inorganics				
Final pH	pH	6.05		6706510
Initial pH	pH	8.79		6706510
TCLP - % Solids	%	100	0.2	6706505
TCLP Extraction Fluid	N/A	FLUID 1		6706509
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



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AiMS Consulting Environmental Services
Client Project #: AR128A-19
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Sampler Initials: DK

O.REG 558 TCLP VOLATILE ORGANICS HS (SOIL)

BV Labs ID			MNP069		
Sampling Date			2020/04/28 14:00		
COC Number			N/A		
	UNITS	347	TCLP	RDL	QC Batch
Charge/Prep Analysis					
Amount Extracted (Wet Weight) (g)	N/A	-	25	N/A	6708988
Volatile Organics					
Leachable Benzene	mg/L	0.5	<0.020	0.020	6710086
Leachable Carbon Tetrachloride	mg/L	0.5	<0.020	0.020	6710086
Leachable Chlorobenzene	mg/L	8	<0.020	0.020	6710086
Leachable Chloroform	mg/L	10	<0.020	0.020	6710086
Leachable 1,2-Dichlorobenzene	mg/L	20	<0.050	0.050	6710086
Leachable 1,4-Dichlorobenzene	mg/L	0.5	<0.050	0.050	6710086
Leachable 1,2-Dichloroethane	mg/L	0.5	<0.050	0.050	6710086
Leachable 1,1-Dichloroethylene	mg/L	1.4	<0.020	0.020	6710086
Leachable Methylene Chloride(Dichloromethane)	mg/L	5	<0.20	0.20	6710086
Leachable Methyl Ethyl Ketone (2-Butanone)	mg/L	200	<1.0	1.0	6710086
Leachable Tetrachloroethylene	mg/L	3	<0.020	0.020	6710086
Leachable Trichloroethylene	mg/L	5	<0.020	0.020	6710086
Leachable Vinyl Chloride	mg/L	0.2	<0.020	0.020	6710086
Surrogate Recovery (%)					
Leachable 4-Bromofluorobenzene	%	-	94		6710086
Leachable D4-1,2-Dichloroethane	%	-	104		6710086
Leachable D8-Toluene	%	-	93		6710086
RDL = Reportable Detection Limit QC Batch = Quality Control Batch 347: Ontario Reg. 347/90 Schedule 4 Leachate Quality Criteria (as amended by Reg 558/00) N/A = Not Applicable					



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BV Labs Job #: COA5594
Report Date: 2020/05/11

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

RESULTS OF ANALYSES OF SOIL

BV Labs ID			MNP069		
Sampling Date			2020/04/28 14:00		
COC Number			N/A		
	UNITS	347	TCLP	RDL	QC Batch
Inorganics					
Leachable Fluoride (F-)	mg/L	150	0.17	0.10	6708468
Moisture	%	-	19	1.0	6704283
Leachable WAD Cyanide (Free)	mg/L	20	<0.010	0.010	6708474
Leachable Nitrite (N)	mg/L	-	<0.10	0.10	6708473
Leachable Nitrate (N)	mg/L	-	<1.0	1.0	6708473
Leachable Nitrate + Nitrite (N)	mg/L	1000	<1.0	1.0	6708473
RDL = Reportable Detection Limit QC Batch = Quality Control Batch 347: Ontario Reg. 347/90 Schedule 4 Leachate Quality Criteria (as amended by Reg 558/00)					



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VERITAS

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ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID			MNP069		
Sampling Date			2020/04/28 14:00		
COC Number			N/A		
	UNITS	347	TCLP	RDL	QC Batch
Metals					
Leachable Arsenic (As)	mg/L	2.5	<0.2	0.2	6708403
Leachable Barium (Ba)	mg/L	100	0.3	0.2	6708403
Leachable Boron (B)	mg/L	500	<0.1	0.1	6708403
Leachable Cadmium (Cd)	mg/L	0.5	<0.05	0.05	6708403
Leachable Chromium (Cr)	mg/L	5	<0.1	0.1	6708403
Leachable Lead (Pb)	mg/L	5	<0.1	0.1	6708403
Leachable Mercury (Hg)	mg/L	0.1	<0.001	0.001	6708403
Leachable Selenium (Se)	mg/L	1	<0.1	0.1	6708403
Leachable Silver (Ag)	mg/L	5	<0.01	0.01	6708403
Leachable Uranium (U)	mg/L	10	<0.01	0.01	6708403
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
347: Ontario Reg. 347/90 Schedule 4 Leachate Quality Criteria (as amended by Reg 558/00)					



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POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

BV Labs ID		MNP069		
Sampling Date		2020/04/28 14:00		
COC Number		N/A		
	UNITS	TCLP	RDL	QC Batch
PCBs				
Aroclor 1016	ug/g	<0.010	0.010	6707600
Aroclor 1221	ug/g	<0.010	0.010	6707600
Aroclor 1232	ug/g	<0.010	0.010	6707600
Aroclor 1242	ug/g	<0.010	0.010	6707600
Aroclor 1248	ug/g	<0.010	0.010	6707600
Aroclor 1254	ug/g	<0.010	0.010	6707600
Aroclor 1260	ug/g	<0.010	0.010	6707600
Aroclor 1262	ug/g	<0.010	0.010	6707600
Aroclor 1268	ug/g	<0.010	0.010	6707600
Total PCB	ug/g	<0.010	0.010	6707600
Surrogate Recovery (%)				
Decachlorobiphenyl	%	133 (1)		6707600
RDL = Reportable Detection Limit QC Batch = Quality Control Batch (1) Surrogate recovery was above the upper control limit. This may represent a high bias in some results. For results that were ND, this potential bias has no impact.				



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BV Labs Job #: COA5594
Report Date: 2020/05/11

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

TEST SUMMARY

BV Labs ID: MNP069
Sample ID: TCLP
Matrix: Soil

Collected: 2020/04/28
Shipped:
Received: 2020/04/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Cyanide (WAD) in Leachates	SKAL/CN	6708474	N/A	2020/05/04	Louise Harding
Fluoride by ISE in Leachates	ISE	6708468	2020/05/04	2020/05/04	Surinder Rai
Total Metals in TCLP Leachate by ICPMS	ICP1/MS	6708403	2020/05/04	2020/05/04	Arefa Dabhad
Moisture	BAL	6704283	N/A	2020/04/30	Prgya Panchal
Nitrate(NO3) + Nitrite(NO2) in Leachate	LACH	6708473	N/A	2020/05/04	Chandra Nandlal
PAH Compounds in Leachate by GC/MS (SIM)	GC/MS	6713942	2020/05/07	2020/05/07	Lingyun Feng
Polychlorinated Biphenyl in Soil	GC/ECD	6707600	2020/05/02	2020/05/02	Dawn Alarie
TCLP - % Solids	BAL	6706505	2020/05/01	2020/05/02	Fozia Tabasum
TCLP - Extraction Fluid		6706509	N/A	2020/05/02	Fozia Tabasum
TCLP - Initial and final pH	PH	6706510	N/A	2020/05/02	Fozia Tabasum
TCLP Zero Headspace Extraction		6708988	2020/05/04	2020/05/05	Fozia Tabasum
VOCs in ZHE Leachates	GC/MS	6710086	2020/05/05	2020/05/05	Juan Pangilinan



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VERITAS

BV Labs Job #: COA5594
Report Date: 2020/05/11

AiMS Consulting Environmental Services
Client Project #: AR128A-19
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Sampler Initials: DK

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.7°C
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Report revised [2020/05/11]: Criteria revised.

Results relate only to the items tested.



BUREAU VERITAS

BV Labs Job #: C0A5594
Report Date: 2020/05/11

QUALITY ASSURANCE REPORT

AIMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
6707600	Decachlorobiphenyl	2020/05/02	117	60 - 130	109	60 - 130	106	%				
6710086	Leachable 4-Bromofluorobenzene	2020/05/05	102	70 - 130	101	70 - 130	94	%				
6710086	Leachable D4-1,2-Dichloroethane	2020/05/05	99	70 - 130	101	70 - 130	102	%				
6710086	Leachable D8-Toluene	2020/05/05	105	70 - 130	103	70 - 130	94	%				
6713942	Leachable D10-Anthracene	2020/05/07	123	50 - 130	124	50 - 130	118	%				
6713942	Leachable D14-Terphenyl (FS)	2020/05/07	101	50 - 130	104	50 - 130	96	%				
6713942	Leachable D8-Acenaphthylene	2020/05/07	102	50 - 130	102	50 - 130	96	%				
6704283	Moisture	2020/04/30							6.7 (1)	20		
6707600	Aroclor 1016	2020/05/02					<0.010	ug/g				
6707600	Aroclor 1221	2020/05/02					<0.010	ug/g				
6707600	Aroclor 1232	2020/05/02					<0.010	ug/g				
6707600	Aroclor 1242	2020/05/02					<0.010	ug/g	NC (1)	50		
6707600	Aroclor 1248	2020/05/02					<0.010	ug/g	NC (1)	50		
6707600	Aroclor 1254	2020/05/02					<0.010	ug/g	NC (1)	50		
6707600	Aroclor 1260	2020/05/02	107	30 - 130	98	30 - 130	<0.010	ug/g	NC (1)	50		
6707600	Aroclor 1262	2020/05/02					<0.010	ug/g				
6707600	Aroclor 1268	2020/05/02					<0.010	ug/g				
6707600	Total PCB	2020/05/02	107	30 - 130	98	30 - 130	<0.010	ug/g	NC (1)	50		
6708403	Leachable Arsenic (As)	2020/05/04	98	80 - 120	100	80 - 120	<0.2	mg/L	NC (1)	35	<0.2	mg/L
6708403	Leachable Barium (Ba)	2020/05/04	98	80 - 120	105	80 - 120	<0.2	mg/L	NC (1)	35	<0.2	mg/L
6708403	Leachable Boron (B)	2020/05/04	101	80 - 120	83	80 - 120	<0.1	mg/L	20 (1)	35	<0.1	mg/L
6708403	Leachable Cadmium (Cd)	2020/05/04	99	80 - 120	99	80 - 120	<0.05	mg/L	NC (1)	35	<0.05	mg/L
6708403	Leachable Chromium (Cr)	2020/05/04	95	80 - 120	96	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
6708403	Leachable Lead (Pb)	2020/05/04	90	80 - 120	95	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
6708403	Leachable Mercury (Hg)	2020/05/04	102	80 - 120	106	80 - 120	<0.001	mg/L	NC (1)	35	<0.001	mg/L
6708403	Leachable Selenium (Se)	2020/05/04	102	80 - 120	105	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
6708403	Leachable Silver (Ag)	2020/05/04	94	80 - 120	97	80 - 120	<0.01	mg/L	NC (1)	35	<0.01	mg/L
6708403	Leachable Uranium (U)	2020/05/04	93	80 - 120	99	80 - 120	<0.01	mg/L	NC (1)	35	<0.01	mg/L
6708468	Leachable Fluoride (F-)	2020/05/04	87	80 - 120	93	80 - 120	<0.10	mg/L	0.45 (1)	25	<0.10	mg/L
6708473	Leachable Nitrate (N)	2020/05/04	95	80 - 120	99	80 - 120	<1.0	mg/L	0.26 (1)	25	<1.0	mg/L
6708473	Leachable Nitrate + Nitrite (N)	2020/05/04	99	80 - 120	100	80 - 120	<1.0	mg/L	0.26 (1)	25	<1.0	mg/L



BUREAU VERITAS

BV Labs Job #: C0A5594
Report Date: 2020/05/11

QUALITY ASSURANCE REPORT(CONT'D)

AIMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
6708473	Leachable Nitrite (N)	2020/05/04	116	80 - 120	104	80 - 120	<0.10	mg/L	NC (1)	25	<0.10	mg/L
6708474	Leachable WAD Cyanide (Free)	2020/05/04	98	80 - 120	102	80 - 120	<0.0020	mg/L	NC (1)	20	<0.010	mg/L
6710086	Leachable 1,1-Dichloroethylene	2020/05/05	101	70 - 130	101	70 - 130	<0.020	mg/L				
6710086	Leachable 1,2-Dichlorobenzene	2020/05/05	98	70 - 130	97	70 - 130	<0.050	mg/L				
6710086	Leachable 1,2-Dichloroethane	2020/05/05	99	70 - 130	102	70 - 130	<0.050	mg/L				
6710086	Leachable 1,4-Dichlorobenzene	2020/05/05	105	70 - 130	102	70 - 130	<0.050	mg/L				
6710086	Leachable Benzene	2020/05/05	100	70 - 130	101	70 - 130	<0.020	mg/L	NC (1)	30		
6710086	Leachable Carbon Tetrachloride	2020/05/05	94	70 - 130	95	70 - 130	<0.020	mg/L				
6710086	Leachable Chlorobenzene	2020/05/05	96	70 - 130	95	70 - 130	<0.020	mg/L				
6710086	Leachable Chloroform	2020/05/05	92	70 - 130	93	70 - 130	<0.020	mg/L				
6710086	Leachable Methyl Ethyl Ketone (2-Butanone)	2020/05/05	113	60 - 140	113	60 - 140	<1.0	mg/L				
6710086	Leachable Methylene Chloride (Dichloromethane)	2020/05/05	90	70 - 130	91	70 - 130	<0.20	mg/L				
6710086	Leachable Tetrachloroethylene	2020/05/05	91	70 - 130	91	70 - 130	<0.020	mg/L				
6710086	Leachable Trichloroethylene	2020/05/05	97	70 - 130	99	70 - 130	<0.020	mg/L				
6710086	Leachable Vinyl Chloride	2020/05/05	106	70 - 130	105	70 - 130	<0.020	mg/L				
6713942	Leachable Benzo(a)pyrene	2020/05/07	116	50 - 130	112	50 - 130	<0.10	ug/L	NC (1)	40		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Duplicate Parent ID



BUREAU
VERITAS

BV Labs Job #: COA5594
Report Date: 2020/05/11

AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Brad Newman, Scientific Service Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



6740 Campobello Road, Mississauga, Ontario L5N 2L8
 Phone: 905-872-5700 Fax: 905-817-5777 Toll Free: 800-563-6266
 CAM FED 01191/5

CHAIN OF CUSTODY RECORD

Page 1 of 1
 Turnaround Time (TAT) Required

Invoice Information Company Name: AIMS Environmental Consulting Services Contact Name: Ferry Fong Address: 1020 Denison Street, Suite 111 Markham, ON, L3R 3W5 Phone: 905-474-0058 ext 102 Fax: 905-474-0601 Email: ffong@aimsconsulting.com		Report Information (if differs from invoice) Company Name: AIMS Environmental Consulting Services Contact Name: Damian Khan Address: 1020 Denison Street, Suite 111 Markham, ON, L3R 3W5 Phone: 905-474-0058 ext. 106 Fax: 905-474-0601 Email: dkhan@aimsconsulting.com		Project Information (where applicable) Duration #: _____ P.O. # / A/E #: _____ Project #: AR1286-19 Site Location: 395-401 Queensway West Site #: _____ Date Required: _____ Site Location Province: ON Rush Confirmation #: _____ Submitted By: DK	
Regulation 153 <input type="checkbox"/> Table 1 <input type="checkbox"/> Rec/Park <input type="checkbox"/> Med/Fine <input checked="" type="checkbox"/> Table 2 <input checked="" type="checkbox"/> Ind/Comm <input type="checkbox"/> Garage <input type="checkbox"/> Table 3 <input type="checkbox"/> Agri/ Other <input type="checkbox"/> Table _____ FOR RSC (PLEASE CIRCLE) Y / N		Other Regulations <input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> MISA <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> PWDD <input type="checkbox"/> Region _____ <input type="checkbox"/> Other (Specify) _____ <input checked="" type="checkbox"/> REG 558 (MIN. 3 DAY TAT REQUIRED)		Analysis Requested REG 153 METALS REG 153 CMMS METALS REG 153 METALS & INORGANICS VOCs PHOSPH- P4 BTEX PHC P4 # OF CONTAINERS SUBMITTED FIELD FILTERED (CIRCLE) Metals / hg / cvn TPC Package 2 FMS HOLD- DO NOT ANALYZE	
LABORATORY USE ONLY CUSTODY SEAL Y / N Present <input type="checkbox"/> Intact <input checked="" type="checkbox"/> COOLING MEDIA PRESENT (Y / N) _____ COMMENTS Composite of BHP-2 and BHP-3		RECEIVED BY: (Signature/Print) _____ DATE: (YYYY/MM/DD) 2020/04/29 TIME: (HH:MM) 14:50		RECEIVED BY: (Signature/Print) _____ DATE: (YYYY/MM/DD) 2020/04/29 TIME: (HH:MM) 14:57	
RELINQUISHED BY: (Signature/Print) _____ DATE: (YYYY/MM/DD) 2020/04/29 TIME: (HH:MM) 14:50		RELINQUISHED BY: (Signature/Print) _____ DATE: (YYYY/MM/DD) 2020/04/29 TIME: (HH:MM) 14:57		DATE: (YYYY/MM/DD) 2020/04/29 TIME: (HH:MM) 14:57	

UNLESS OTHERWISE AGREED TO IN WRITING, WORKS SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS LABORATORIES' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY OUR TERMS AVAILABLE AT: <http://www.bvlabz.com/terms-and-conditions>

29-Apr-20 14:57

Sara Singh
 C0A5594

KVG ENV-753



BUREAU
VERITAS

BV Labs Job #: COA5594
Report Date: 2020/05/11

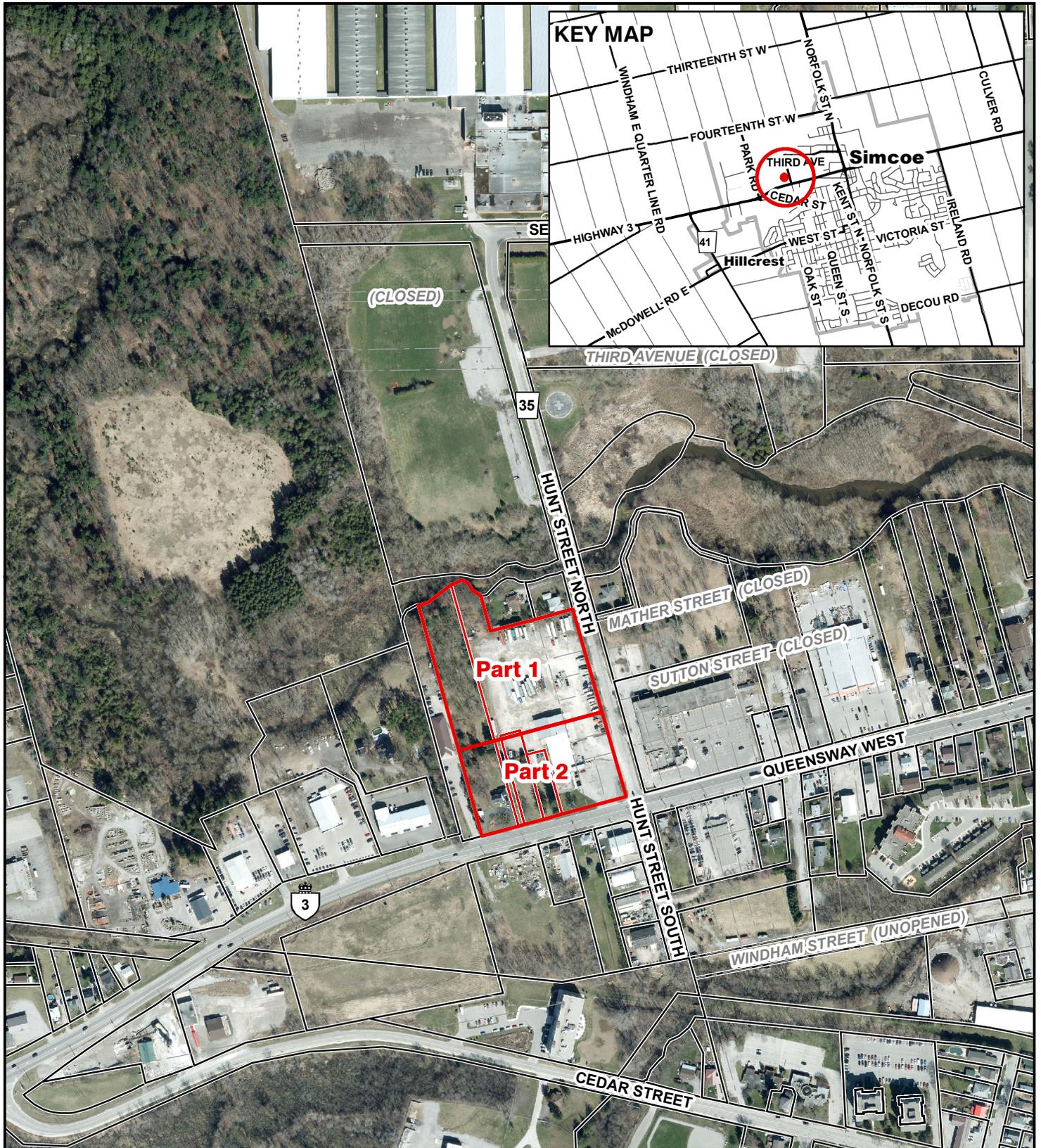
AiMS Consulting Environmental Services
Client Project #: AR128A-19
Site Location: 395-401 QUEENSWAY WEST
Sampler Initials: DK

Exceedance Summary Table – Regulation 558/00
Result Exceedances

Sample ID	BV Labs ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						

MAP A
CONTEXT MAP
 Urban Area of SIMCOE

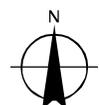
OPNPL2023206
 ZNPL2023207



Legend

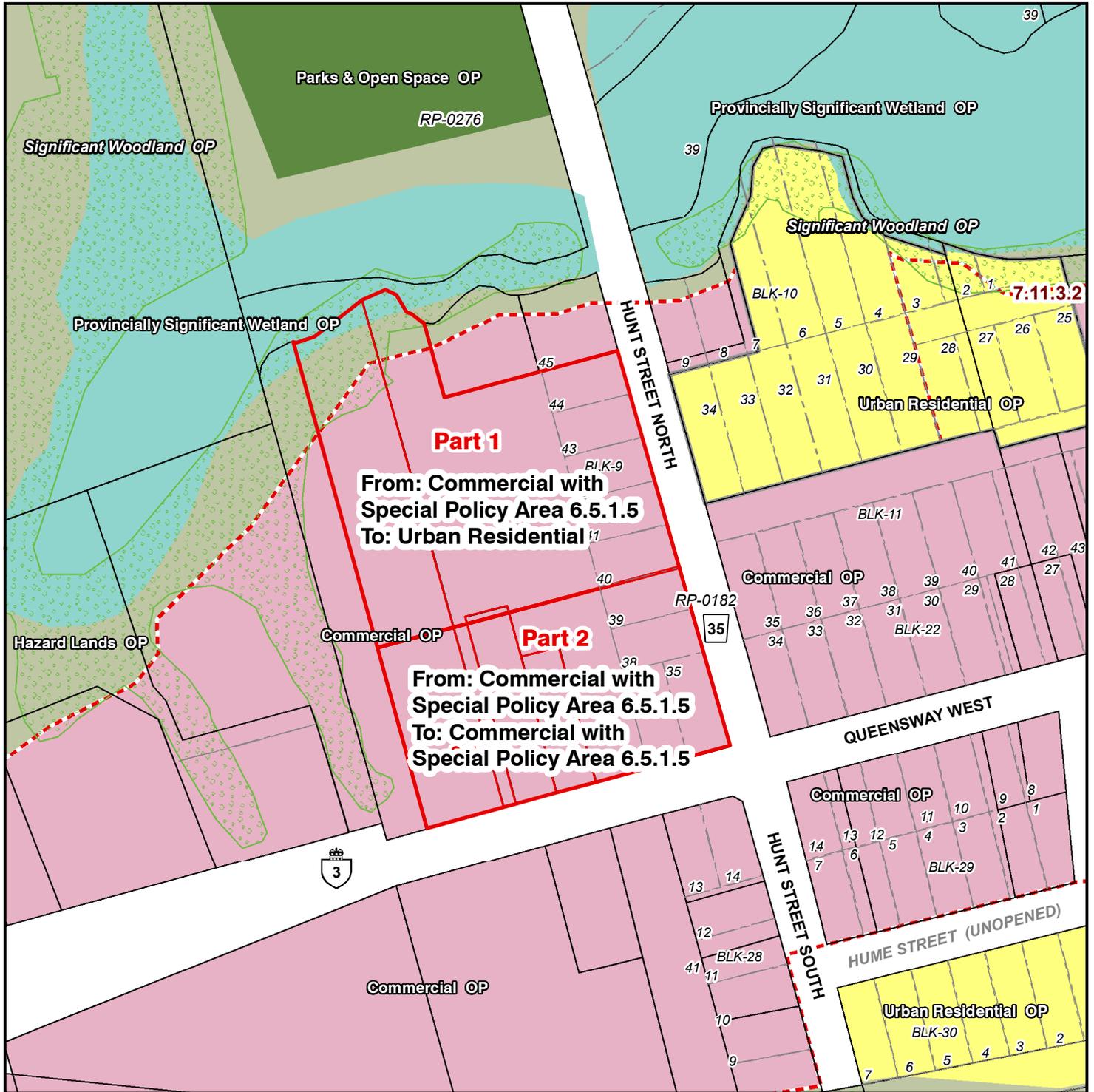
- Subject Lands
- Lands Owned
- 2020 Air Photo

7/18/2023



MAP B
PROPOSED OFFICIAL PLAN AMENDMENT MAP
 Urban Area of SIMCOE

OPNPL2023206
 ZNPL2023207



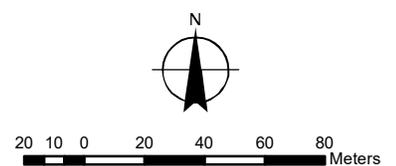
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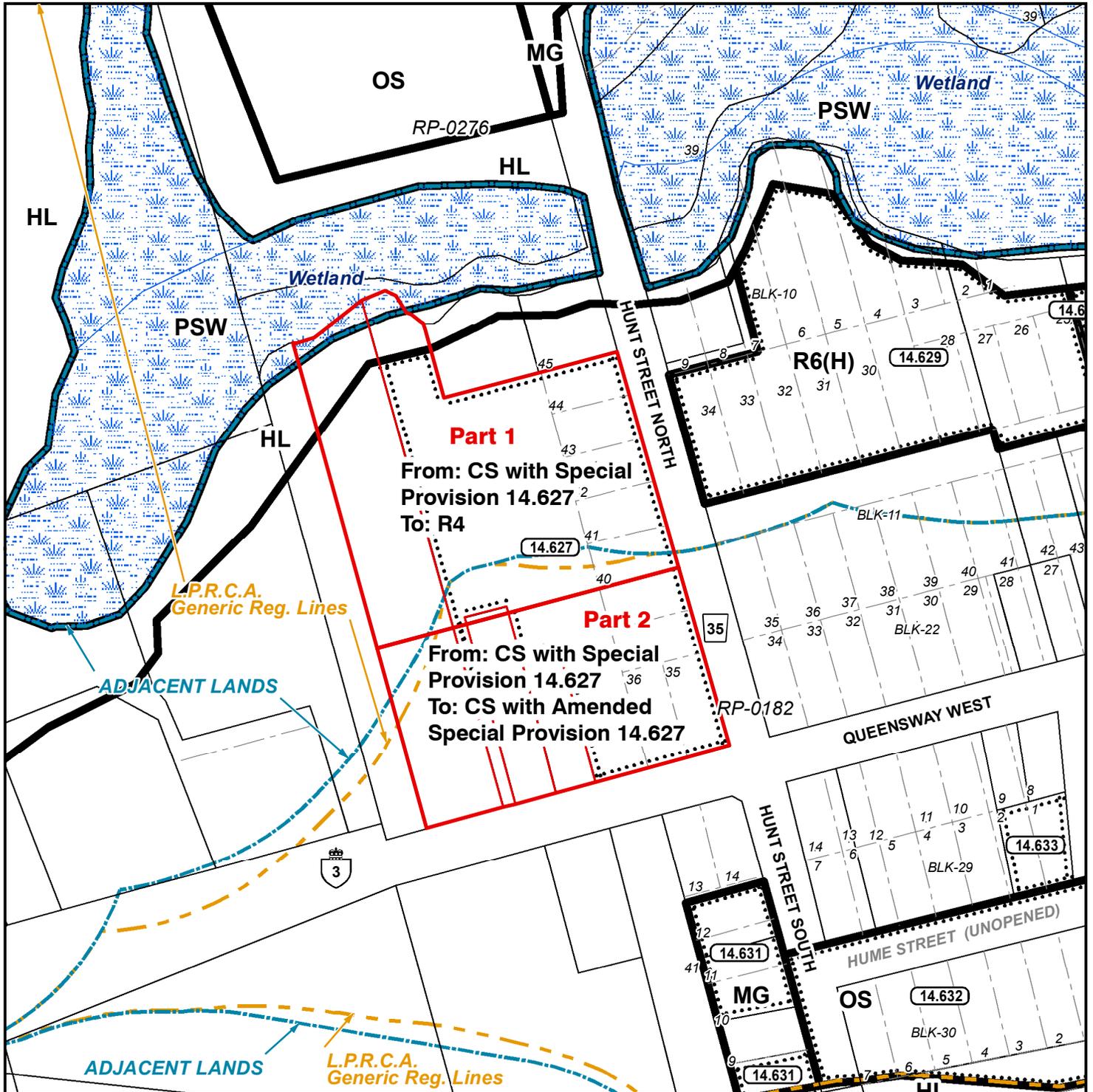
- Subject Lands
- Lands Owned

Official Plan Designations

- | | |
|---|---|
| Hazard Lands | Parks & Open Space |
| Provincially Significant Wetland | Special Policy Area |
| Urban Residential | Urban Area Boundary |
| Commercial | Significant Woodland |
| Protected Industrial | |

7/18/2023





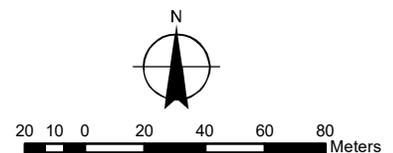
ZONING BY-LAW 1-Z-2014

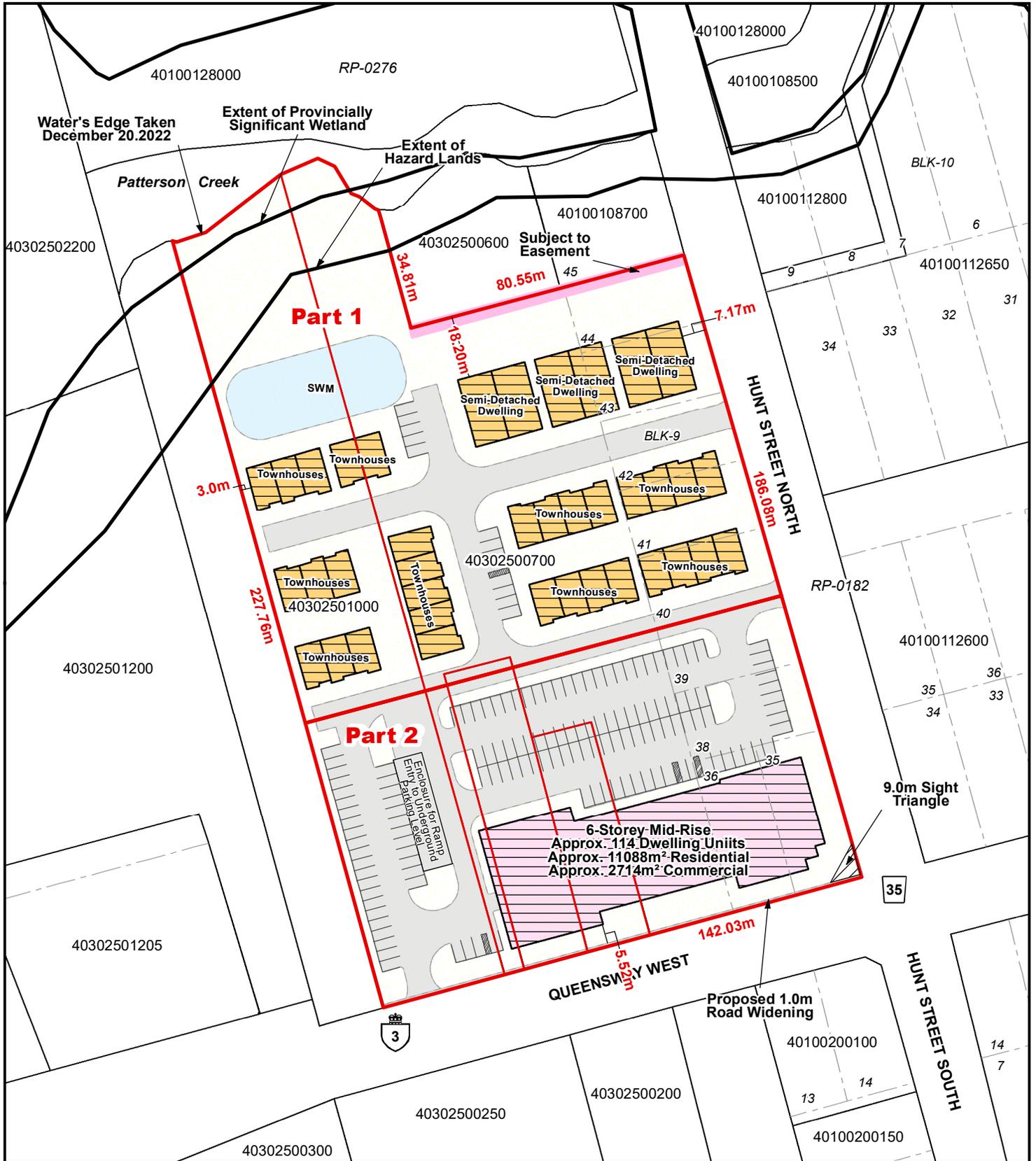
7/18/2023

LEGEND

-  Subject Lands
-  Lands Owned
-  Adjacent Lands
-  Wetland
-  LPRCA Generic RegLines

- (H) - Holding
- CS - Service Commercial Zone
- MG - General Industrial Zone
- HL - Hazard Land Zone
- OS - Open Space Zone
- PSW - Provincially Significant Wetland Zone
- R6 - Residential R6 Zone





Legend

- Subject Lands
- Lands Owned

