WEST HANTS REGIONAL MUNICIPALITY
Committee of the Whole - Meeting Agenda Amended
May 11, 2021 - 6:00 p.m.
Virtual via Zoom
(also FB Livestream)

Agenda is subject to change due to additions that may not be able to be reflected until after the meeting.

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1. Call to Order

2. Attendance

3. Approval of the Agenda, including additions or deletions
   a) Dashboard Action Items – Information Log

4. Declaration(s) of Conflict of Interest

5. Announcements

6. Approval of Previous Meeting Minutes
   a) 2021-04-13 Committee of the Whole minutes

7. Presentations
   a) Environment - Eli Strum, Student, Falmouth District School
   b) Stormwater Management and Flooding Issues (Falmouth) – Logan King and Glenn Woodford, DesignPoint

8. Unfinished Business/Postponed Motions
   a) Rural Internet Service for NS (standing item)
   b) Dangerous or Unsightly Premises – Old Textile Mill (standing item)
   c) Hantsport Fire Station Build – Information Report

9. Reports
   a) CAO Activity Update – Information Report

10. Correspondence
    a) Information
       i. Avon Causeway Activity Log
          1. Andrew Smiley (May 2, 2021)
          2. Barbara Sullivan (May 6, 2021)
          3. Carrilee Eddy (May 3, 2021)
          4. David & Michelle Rideout (May 5, 2021)
          5. Denise Forand (Apr 27, 2021)
          6. Erin Naugler (May 2, 2021)
          7. Ginette Pitcher (May 3, 2021)
          8. Greg Miller (May 5, 2021)
          9. Janet Comeau (May 2, 2021)
          10. Kristyn Anderson (May 2, 2021)
          11. Laura Fisher (Apr 1, 2021)
          12. Marie & Andrew Connolly (May 6, 2021)
          13. Nick Rafuse (May 3, 2021)

14. Nicole McLeod (May 2, 2021)
15. Robyn Cook (May 2, 2021)
16. Sandra & Skip Hogan (May 6, 2021)
17. Scott Miniou & Adrienne Wood (May 3, 3021)
18. Sheldon Hope (May 2, 2021)
19. Sylvia & Vince Burgess (May 5, 2021)
20. Tammy Hilden (May 2, 2021)
21. Tracey Sexton (May 3, 2021)
22. Adrienne Wood (May 7, 2021)
23. Cam Hartley (May 7, 2021)
24. Karen Carrigan (May 7, 2021)
25. Lisa Hines (May 7, 2021)
26. Troy & Vicki Harvie (May 7, 2021)
27. Jenn McDermott (May 8, 2021)
28. Jennifer Daniels (May 9, 2021)
29. Krista & Colin Duncan (May 9, 2021)
30. Robin Bremner-Popma (May 7, 2021)
31. Roslyn MacDuff, Darlene Taylor, & Barb Hughes (May 8, 2021)
32. Wayne & Dianne Hines (May 9, 2021)
33. Ann MacArthur (May 10, 2021)
34. Bob & Sandra Langdon (May 10, 2021)
35. Brad Hood (May 10, 2021)
36. Carol Anne Casey (May 10, 2021)
37. Ed & Cathy Kerr (May 10, 2021)
38. Sarah MacDonald (May 10, 2021)
39. Andre and Donna Arsenault (May 11, 2021)
40. Carol MacKenzie and David Perry (May 11, 2021)
41. Rhea and Art Noiles (May 11, 2021)

ii. Dept of Mun Affairs (Apr 27, 2021) - 12-Months' Notice

iii. Canadian Federation of Independent Business (CFIB) (May 5, 2021) - Construction Mitigation

iv. Safe Restart Fund NS Quick Reference Guide (May 2021)

v. Dept. of Transportation and Active Transit (Apr. 21, 2021) – Response to WHRM letters of March 4 and April 7, 2021 re. Need for Bog Rd to be repaired

b) Requests (for discussion)
   i. Southwest Hants Fire Society (May 5, 2021) - Capital Budget Rescue Boat Request

11. New Business
   a) Asphalt Paving Services Standing Offer Contract (WWHPW21-04) - Recommendation Report
   b) Municipal Complexes Appraisals (76 Morison Drive PID # 45148731 and 100 King Street PID#s 45057742, 45057734, & 45057759) – Information Report
   c) 65 Fort Edward – Surplus Lands – Recommendation Report
   d) Newport Station Food Hub Paving Driveway – Information Report
   e) Avon River Causeway Gate – Recommendation Report

12. Public Participation Period

13. In-Camera
    a) 2021-04-13 COTW In-camera meeting minutes approval
    b) Land Matter – MGA S. 22(2)
    c) Land Matter – MGA S. 22(2)

14. Next Meeting Date / Adjournment

M - Motion
D - Direction/Discussion

West Hants Regional Municipality
Dashboard (Action List)
May 4, 2021

Green - Complete
Yellow - In-progress
Red - Not started

Matter	Meeting	M/D	Start Date	Deadline / Update	Status	Resp.
Internet Access Business Plan - CAO to initiate process for dev of a business plan to present to Council (may req. consultation with market/industry experts for the delivery of high-speed internet access for WHRM residents. (Cross-ref with 2020-09-08 COTW direction)	Council	M	2020-04-28 (M) 2020-09-08 (D)	As per 2021-02-09 COTW; revisit in 6 mths		CAO
Sewer Billing Review - Staff explore what the sewer rates would be if sewer util. fees were put back on the taxes. **(Tabled until after budget) (Also at 2020-04-14 COTW mtg)**	COTW	M	2020-05-12			CAO/Fin
Asset Mgmt (Strategic Sustainability) - Strategic Sustainability Plan is needed	COTW	D	2020-05-12	On-going until approx. Oct. 2022		PW
Avon River Causeway (Aboiteau/Hwy. 101 Twinning) - CAO to initiate process for financial evaluation which may include feasibility study on potential economic opportunities that exist with each of the causeway/aboiteau options being considered with Hwy. 101 twinning proj. (Table motion until after Community Liaison Committee (CLC) meets)	COTW	M	2020-05-12			CAO
Branding for Region - proceed with Branding project	Council	M	2020-05-26	2021-07		CAO
Tax Structure (Blended Rates - restructuring of existing tax rate) - Staff and council to review over the next year.	COTW	D	2020-06-01	Budget Mtgs 2021-05		CAO/Fin
PID 45245578 and portions of 45182797, 45245560, 45245552, 45184025, and 45182904 (Cogmagun Lands) - purchase as per Letter of Offer presented at 2020-06-09 COTW in-camera	Council	M	2020-06-23			CAO

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Matter	Meeting	M/D	Start Date	Deadline / Update	Status	Resp.
James Salter (Funding Req) - Resurrection of wooden statue. Staff to meet with Mr. Salter re proposed project cost(s) and meet with Hantsport Fire Dept. to discuss potential preservation options & report back.	Council	M	2020-09-22	2021-05 (Mr. Salter has advised this isn't immediate)		CAO
Restaurants/Mobile Canteens - Staff review existing by-laws/policies/fees (incl sidewalk cafes and mobile vending units). Report to include info on location permissions as well as comparable fees in our region for similar services along with any recommended changes.	Council	M	2020-09-22	2021-06 COTW		CAO/ Planning
Pedestrian Signage and Barriers - Have consistent and align with Branding outcomes. Staff prepare report for 2021/22 Capital & Operating budgets. (These items should be incorporated into our growth centres). Staff report back.	Council	M	2020-09-22	Align with Branding outcomes 2021-07		PW/Comm. Dev
Comms Plan/Process for Staff-Council	Council	D	2020-09-22	2021-05		CAO
Diversity & Inclusion Committee (from Meeting & Committee Procedural Policy Amendments) - Advertise for Committee members and mobilize the committee	COTW	M	2020-10-13	2021-05 (also with Rad Consulting Engagement Sessions)		CAO
Burning Permit/Outdoor Fires - Staff review existing Fire-related by-laws	COTW	D	2020-11-10	2021-06		CAO/Fire Chiefs

M - Motion
D - Direction/Discussion

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Matter	Meeting	M/D	Start Date	Deadline / Update	Status	Resp.
In-Camera - (b) MGA 22(2)(a) Acquisition, Sale, Lease and Security of Municipal Property – Land Sale **-** Proceed with next steps/presentation **(2021-02-23 Item 16(c)** - Expend funds for property evaluation on Mun-owned properties	COTW Council	D M	2020-11-10 2021-02-23	2021-01 2021-05		CAO
W.B. Stephens Building Design Project Management - On-hold. Get appraisals of Morison & King St Complexes, review of staffing complement, and review parking availability at King.	Council	D	2020-11-24	2021-05		CAO
Service Contracts (discussed under Item 15(a)) - That staff forward a list (provide access) of all service contracts to Council so Council is aware and can look for potential cost-savings	Council	M	2021-01-26	2021-05		CAO
Bog Rd - Write letter monthly to TIR (and cc. Premier, Premier-elect, Minister Porter) that road needs to be repaired)	COTW	M	2021-02-09	2021-03 2021-04		CAO
Municipality Debt - Report back total breakdown of previous units and combined and further details (eg debenture info, interest rates, maturity dates, principal/interest amounts, etc)**.** Perhaps send by email by Fri, Feb. 26 and bring back to budget discussions	Council	D	2021-02-23	2021-05 Budget Discussions		Fin
Corres (NS Firefighters Benevolent Fund) - Review if capacity during budget meetings	COTW	D	2021-03-09	2021-05 Budget Mtgs		Fin
Water Information - Staff report back to Council on cost to produce water bill bi-monthly	COTW	D	2021-03-09	2021-06		Fin

M - Motion
D - Direction/Discussion

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Matter	Meeting	M/D	Start Date	Deadline / Update	Status	Resp.
Panuke Rd Event - Event to be arranged by Mayor	COTW	D	2021-03-09	2021-06		Mayor
Noise By-law - Staff revise by-law (Peace and Good Order)	Council	M	2021-03-23	2021-07		Planning/ CAO
Newport Corner Community Hall - Receive & list for sale	Council	M	2021-03-23	2021-06		CAO
Cheverie Land Exchange - Agree	Council	M	2021-03-23	2021-05		CAO
Valley REN - Mayor to arrange meeting of Councillors with Board members	Council	D	2021-03-23	2021-05		Mayor
Sewer Billing - Staff prepare education material for utility users	Council	D	2021-03-23	2021-06		CAO/Fin
Dangerous or Unsightly (old Textile Mill) - Staff to follow-up with property owners re. insurance. Owners granted a couple of months to address issues.	COTW	D	2021-04-13	2021-06		CAO
Avon Causeway - Send letter to Dept of Fisheries to get more information	COTW	M	2021-04-13	2021-05		CAO
By-law Enf Vehicle Tender Award - Staff get more info on purchasing, mileage, where does warranty work have to be done	COTW	D	2021-04-13	2021-04		Planning
Sports Complex Walking Track - Confirmation from Contractor and Murray Tate (Proj Engineer) that surface cracks are cosmetic and not structural	Council	M	2021-04-27	2021-05		Comm Dev/CAO

WEST HANTS REGIONAL MUNICIPALITY

Presenter/Presentation Overview

Date: May 11, 2021 Committee of the Whole Meeting

Name of Presenters & Organization: DesignPoint

Logan King and Glenn Woodford

Presentation Outline/Summary (Matter):

At the request of Municipal staff, we are to give a presentation regarding stormwater regulations and flooding issues in Falmouth, Nova Scotia.

Request of WHRM Council:

No specific request of Council action is being made at this time. We are only requesting that Council allow us to provide this information in a formal presentation.

Thank you for providing this information & a full copy of your presentation one full week ***BEFORE*** *the date you are scheduled to present to West Hants Regional Council to sthornton@westhants.ca !*

LOW IMPACT DEVELOPMENT (LID)



Falmouth/Windsor 1985 (Google Earth)



Falmouth/Windsor 2020 (Google Earth)

Presentation to Windsor / West Hants Council

May 11, 2021

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Effect of Property Development on Runoff

1. Increased impervious area / reduced pervious area
2. Increased volume of stormwater runoff
3. Reduced flow times
4. Increased peak flow
5. Increased contaminant concentration in runoff
6. Increased runoff temperature



Meadows Phase 2 Construction (DeisgnPoint)

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Incorporating LIDs

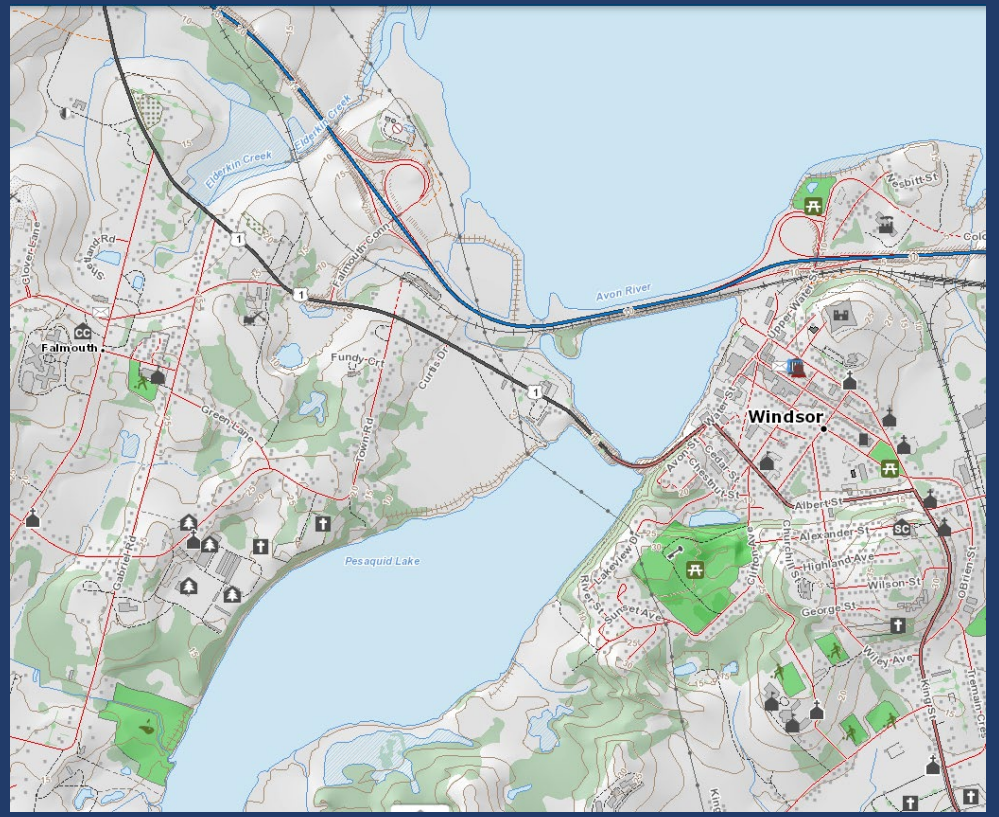
1. Low Impact Developments are proven, implemented methods to help “naturalize” developed property
2. Reduces stormwater runoff
3. Improves the quality of stormwater runoff
   - Removes suspended solids
   - Reduces temperature of runoff
   - Protects the environment
4. Recharges groundwater in area
5. Can improve aesthetics



Sackville River (Google Images)

Incorporating LIDs

1. Different LID measures have different efficacy depending on the area
2. Depends on:
   - Soil type / geology
   - Climate
   - Topography
3. Each site is unique
4. “One size fits all” does not apply



Windsor/Falmouth (Provincial Landscape Viewer)

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Common LID Methods

1. Pervious Paving
2. Rain Barrels
3. Green Roofs
4. Bio-Swales
5. Rain Gardens
6. Exfiltration Trenches / Perforated Pipe

Pervious Paving



Google Images

1. Can greatly reduce runoff / increase infiltration
2. Applicable for varying levels of permeability in native soils
3. Snow removal is problematic
4. Accessibility issues

Rooftop Catchment Systems (Rain Barrels)



Google Images

1. Helps reduce peak flow from developed site by storing runoff
2. Stored water can be used for landscaping purposes
3. Relies on individual home/building owners to operate/maintain
4. Does not significantly improve stormwater quality

Green Roofs

1. Applicable for large multi-unit, commercial, industrial, or institutional (MICI) buildings
2. Attenuates and treats stormwater runoff at the source
3. Helps absorb heat from sunlight
4. Permeability of native soils not of concern
5. Requires moderate maintenance
6. Good for rooftop area – does not help with impervious lot/road areas



Halifax Central Library Roof (Google Images)

Bioswales

1. Especially effective at improving stormwater quality
2. Moderate effectiveness for reducing peak flows
3. Regular maintenance required
4. Significant right-of-way width required

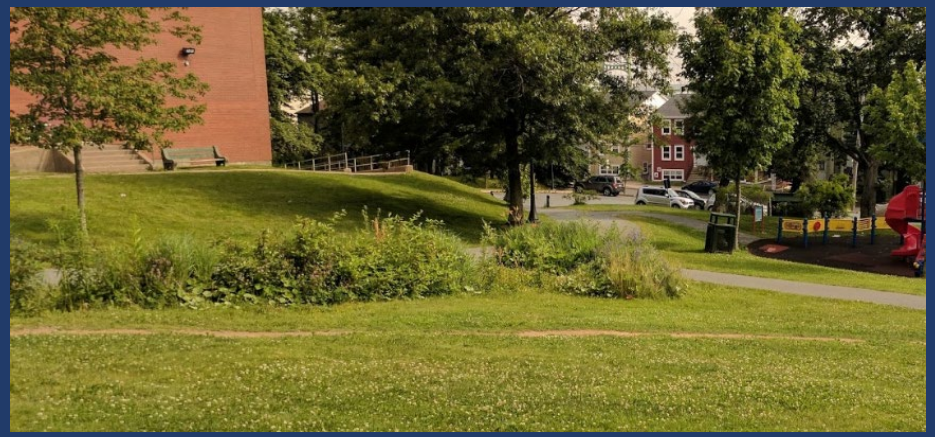


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Rain Gardens



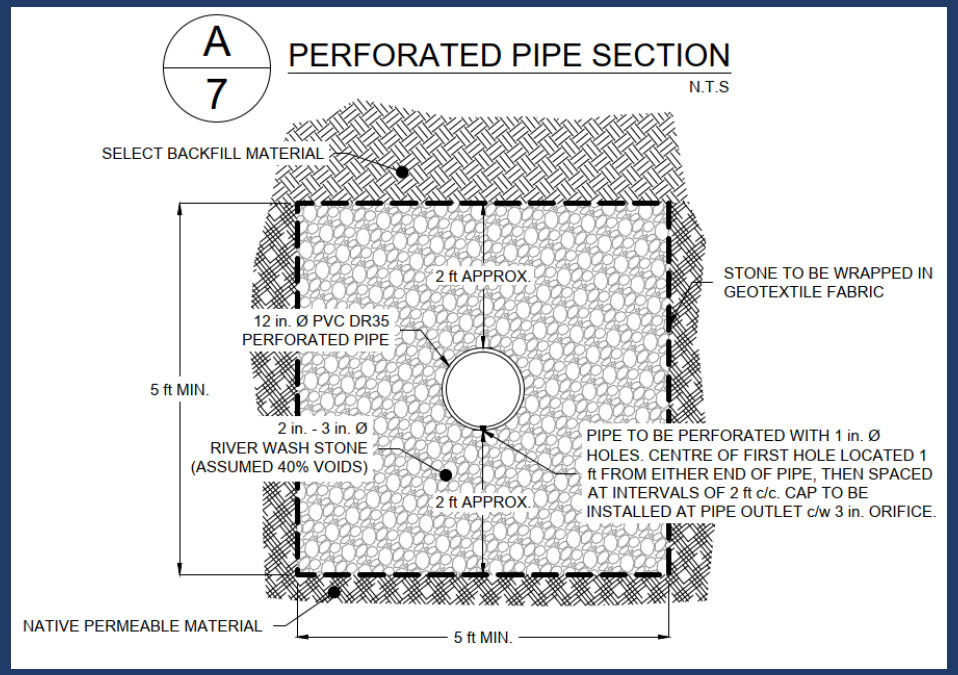
Google Images



George Dixon Centre – Halifax (Google Images)

1. Similar to bioswales, but typically located outside of street-right-of-way
2. Regular maintenance required
3. Varying levels of aesthetics

Exfiltration Trenches / Perforated Pipe



Meadows Phase 2 Design Drawings

1. Especially effective for areas with well-draining native soils (Much of WWH)
2. Can be incorporated at downstream extent of system
3. Minimal maintenance required
4. Does not require significant land area
5. Does not alter aesthetics

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Incorporating LIDs

1. LIDs have the potential for significant improvements to stormwater system
2. Effectiveness of LID measures will take time
3. Not an immediate fix
4. From CBCL study:
   - 27 out of 51 culverts exceed capacity without LID measures
   - 8 out of 51 culverts exceed capacity with LID measures
   - Assumes LIDs applied over entire watershed

How to Implement LIDs in Regulations?



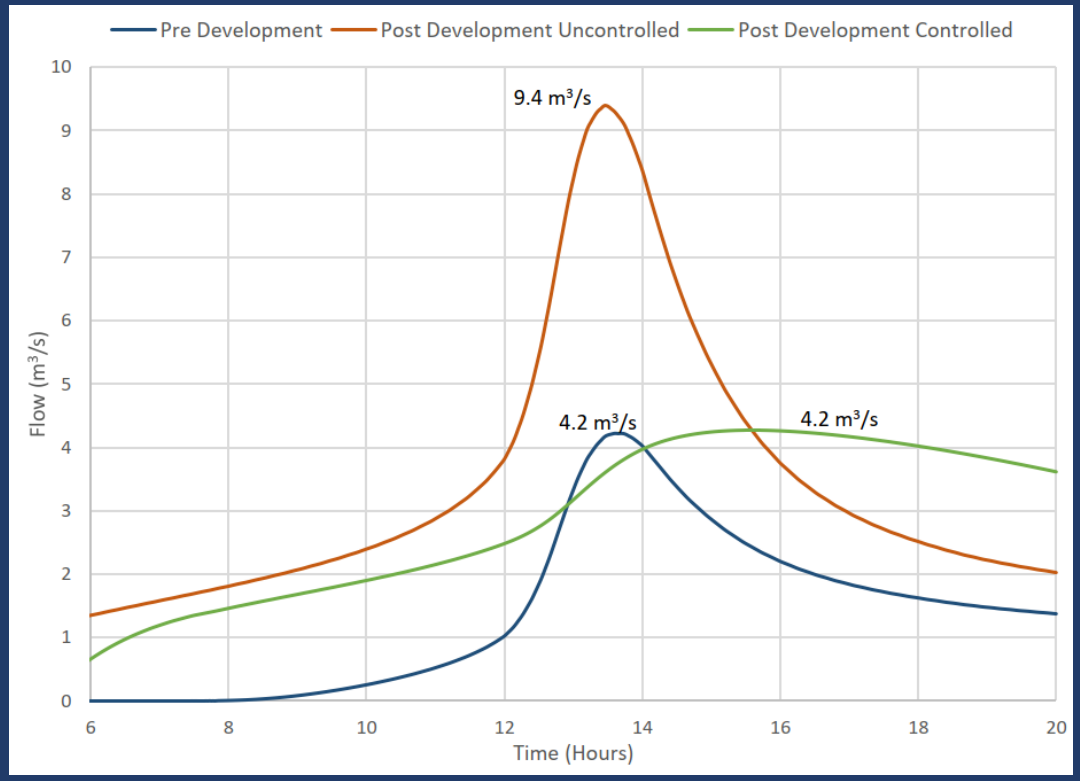
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1. Most effective approach would be for Province to update stormwater regulations to include LID measures
2. Would reduce cost to WWH and other municipalities
3. Would create “level playing field” between municipalities

How to Implement LIDs in Regulations?

1. WWH could implement own LID regulations
2. HRM currently only requires LID measures on multi-unit, industrial, commercial, and institutional (MICI) developments
3. LIDs will add costs to developments, reduce developable area
   - Less desirable for developers
   - Less taxable property
4. LIDs will add to operation and maintenance costs to WWH
   - Mowing/maintaining bioswales, rain gardens, green roofs
   - Cleaning out infiltration trenches / perforated pipe

Current Stormwater Regulations in WWH



Sackville Rivers Mitigation Planning Study (DesignPoint, 2020)

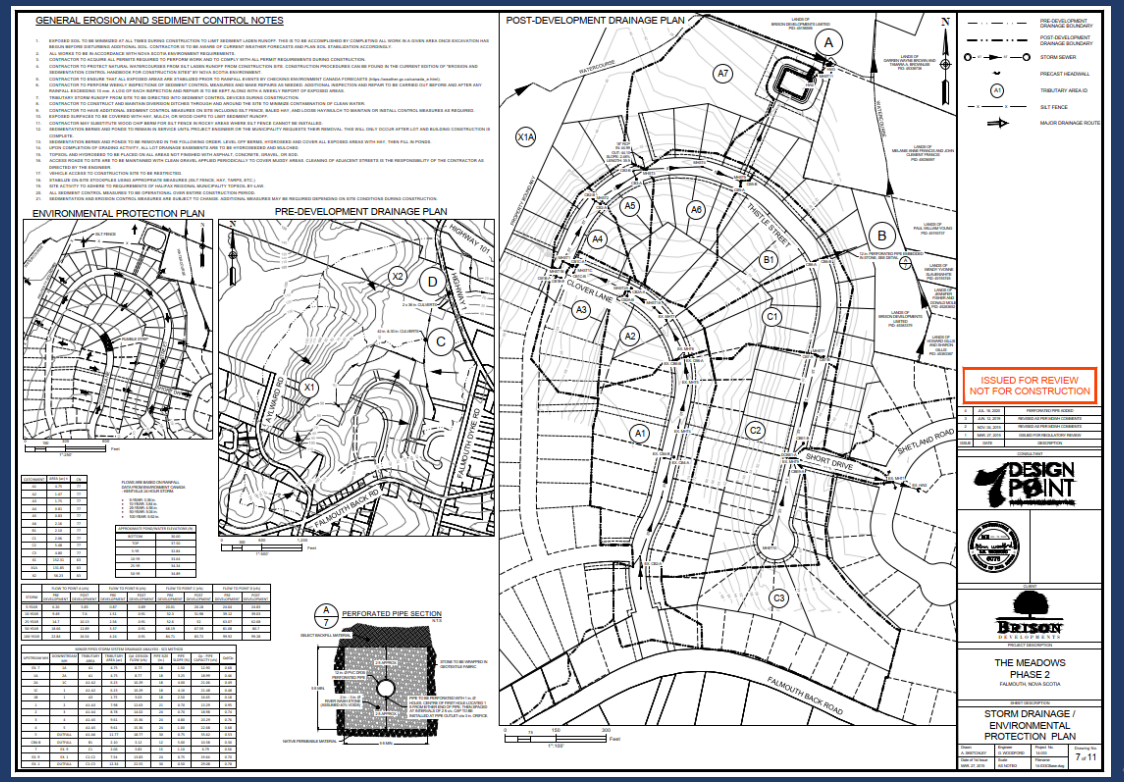
- Post-development peak runoff rate cannot exceed predevelopment rate
  - Protects downstream infrastructure
  - Longer duration high flows can result in increased volume of erosion/sedimentation of drainage systems
- Currently no measures for stormwater quality, only quantity

Current Stormwater Measures in WWH

- Stormwater detention ponds
  - Reduce post-development runoff flows
  - Provide some sedimentation of suspended solids in runoff
- Inlet control devices (ICDs)
  - Control amount of runoff allowed to enter the pipe system
  - Often use catch basin / parking lot as mini detention pond
  - Allow further sedimentation of suspended solids in “sump” of catch basin structure

Elderkin Creek / North Ditch Drainage Systems

1. Upstream subdivisions have generally been designed and constructed to the regulations at the time
   - Runoff from Meadows subdivision in accordance with Shetland Pond calculations from 2005 Storm Plan
   - Additional detention pond added as part of Phase 2 Meadows to reduce potential impacts on downstream infrastructure
2. If LID methods had been required, would have likely reduced downstream flows to Elderkin Creek / North Ditch



Meadows Phase 2 Design Drawings

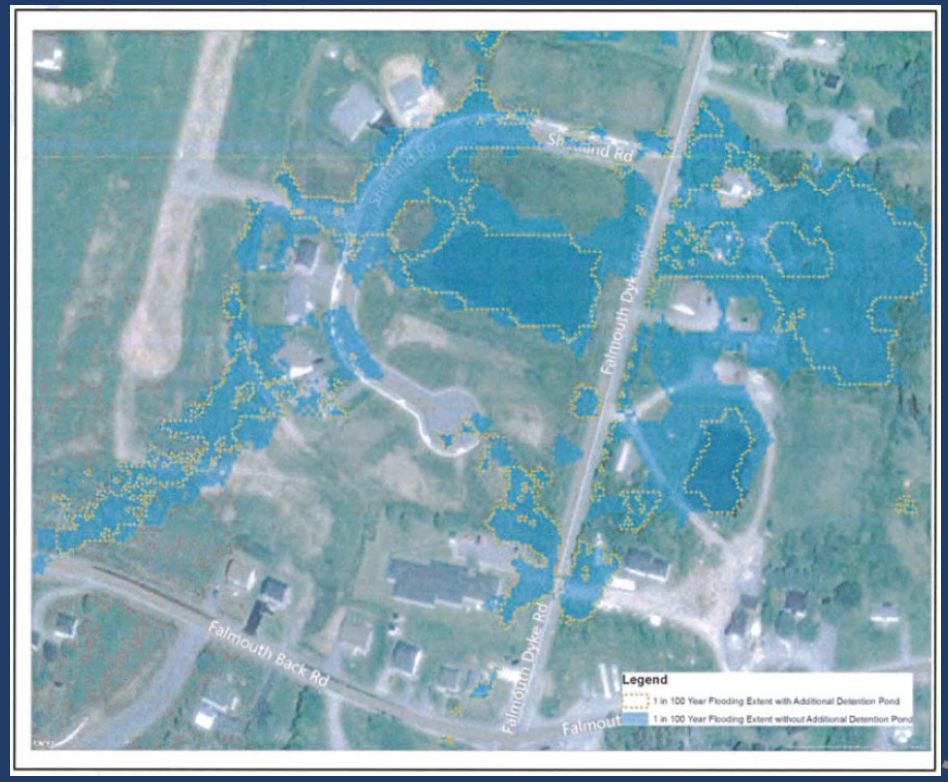
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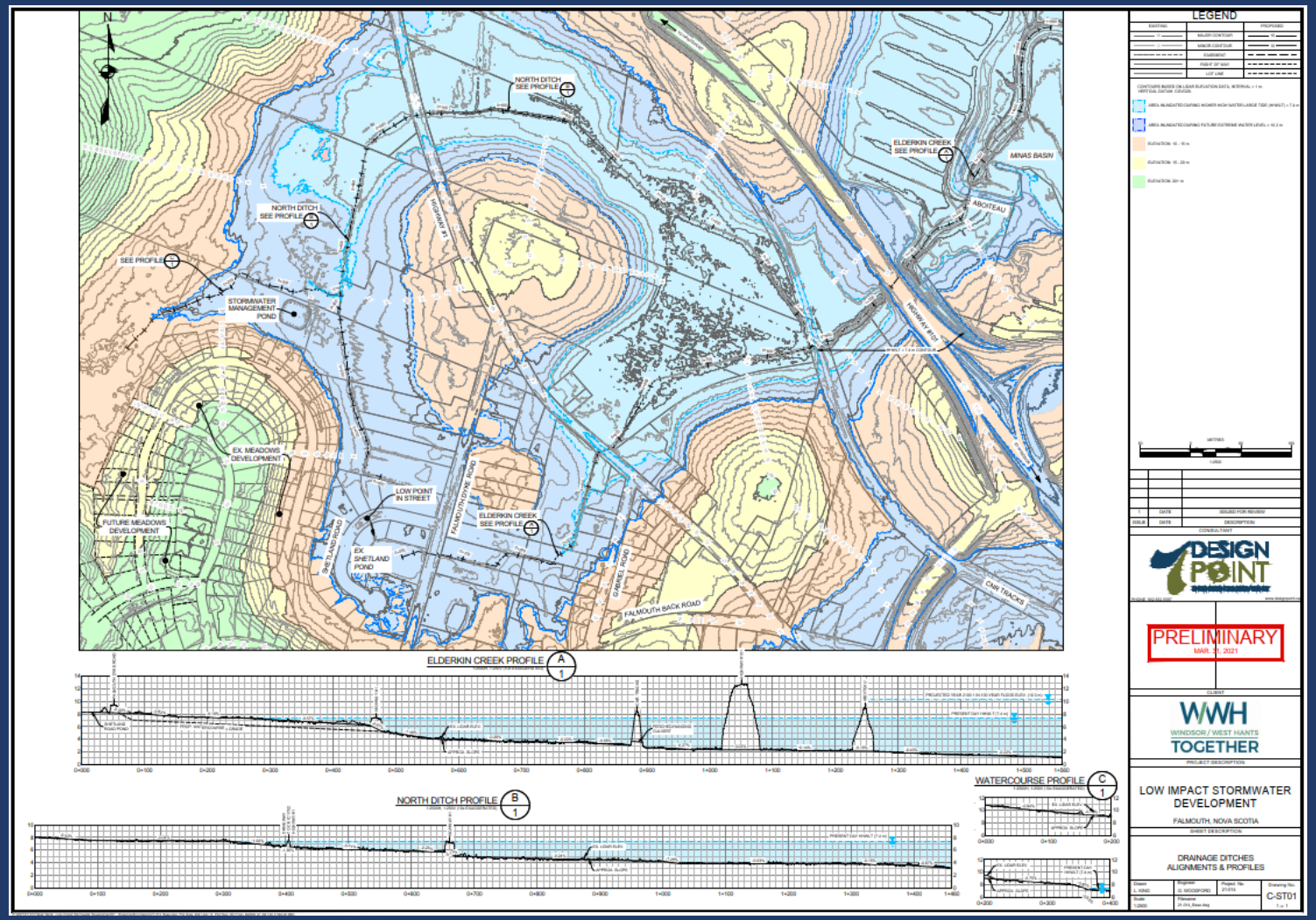
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CBCL 2016 Study

- “there are widespread flooding risks estimated in the community of Falmouth. The flooding in Falmouth is mainly caused by the insufficient drainage capacity and the flat landscapes within the community.”
- “the floodlines are not estimated to be significantly reduced under unrestricted flow conditions”
- “the culverts themselves are not the primary cause of flooding”
- “Flooding can therefore be explained in this case simply by either a lack of capacity in the floodplain, or by the fact that properties exist within the natural floodplain. This points to the fact that the flood extents of most areas are natural phenomenon that have likely been occurring since before the land was developed.”



Falmouth Stormwater Management Plan, CBCL, 2016



- Light Blue area shows HHWLT elevation only (7.4 m)
- Darker blue area includes storm surge and sea level rise (10.3 m)
- Storm Surge: 2-3 m
- Sea Level Rise: 0.5-1 m

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Comments / Questions



Elderkin Creek Downstream of Falmouth Dyke Road (DesignPoint, 2021)

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2018

Hantsport Fire Hall Renovation Feasibility Report: Final Report



Vincent den Hartog

Architect

3/26/2018

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Mandate:

The given mandate was to prepare a preliminary concept and construction budget for renovations to the existing fire hall. The intent would be that renovations be completed that will serve the fire department's needs for the next 2 to 3 decades. It is understood that this report will provide a comparison to building a new fire hall on a separate site as another means to meet the fire department's needs. The report is expected to be used as a discussion point around a request for funding for either a renovation of the existing facility or the construction of a new fire hall.

Assumptions:

It is understood that the neighbouring building on PID 45048188 is owned by the municipality and that it currently houses the area food bank, but has no other current uses. We were told that the building requires significant deferred maintenance. For the purposes of this report it is assumed that this building will be removed.

The existing fire hall has a community hall with a bar, and kitchen facility. It has been used for rental income. During our initial meeting we were told that the use of the hall for rental purposes has been discontinued due to conflicts that arise during fire calls. For the purpose of this report it is assumed that there is no community space within the fire hall program.

Any renovation plan for this site will have to be undertaken in a manner that maintains the Fire Department operations throughout the work. Therefore we have investigated potential solutions that would incorporate new truck bays as an addition to the building. Renovations to the existing building could be undertaken once the new addition is operational.

Tasks:

The tasks we have undertaken are as follows:

- Visual survey of the building to become familiar with the layout of the existing conditions
- Measurements of the existing conditions to prepare a base plan
- Photographic survey
- Review of the property survey information provided by the client
- Review of the property information available on Viewpoint.ca
- Preparation of a building program for the fire hall
- Preparation of a preliminary construction budget

Observations:

Based upon our review of the property information available on viewpoint.ca we have the following observations

1. There appears to be an encroachment of the existing fire hall building on the PID number 45043825. The existing building straddles that property. On Viewpoint.ca PID 45043825 is listed for sale. It is recommended that this situation be investigated and resolved prior to sale of that property, if indeed there is a conflict
2. There are three separate properties upon which the fire hall development is proposed. PID's 45048170, 45048188, and 45048162. It is noted that consolidation of the properties would likely be required to develop the renovation /addition project on this location.
3. Note that the building on PID 45048188 that is assumed to be demolished also appears to be encroaching with the railroad property.
4. Note that most of the existing parking area is actually on the rail right-of-way. Any new development, whether building or parking area, cannot be located on the rail right-of-way.
5. The total area of the PID's 45048170, 45048188, and 45048162 is only +- 24,000 sq.ft. This is less than half the area, 55,000 sq.ft., required to accommodate the building program. (see appendix A).

Based upon our visual survey of the building, we have the following observations;

1. The building has had several additions built over the years. Enough have been created that each new addition becomes more complex to achieve.
2. The original building does not have an energy efficient envelope. It appears to be mostly concrete block backup wall with veneer brick exterior, with little to no insulation. It was not possible to determine the composition of the existing roof during our site visit.
3. The size of the existing truck bays is inadequate for the fleet of apparatus. The doors are only a few inches wider than the trucks. In order to leave as much room as possible between the trucks and the gear lockers at the rear some of the trucks must be parked so close to the front doors that it is not possible to walk around the front of them (see photo 2, appendix C). The space between the trucks and the gear lockers is so narrow that in some places fire fighters are leaning against the truck to put on their gear. The situation is hazardous.
4. There is currently only one storage room for the fire department's use. It is not adequate.
5. There is no administrative space, and no designated meeting space or training space.
6. There is currently no exercise space or equipment.

Based upon an analysis of the preliminary building program versus the review of the site and existing building, we have the following observations;

1. The building program including the exterior space requirements for fire fighter parking is more than 2 times the size of the existing site, making it impossible to fit all the program requirements on this property.
2. We have illustrated the minimum space required to accommodate 30 fire fighter parking spaces on the existing site plan. It is clear that this cannot be accommodated on the site.
3. We have illustrated three options for new truck bays on the existing site plan. It is clear from this exercise that the addition of truck bays cannot be accommodated on the site. Also illustrated at the same scale as the site is an example for a parking lot of 30 vehicles for fire fighter parking. When compared to the existing site it is also clear that the number of parking spaces required for fire fighter parking cannot be accommodated on the existing site.
4. It is also desirable to have space in front of the truck bays to accommodate at least the full length of the trucks on the property. It is clear that this cannot be accommodated on this property.

Conclusions:

Upon our initial site visit it was apparent that existing fire hall is in need of significant upgrades to meet the functional requirements of the Fire department for the next 20 to 30 years. Current deficiencies include no administrative space, no showers, no exercise space or equipment, and no dedicated training space. The storage space for equipment is too small. All the laundry, storage and equipment is located in one small room.

The most glaring deficiency is the size of the truck bays themselves. The current apparatus barely fit within the building. The space remaining for the fire fighter gear lockers is so close to the trucks that the situation is not safe. There is no room for laying out hoses for drying.

As soon as we prepared the building program and compared it to the size of existing site it became clear that the existing site is simply not large enough to accommodate the needs of the Fire Department.

The existing site is approximately 24,000 sq.ft. The minimum lot size required to accommodate the building program is 55,000 sq.ft.

Although the program does not fit on the existing site, as a theoretical exercise only, we prepared a preliminary budget for a renovation on this property so that you could make some comparisons with construction costs for new fire-halls of similar size that have been built recently in the Annapolis Valley. The preliminary budget is presented with a high and low range.

Prepared by Vincent den Hartog, Architect

Appendix A: Preliminary Building Program

This program is preliminary, intended for review and acceptance by the Hantsport Fire Department.

It comprises information from visiting the new Canning Fire Hall and recent RFP for a new Fire Hall in Middleton. Both these fire departments have approximately 40-50 fire fighters, similar in size to Hantsport Department.

The building program states the user needs. The same program could be used for both a new build or to renovate the existing facility. When renovating the existing conditions might lead to modifying slightly the parameters due to the implications of changing specific things about the building.

Building Program

Trucks & Support: **8387 sq.ft.**

Truck bays: (5) 20'x70' bays. 7000sq.ft.
alternative (3) double length 20'x100' drive thru type 6000sq.ft.

- At least one bay shall be drive thru type
- The additional space at the back of truck bays accommodates space to lay hoses for drying.
- Ceiling height 20'
- Concrete hardener on floor surface
- Trucks (80,000 lbs)
- Cord reels are required to power trucks from above
- Garage doors 14'Wx 16'H min. to include vision lites

Fire Fighters Gear Stalls: 50 stalls 22'x36', 792 sq.ft.

- open wire locker bins 2'x 1'-6" dp.
- Ideally located adjacent to the truck bays, but planned so that there is no conflict with moving trucks and fire fighters accessing their gear
- Gear locker space should also be located conveniently adjacent to parking area where fire fighters arrive at the station

Radio Room: 8'x12' 96 sq.ft.

- visibility to front of truck bays and the street
- space for two people to work
- (2) chairs and work stations

Hazmat Storage: 5'x5' 25 sq.ft.

- exhaust directly to the outdoors

SCBA: 12’x15’ 180 sq.ft.

- breathing air equipment storage and refill
- shall have fresh air intake and exhaust

Laundry Room: 10’x15’ 150 sq.ft.

- industrial washer, specialty drying machine
- drying racks for gear

Tools & Equipment: 12’x12’ 144 sq.ft.

- Storage for equipment
- Work bench for repairs

Office & Administration: **1100 sq.ft.**

Fire Chief Office: 10’x12’ 120 sq.ft.

- (1) 30x60 desk, (1) desk chair
- (2) guest chairs, file, shelves

Office Storage: 8’x10’, 80 sq.ft.

- copier, files, storage shelves

Conference / Board Room: 15’x20’ 300 sq.ft.

- conference table and chairs for 14,
- AV equipment,
- storage cabinet

Training Room: 20’x30’ 600 sq.ft.

- fold up tables and chairs for 30 people
- AV equipment,
- storage cabinet

Fire Fighters’ Services: **1680 sq.ft.**

Exercise Room: 20’x24’, 480 sq.ft.

- (10) pieces of exercise equipment
- Flooring to be athletic rubber for weights

Club Room: 20'x30' 600 sq.ft.

- w/ kitchenette, sink, microwave, fridge, dishwasher, stove
- large screen TV , soft seating for 12,
- table and chairs for 8

Washrooms: 20'x30' 600 sq.ft.

- mens and womens with shower stalls 1 per gender /
- (2)WC ,
- (2) sinks,
- 1 shower stall in each
- Showers to be tiled, not prefab

Common Spaces: **400 sq.ft.**

Entrance Lobby: 10'x10' 100 sq.ft.

Utility: 20'x15' 300 sq.ft.

- Power entrance
- HVAC / heating equipment
- Water entrance

Subtotal: **11,550 sq.ft.**

Circulation space, mechanical space, walls and structure 20% 2,310 sq.ft.

Construction Area: **13,860 sq.ft.**

Exterior: **41,600 sq.ft.**

Fire Fighter Parking: up to 30 stalls with direct access to gear stalls area 10,500 sq.ft.

- Should be identified for fire fighter use only
- Easy access for arrival
- Easy access to fire hall
- 9'x18' typical parking stall size

Visitor Parking 600 sq.ft.

- 3-5 spaces / 9'x18'
- Adjacent to entrance lobby
- Ideally distant from fire fighter parking and front of truck bays

Space in front of truck bays 3500 sq.ft.

- There should be an area in front of the truck bays large enough that trucks can pull entirely out of the truck bays and be entirely within the property lines prior to pulling onto the street.

Landscaping & building setbacks 20,000 sq.ft.

Future Expansion area 7,000 sq.ft.

- Any project with a long term outlook should have a consideration for future expansion

The **minimum lot size** to accommodate the program identified above is **55,000 sq.ft. = 1.25 acres**

End Appendix A

Appendix B: Preliminary Renovation Budget

Optimistic Outlook:

New Addition: Truck Bays	6000 sq.ft. @ $100 / sq.ft.	$600,000.00
Renovations: Interior renovations	6000 sq.ft. @ $60 /sq.ft.	$360,000.00
Demolition Neighbouring building		$25,000.00
Demolition old kitchen addition		$10,000.00
Consolidation of land parcels:		$10,000.00
Exterior site upgrades:		$30,000.00
Subtotal:		**1,035,000.00**

Pessimistic Outlook:

New Addition: Truck Bays	7000 sq.ft. @ $125 / sq.ft.	$875,000.00
Renovations: Interior renovations	6500 sq.ft. @ $80 /sq.ft.	$520,000.00
Demolition Neighbouring building		$30,000.00
Demolition old kitchen addition		$15,000.00
Consolidation of land parcels:		$10,000.00
Exterior site upgrades:		$40,000.00
Subtotal:		**1,490,000.00**

The budget numbers above for renovation space do not address building energy efficiency of either the envelope or the mechanical or electrical systems.

End Appendix B

Appendix C: Photographs of existing conditions



Space at rear of trucks



No space between trucks and doors



Doors are barely wider than trucks



The only space for storage is too small to accommodate the current needs

ABLE
Engineering Services Inc.

4 Calkin Drive
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Phone: (902) 678-2774

4073 Highway #3
Chester, NS B0J 1J0
Phone: (902) 273-3050

5209 St. Margaret's Bay Road
Upper Tantallon, NS B3Z 1E3
Phone: (902) 820-3255

November 27, 2019

Municipality of the District of West Hants
PO Box 3000
Windsor, NS
B0N 2T0

RE: GEOTECHNICAL INVESTIGATION SUMMARY - PROPOSED NEW FIRE HALL BUILDING, HANTSPORT, NOVA SCOTIA

Dear Karrie:

At your request, ABLE Engineering Services Inc. has investigated the subsurface conditions for a proposed new building at a site located on Chittick Avenue, Hantsport, Nova Scotia. The following is a summary of the encountered conditions and recommendations for design and costing.

Currently, it is understood that a new building is proposed for construction. The structure will be founded on shallow foundations, and have main floor slab-on-grade. It is our understanding the site grade will be raised approximately 3 feet. A site sketch showing approximate test pit locations is enclosed.

SUBSURFACE CONDITIONS

The fieldwork for the investigation was carried out on November 26, 2019, and included the excavation of four (4) test pits at/near the proposed building area. Approximate test pit locations are indicated on the enclosed site plan. The investigation was carried out using a backhoe supplied by the Public Works Department.

In summary, the subsurface conditions encountered at the site were found to be variable. Generally, compact gravels were encountered overlying sandy gravelly fill over undisturbed site-native silty clay deposits. The sandy gravelly fill typically varied from compact to loose with depth. The silty clay deposits were typically compact, moist, and greyish in colour. These deposits were proven to a total depth of 5.0 feet at three test pits. Groundwater was not encountered in these three test pits; however, water was encountered at TP 4 at a depth of 1.5 .

/2

RECOMMENDATIONS

To prepare the building areas to receive foundations/slabs, it will be necessary to place a minimum of 3.5 to 4.0 feet of compacted structural fill over the entire building footprint, extending at least 5 feet the building limits.

Final design grades would dictate the quantity of fill required. Structural fill should consist of imported rock fill for a minimum of 3 feet, covered with geotextile filter fabric, followed by well-graded sand and gravel, with a maximum particle size of 8 inch, and a "fines" fraction not exceeding 10 percent. Fill should be placed in lifts not exceeding 12 inch thickness, and should be compacted to 100 percent of the materials standard proctor maximum dry density using a vibratory drum roller. If any wet conditions are encountered, it is strongly recommended that an approved crushed clean rockfill be used for the bottom lift(s) (i.e. 2 feet thickness). Geotechnical inspection and certification of engineered fill material placement is recommended.

During earthworks, water may be expected to enter excavations during precipitation events, as surface runoff or as seepage from within the soil strata. The rate of infiltration into shallow excavations is expected to be minor to moderate, and may be controlled by conventional dewatering techniques consisting of 75 to 100mm diameter portable pumps, and grading of excavations to sump locations. Water pumped from excavations is expected to contain "fines" and will require care in disposal. Provision for proper site drainage (in accordance with applicable municipal, provincial and federal environmental requirements) should be made at the construction stage.

During the current investigation, the test pits were backfilled at completion, and lightly compacted by the backhoe bucket. It should be noted the test pit backfill is loose and will settle. It is recommended that during construction at this site, the test pits in the building footprint (or trafficked areas) be re- excavated, and the material properly compacted. The fill material and the compaction effort should be as given above for structural fill. Under no circumstances should a structure be placed over the area of a test pit without reconstruction of the test pit backfill.

FOUNDATIONS

Footings placed on properly prepared engineered fill or undisturbed site-native alluvial deposits can be designed for an allowable soil bearing pressure of 3,000 psf (150 kPa). At this design, pressure total and differential settlements are not expected to exceed 1 and 3/4 inches, respectively.

Generally, foundations on engineered fill should be placed at a minimum depth of 4 feet below finished outside grade to maintain adequate frost protection.

REUSE OF ON-SITE MATERIALS AND BACKFILLING

Select portions of the pit run sand and gravel maybe considered suitable for reuse at the site as common material or, in some applications, as engineered fill. The reuse of on-site materials will be contingent to a large extent on the condition of the materials after excavation, handling and stockpiling, and the environmental quality.

To qualify as engineered wall backfill, all boulders, debris, and deleterious inclusions should be removed. Wall backfill should be placed in lifts not exceeding a 10 inch thickness, and compacted in-place to 95 percent standard proctor maximum dry density. A higher level of compaction (i.e. 98 percent) is recommended for backfill beneath load bearing areas.

FLOOR SLABS

Slab-on-grade floors for the proposed structures should be cast on a free-draining granular material (NSTIR Type 1, 1 inch clear, or equivalent), with a minimum thickness of 6 inches. This material should be compacted to 98 percent of the material's standard proctor maximum dry density. To reach the level of the under-slab base course, excavation/filling should be carried out in accordance with previous recommendations for foundation preparation.

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5209 St. Margaret's Bay Road
Upper Tantallon, NS B3Z 1E3
Phone: (902) 820-3255

COMMENTS ON CONSTRUCTION

The following comments on specific construction aspects of the project are provided for the guidance of designers. The contractor undertaking the work should make their own interpretation of the factual information provided in this report as it affects their construction procedures and scheduling.

The on-site soils are subject to loosening and softening in the presence of water. Construction methods and scheduling should reflect this. If construction takes place in the winter months, care must be taken not to allow freezing of sub-soils. Any fill or native soil that freezes must be sub-excavated and replaced.

Geotechnical inspection of structural fill preparation beneath building areas is strongly recommended.

Yours truly,

A. W. (Sandy) Dewar, P. Eng.
awd\ajs
hantsport fire hall geotechnical november 26, 2019

REGISTERED PROFESSIONAL ENGINEER
DATE 11/27/19
A.W. DEWAR
2937
PROVINCE OF NOVA SCOTIA

Appendix A

Explanation of Terms and Symbols

SYMBOLS AND TERMS USED ON THE BOREHOLE AND TEST PIT RECORDS

SOIL DESCRIPTION

Behavioural properties (i.e. plasticity, permeability) take precedence over particle gradation in describing soils.

Terminology describing soil structure:

Desiccated	-having visible signs of weathering by oxidation of clay minerals, shrinkage cracks etc.
Fissured	- having cracks, and hence a blocky structure
Varved	-composed of regular alternating layers of silt and clay
Stratified	- composed of alternating layers or different soil types, e.g. silt and sand or silt and clay
Well Graded	- having wide range in grain sizes and substantial amounts of all intermediate particle sizes
Uniformly Graded	- predominantly of one grain size.

Terminology used for describing soil strata based upon the proportion of individual particle size present:

Trace, or occasional	Less than 10%
Some	10-20%
Adjective (e.g. silty or sandy)	20-35%
And (e.g. silt and sand)	35-50%

The standard terminology to describe cohesionless soils includes the relative density, as determined by laboratory test or by the Standard Penetration Test 'N' - value: the number of blows of 140 pound (64 kg) hammer falling 30 inches (760 mm), required to drive a 2 inch (50.8 mm) O.D. split spoon sampler one foot (305 mm) into the soil.

Relative Density	'N' Value	Relative Density %
Very loose	<4	<15
Loose	4-10	15-35
Compact	10-30	35-65
Dense	30-50	65-85
Very Dense	>50	>85

The standard terminology to describe cohesive soils includes the consistency, which is based on undrained shear strength as measured by insitu vane tests, penetrometer tests, unconfined compression test, or occasionally by standard penetration tests.

Consistency	Undrained Shear Strength Kips/sq.ft.	kPa	'N' Value
Very Soft	<0.25	<12.5	<2
Soft	0.25-0.5	12.5-25	2-4
Firm	0.5-1.0	25-50	4-8
Stiff	1.0-2.0	50-100	8-15
Very Stiff	2.0-4.0	\00-200	15-30
Hard	>4.0	>200	>30

SOIL SAMPLES

CONDITION- This column graphically indicates the depth and condition of the sample:

 undisturbed [gJ disturbed not recovered

TYPE- The type of sample is indicated in this column as follows:

A auger sample
B block sample
C rock core, or frozen soil core
D drive sample
G grab sample
SS split spoon
P Pitcher tube sample
U tube sample (usually thin-walled)
W wash or air return sample
O other (see report text)

PENETRATION RESISTANCE- Unless otherwise noted this column refers to the number of blows (N) of a 140 pound (63.5 kg) hammer freely dropping 30 inches (0.76 m) required to drive a 2 inch (50.8 mm) O.D. open-end sampler 0.5 feet (0.15 m) to 1.5 feet (0.45 m) into the soil, or until 100 blows have been applied, in which case, the penetration is stated. This is the standard penetration test referred to in ASTM D 1586.

OTHER TESTS

In this column are tabulated results of other laboratory tests as indicated by the following symbols:

*C	Consolidation test
Fines	Percentage by weight smaller than #200 sieve
DR	Relative density (formerly specific gravity)
k	Permeability coefficient
*MA	Mechanical grain size analysis and hydrometer test (if appropiate)
pp	Pocket pentrometer strength
*q	Triaxial compression test
qu	Unconfined compressive strength
*SB	Shearbox test
SO_4	Concentration of water-soluble sulphate
*ST	Swelling test
TV	Torvane shear strength
VS	Vane Shear Strength (undistrubed-remolded)
Et	Unit strain at failure
y	Unit weight of soil or rock
Yd	Dry unit weight of soil or rock p Density of soil or rock
Pd	Dry density of soil or rock

*The results of these tests usually are reported separately

Appendix B

Test Pit Logs

TP1
TP2
TP4
TP3
Chittick Ave
Chittick Ave
Chittick Ave

Test Pit Record - Pit # 1

Owners Name: Hantsport Fire Hall

Subdivision/Location: Chittick Avenue, Hantsport, NS Date: November 26, 2019

Inspector/Engineer: Sandy Dewar & Alex de Sousa Weather: Sunny, 8C

See Figure 1 - Site Layout

Total Depth:	5.0 feet
Bedrock at:	N/A
Water Table:	N/A
Slope:	0-5%
Roots to:	N/A
Mottling at:	N/A

Permeability of soil in-situ:	
Design Flow	
Occupancy	

Soil Stratum	Soil Type	Thickness	Density	Moisture	Notes
Organic	N/A				
1st Layer	Gravel	0.0' – 1.0'	Compact	Dry	Top of Parking Lot
2nd Layer	Miscellaneous Gravelly Sand, Trace Organics	1.0'-4.0'	Loose	Damp	
3rd Layer	Medium Grey Silty Clay	4.0'-5.0	Dense		Bottom of Pit

Test Pit Record - Pit #2

Owners Name: Hantsport Fire Hall

Subdivision/Location: Chittick Avenue, Hantsport, NS

Date: November 26, 2019

Inspector/Engineer: Sandy Dewar & Alex de Sousa

Weather: Sunny, 8C

See Figure 1 - Site Layout

Total Depth:	5.0 feet
Bedrock at:	N/A
Water Table:	N/A
Slope:	0-5%
Roots to:	N/A
Mottling at:	N/A

Permeability of soil in-situ:	
Design Flow	
Occupancy	

Soil Stratum	Soil Type	Thickness	Density	Moisture	Notes
Organic	N/A				
1st Layer	Gravel	0.0' – 1.0'	Compact	Dry	Top of Parking Lot
2nd Layer	Miscellaneous Sand Fill, Some Gravel, Trace Organics	1.0'-3.5'	Loose	Damp	
3rd Layer	Medium Grey Silty Clay	3.5'-4.5	Dense		
4th Layer	Light Grey Silty Clay	4.5'-5.0	Dense		Bottom of Pit

Test Pit Record - Pit #3

Owners Name: Hantsport Fire Hall

Subdivision Location: Chittick Avenue, Hantsport, NS Date: November 26, 2019

Inspector/Engineer: Sandy Dewar & Alex de Sousa Weather: Sunny, 8C

See Figure 1 - Site Layout

Total Depth:	5.0 feet
Bedrock at:	N/A
Water Table:	N/A
Slope:	0-5%
Roots to:	N/A
Mottling at:	N/A

Permeability of soil in-situ:	
Design Flow	
Occupancy	

Soil Stratum	Soil Type	Thickness	Density	Moisture	Notes
Organic	N/A				
1st Layer	Gravel	0.0' – 1.0'	Compact	Dry	Top of Parking Lot
2nd Layer	Gravelly Sand, Trace Organics	1.0'-3.0'	Loose		
3rd Layer	Medium Grey Silty Clay	3.0'-4.0	Dense	Damp	
4th Layer	Light Grey Silty Clay	4.0'-5.0	Dense		Bottom of Pit

Test Pit Record - Pit #4

Owners Name: Hantsport Fire Hall

Subdivision/Location: Chittick Avenue, Hantsport, NS

Date: November 26, 2019

Inspector/Engineer: Sandy Dewar & Alex de Sousa

Weather: Sunny, 8C

See Figure 1 - Site Layout

Total Depth:	5.0 feet
Bedrock at:	N/A
Water Table:	1.5
Slope:	0-5%
Roots to:	N/A
Mottling at:	N/A

Permeability of soil in-situ:	
Design Flow	
Occupancy	

Soil Stratum	Soil Type	Thickness	Density	Moisture	Notes
Organic	N/A				
1st Layer	Miscellaneous Sand Gravel Fill, Trace Asphalt	0.0' – 1.5'	Compact	Dry	Top of Parking Lot
2nd Layer	Gravelly Sand & Gypsum	1.5'-3.0'	Loose	Water	Bottom of Pit

MEMORANDUM

To:	Mark Phillips, Chief Administrative Officer
C:	Madelyn LeMay, Planning and Development Director Kathy Kehoe, Parks and Recreation Director
From:	Saira Shah, Planner
Date:	March 23, 2020
Re:	Hantsport Fire Hall- Potential Locations

Background:

Ms. LeMay advised that a request was made to determine potential locations for a new fire hall in the community of Hantsport. I reviewed the January 28, 2020 recommendation report to Council submitted by Mr. Laycock, the *Hantsport Fire Hall Renovation Feasibility Report*, the *Hantsport Stormwater Management Study*, and the *Hantsport Municipal Planning Strategy* and *Hantsport Land Use By-law*. Based on this review, an ideal property would be owned by the Municipality, zoned institutional (I), at least 55,000 sq. feet, and away from flood vulnerable areas.

Discussion:

As shown in Figure 1, there are no properties that meet those requirements. There are four (4) properties that meet the size requirements and are owned by the Municipality. Figure 2 provides an ortho photo image highlighting the current uses of the potential properties. The property on Riverbank Drive is the Riverbank Cemetery which would not be appropriate for a potential site. The property on Mariners Drive is within a residential subdivision which does not provide adequate road access for a fire hall. The property at 19 Chittick Avenue is on a street vulnerable to flooding which would impact access to the site. Figure 3 shows potential areas of flooding identified by Dillon Consulting.

The property at School Street meets most of the requirements. It is a baseball field which was used predominantly by the Shamrock senior men's ball team. I have discussed this site with Ms. Kehoe who stated the Shamrock team disbanded two (2) years ago and since then the site has only been rented by a couple of groups one (1) to two (2) times per year. The property is over 158,000 sq. feet. and is owned by the Municipality. Part of School Street is vulnerable to flooding but not the portion where

this property is located and there are clear access points to the rest of the community. The site is not zoned institutional (I) which is the only zone in Hantsport that permits a fire hall. There is no policy in the Hantsport Municipal Planning Strategy that would enable Council to proceed without amending the map of the Land Use By-law. Policy IP-2 enables Council to consider rezoning any property to the Institutional (I) zone. This process typically takes approximately six (6) months to complete including staff review, Hantsport Area Advisory Committee review, Planning Advisory Committee review, and Council approval.

Conclusion:

The School Street property would be the best location for the proposed fire hall in Hantsport. The site would require a map amendment to the Hantsport Land Use By-law to permit the fire hall. The amendment process would allow full public discussion.

Next Steps:

Please advise me if you wish me to start the amendment process for the School Street site.

Attachments:

Figure 1 Municipality Owned Properties in Hantsport over 20,000 sq. feet. Zoning

Figure 2 Municipality Owned Properties in Hantsport over 20,000 sq. feet. Ortho Photo

Figure 3 Future Flood Vulnerability Areas in Hantsport

Base data derived from the Nova Scotia Property Records Database (NSPRD), Copyright Her Majesty The Queen in the Right of the Province of Nova Scotia.

This map is a graphical representation and is not intended for legal descriptions or to calculate exact dimensions or area.

Prepared by: Windsor / West Hants Planning Department March 2020

Hantsport Municipally Owned Land Over 20,000 sq. ft.

Figure 1

0 200 400

Metres

Scale: 1:8,500

Municipally Owned Land over 20,000 sq. ft.

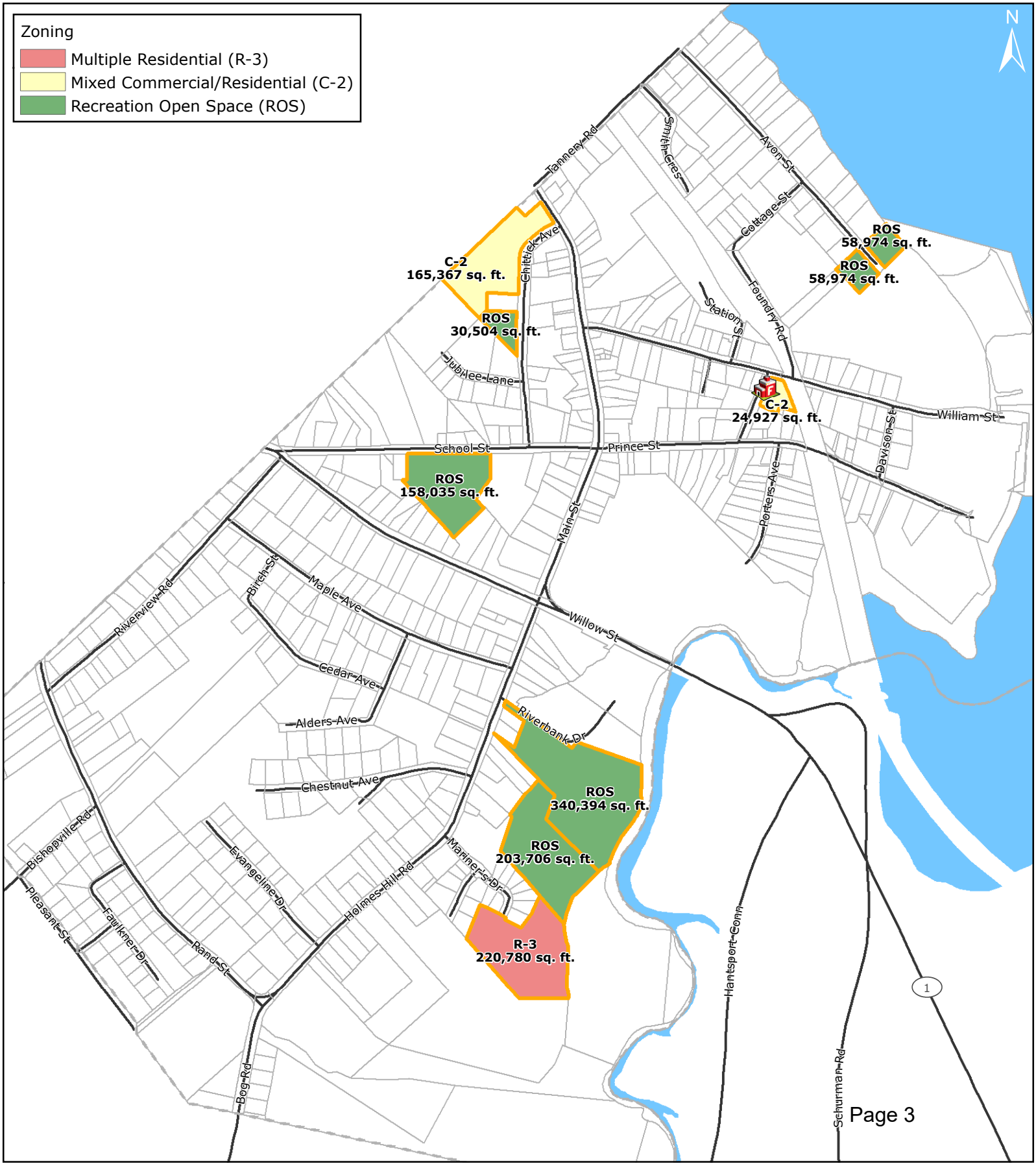
Fire Department

Communities

Parcels

Roads

Water



Base data derived from the Nova Scotia Property Records Database (NSPRD), Copyright Her Majesty The Queen in the Right of the Province of Nova Scotia.

This map is a graphical representation and is not intended for legal descriptions or to calculate exact dimensions or area.

Prepared by: Windsor / West Hants Planning Department March 2020

Hantsport Municipally Owned Land Over 20,000 sq. ft.

Figure 2

0 200 400

Metres

Scale: 1:8,500

Municipally Owned Land over 20,000 sq. ft.

Fire Department

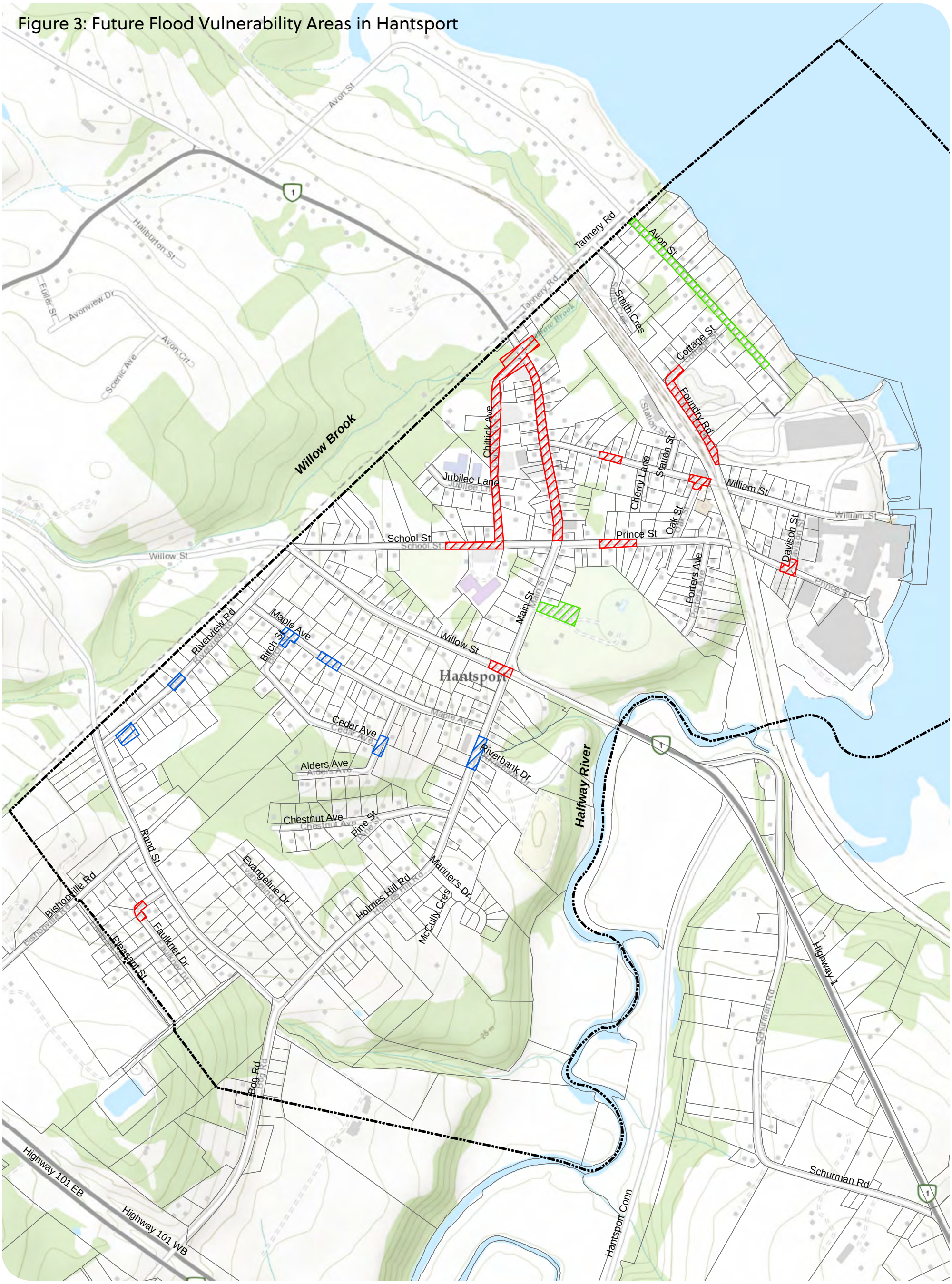
Communities

Parcels

Roads



Figure 3: Future Flood Vulnerability Areas in Hantsport



MUNICIPALITY OF THE DISTRICT OF WEST HANTS
HANTSPORT SWM STUDY

FUTURE FLOOD VULNERABLE AREAS
FIGURE 6-2

- FLOOD VULNERABLE AREAS (DUE TO FUTURE LAND USE)
- FLOOD VULNERABLE AREAS (DUE TO FUTURE LAND USE AND CLIMATE CHANGE)
- FLOOD VULNERABLE AREAS (ADDITIONAL IDENTIFIED BY THE MUNICIPALITY)
- LAND PARCEL
- MUNICIPAL BOUNDARY

MAP DRAWING INFORMATION:
DATA PROVIDED BY ESRI & WEST HANTS

MAP CREATED BY: JGC
MAP CHECKED BY: JAM
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\LONDON\LONDON CAD\GIS\VISUAL COMMUNICATIONS DI\MXD TEMPLATES\BEIGE - 11X17 LANDSCAPE - LEGEND BOTTOM.MXD

SCALE 1:7,500
0 50 100 200 Meters

PROJECT: 17-6276 STATUS: FINAL DATE: 18/04/27

Geotechnical Investigation

Windsor-West Hants Regional Municipality – Hantsport Fire Station
Hantsport, NS
File No: 203102

Prepared for:
Windsor-West Hants
Regional Municipality
76 Morison Dr., P.O. Box 3000
Windsor, NS B0N 2T0

Prepared by:
Harbourside Geotechnical Consultants
219 Waverley Rd., Suite 200
Dartmouth, NS B2X 2C3

September 23, 2020

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Borehole Records BH01, BH02, and BH03
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1.0 INTRODUCTION

Acting at the request and authorization of Windsor-West Hants Regional Municipality (WWH), Harbourside Geotechnical Consultants (Harbourside) have completed a geotechnical investigation for the proposed replacement of the Hantsport Fire Station in Hantsport, Nova Scotia.

The existing fire station is a five-bay garage that stores various equipment while also acting as an indoor parking area for Hantsport Fire Department vehicles. WWH is planning for the design and construction in order to replace the existing structure.

The purpose of this geotechnical investigation was to determine the subsurface soil conditions at the site and to provide geotechnical recommendations to aid with design and construction of the replacement structure.

The scope of work completed for this project includes the following:

- Completion of a geotechnical field investigation, consisting of three boreholes;
- A laboratory testing program; and
- Preparation of this report detailing the findings of the field investigation and laboratory analyses, as well as discussion and recommendations to aid with site earthworks and foundation design.

This report has been prepared specifically and solely for the project described herein and contains all the findings of this investigation.

2.0 SITE DESCRIPTION AND GEOLOGY

The Hantsport Fire Station is located at 5 Oak St, in Hantsport, Nova Scotia. The site in question is bordered by William Street to the north, Oak street to the west, a rail line to the east, and an assortment of lightly treed residential properties to the south.

The existing Hantsport Fire Station is currently still in operation and is being used to store equipment and Hantsport Fire Department vehicles. The lot surrounding the building is occasionally used for parking of personal passenger vehicles. The lot surface is gravel except for a paved section on the western side, in front of the five-bay garage, with grades decreasing gently from southwest to northeast. The lot south of the fire station is at an elevation approximately 2.0 to 3.0 m higher than the parking lot surface. This material is retained by a combination of the south wall of the fire station and a retaining wall extending parallel to the south wall of the fire station.

Previous experience in this area and geological mapping indicate that the principal overburden strata is silty glacial till plain consisting of silty, compact material derived from both local and distant sources. Bedrock geology mapping indicates the site overlies sedimentary bedrock of the Chevrie Formation, comprised of sandstone, siltstone, and conglomerate.

3.0 INVESTIGATIVE PROCEDURES

3.1 *GENERAL*

The geotechnical field investigation, which included drilling three boreholes, was conducted between August 18th and August 19th, 2020. The boreholes were put down using a track-mounted CME55 drill equipped for geotechnical sampling and testing. Samples of the soil were recovered from the boreholes, classified in the field, and taken to our laboratory for final classification and testing. A detailed summary of the soil conditions encountered, as well as the sampling and testing carried out, is presented on the Borehole Records in Appendix A. A document entitled "Symbols and Terms used on Borehole and Test Pit Records", which clarifies terms used through this report, as well as symbols and terms used on the borehole records is also included in Appendix A.

3.2 *BOREHOLES*

To support the design of the new structures, three boreholes were advanced to the west, north and east of the existing fire station.

Conditions at each location were observed and logged by Harbourside geotechnical personnel. Boreholes were drilled to depths ranging from 12.2 to 12.6 m below the ground surface. The boreholes were advanced through the overburden using a combination of standard flight augers, and HW-sized casing. Soil sampling was carried out at regular intervals using conventional split-spoon samplers while performing Standard Penetration Testing (SPT) as described in *ASTM D1586 Standard Test Method for Standard Penetration Test and Split-Barrel Sampling of Soils*.

The SPT "N-value" is the number of blows required to advance a 50-mm outer-diameter split-spoon sampler a distance of 300 mm into the soil using a standardized drop height and weight. N-values generally provide an indication of soil consistency or compactness and may also be used to aid in estimation of other soil parameters.

A standpipe piezometer was installed in one borehole (BH01) to measure water levels following drilling. Boreholes were backfilled to grade with a combination of sand, borehole cuttings, and asphalt patch.

3.3 *LABORATORY TESTING*

All soil samples recovered from the test locations were stored in water-tight containers and taken to our geotechnical laboratory for final classification and testing. Laboratory testing on select soil and rock samples included:

- Water content determinations (*ASTM D2216 Standard Test Methods for Laboratory Determination of Water Content of Soil and Rock by Mass*),
- Particle-size analyses (*ASTM D6913 Standard Test Method for Particle-Size Distribution of Soils Using Sieve Analysis*), and
- Atterberg Limits *(ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils)*.

A summary of the testing performed is presented on the borehole records in Appendix A and in separate figures in Appendix B. Soil descriptions used throughout this report are in general accordance with the Unified Soil Classification System (*ASTM D2487 Standard Practice for Classification of Soils for Engineering purposes / ASTM D2488 Standard Practice for Description and Identification of Soils*).

3.4 *SURVEYING*

The locations and ground surface elevations of all boreholes were surveyed by Harbourside personnel with construction-grade GPS equipment. Borehole coordinates are provided in UTM Zone 20 NAD83 CSRS (2010). Elevations are referenced to the Canadian Geodetic Vertical Datum of 2013 (CGVD2013).

4.0 SUBSURFACE CONDITIONS

The subsurface conditions at the borehole locations generally consisted of the following sequence:

- Asphalt,
- Fill,
- Silt, Sand, and Gravel, and
- Glacial till.

The subsurface conditions observed in the test pits are summarized in Table 1 and the following paragraphs, and are described in additional detail on the test pit records provided in Appendix A.

Table 1 Summary of Subsurface Conditions

Location	Ground Elevation[a] (m)	Layer Thickness (m)				Groundwater	
		Asphalt	Fill	Silt, Sand, And Gravel	Glacial Till	Depth to Surface (m)	Surface Elevation[a] (m)
BH01	14.42	-	1.58	3.04	>7.57	10.87[b]	3.55
BH02	14.64	-	1.37	7.06	>4.14	-	-
BH03	16.35	0.08	1.98	4.54	>5.87	-	-

(a) Elevations are referenced to CGVD2013.
(b) See discussion in Section 4.5.

4.1 *ASPHALT*

In borehole BH03 a layer of asphalt was encountered at surface. This layer was 0.08 m in thickness.

4.2 *FILL*

Fill was encountered below the asphalt in borehole BH03 and at the surface of boreholes BH01 and BH02. The fill ranged in thickness from 1.37 to 1.98 m. The fill generally consisted of a layer of grey gravel with silt and sand, approximately 0.3 to 0.4 m in thickness, underlain by brown silty sand with gravel.

The water contents of two samples of the fill were 7 and 13 percent. The results of two particle-size analyses on the fill indicated 23 to 28 percent gravel, 50 to 58 percent sand, and 19 to 22 percent silt- and clay-sized particles.

Based on the sampling and testing completed, the fill encountered may generally be described as grey gravel with silt and sand, and brown silty sand with gravel.

4.3 *SILT, SAND, AND GRAVEL*

Granular deposits of orangish-brown to brown sands and silts with varying amounts of gravel were encountered below the fill in all three boreholes. These deposits varied in thickness from 3.04 m at borehole BH01, to 7.06 m at borehole BH02. The stratigraphy of these materials generally consisted of silty sands with varying amounts of gravel, underlain by silt with sand, occasionally interlayered with lean clay.

The results of five particle-size analyses completed on samples from these deposits are summarized in Table 2, below. The natural water content of seven samples from these deposits ranged from 7 to 24 percent, with an average of 16 percent.

Table 2 Particle Size Analyses – Silt, Sand, and Gravel

Location	Sample No.	Sample Depth (m)	ASTM Soil Classification[a]	Material Composition by Weight (%)		
				Gravel	Sand	Fines[b]
BH01	SS04	2.1 to 2.7	Silty Sand with Gravel	30	54	16
BH01	SS06	3.7 to 4.3	Silt with Sand	0	17	83
BH02	SS05	3.0 to 3.6	Silty Sand	10	72	18
BH02	SS10	6.7 to 7.3	Lean Clay	0	5	95
BH03	SS06	3.3 to 3.9	Silty Sand with Gravel	24	61	15

(a) See ASTM D2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
(b) For particle size analyses performed by sieve, the percent of silt- and clay-sized particles are reported collectively as the percent fines.

Atterberg limit testing on a sample taken from an interlayer of lean clay within these deposits indicated a plastic limit of 15 and a liquid limit of 23.

SPT N-values from these deposits ranged from 6 to 29, indicating that the sand and silt layers can generally be classified as loose to compact. Based on the sampling and lab testing carried out, this layer can generally be described as loose to compact orangish-brown to brown silty sand with gravel to silt with sand.

4.4 *GLACIAL TILL*

Glacial till comprised of clay, sand, and gravel was encountered in all three boreholes. Boreholes were terminated within the till layer, at a maximum penetration of 7.57 m. Occasional cobbles were noted within this layer in borehole BH01

The results of three particle-size analyses on the glacial till are presented in Table 3. The natural water content of seven samples of the till ranged from 8 to 14 percent, with an average of 12 percent.

Table 3 Particle Size Analyses – Glacial Till

Location	Sample No.	Sample Depth (m)	ASTM Soil Classification[a]	Material Composition by Weight (%)		
				Gravel	Sand	Fines[b]
BH01	SS10	6.1 to 6.7	Clayey Sand	11	45	44
BH02	SS15	10.5 to 11.1	Sandy Lean Clay	10	39	51
BH03	SS14	9.5 to 10.1	Sandy Lean Clay	7	41	52

(c) See ASTM D2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
(d) For particle size analyses performed by sieve, the percent of silt- and clay-sized particles are reported collectively as the percent fines.

Atterberg limit testing on three samples of glacial till indicated plastic limits ranging from 11 to 12 and liquid limits ranging from 23 to 26.

SPT N-values from the glacial till ranged from 13 to 45, indicating that the till can generally be classified as stiff to hard. Refusal occurred twice within this material in borehole BH01, suggesting occasional cobbles. Field testing on samples of the glacial till with a pocket penetrometer indicated undrained shear strengths ranging from 50 to 200 kPa. Based on the sampling and testing carried out, the till can be described as stiff to hard brown sandy lean clay to clayey sand.

4.5 *GROUNDWATER*

A standpipe piezometer was installed in borehole BH01 on August 18th, 2020. The groundwater surface was measured at elevation 3.55 m on August 19th, 2020, which is 10.87 m below ground surface. The groundwater surface was measured at a depth of 50 mm below ground surface on September 11th, 2020. This water level was measured approximately 12 hours after a significant rainfall event. Further to this, visibly wet samples were recovered below a depth of approximately 3.2 m below ground surface, which may provide an indication of the actual groundwater table.

Groundwater levels may fluctuate with tidal regimes, precipitation events and in response to climatic and seasonal weather trends.

5.0 DISCUSSION AND RECOMMENDATIONS

5.1 *GENERAL*

We understand that the new fire hall will be constructed in a similar area on the lot to the existing structure. Preliminary layouts and designs are being considered, but the final design will likely be influenced by the results of this investigation. We anticipate that site redevelopment will include a new building supported on spread footings and slabs on grade, along with asphalt pavement areas for driveways and parking.

The site is underlain by deposits of loose to compact silty sand with gravel to silt with sand up to

The main findings of our investigation are as follows:

- A surficial layer of asphalt and fill consisting of gravel with silt and sand and silty sand with gravel overlies the area with a thickness of 1.4 to 2.0 m.
- Fills are underlain by deposits of loose to compact silts and sands with varying amounts of gravel. These deposits vary in thickness from 3.04 m at borehole BH01, to 7.06 m at borehole BH02, on the eastern side of the site. These materials will likely act as the founding material for shallow foundations on the site. Their compressibility may limit the serviceability limit state (SLS) bearing capacity of these foundations. Consideration should be given to the degree of excavation and replacement of these materials with compacted structural fill.
- Stiff to hard clayey glacial till was encountered at depths of 4.6 to 8.4 m below ground surface. Significant excavation would be required to construct spread footings at these depths.
- Bedrock was not encountered during this investigation.
- Groundwater was noted 10.9 m below the existing ground surface. Groundwater levels were also inferred at an approximate depth of 3 m based on recovered sample moisture contents. However, groundwater elevations and inflow rates may be tidally influenced due to the proximity of the site to the Minas Basin.
- From a geotechnical perspective, the site is suitable for the proposed development. The sand deposits are capable of supporting typical spread foundations, although excavation and replacement of excessively loose material below the influence area of spread foundations may be necessary.

The following sections provide geotechnical recommendations to assist with design.

5.2 *SITE PREPARATION*

5.2.1 Excavation in Soil

We recommend that all unsuitable materials, including any rootmat, topsoil, and soils containing deleterious materials such as organics or construction debris be removed from within the influence area of shallow foundations and slabs-on-grade. The influence zone should be taken as 1.0 m perimeter around the building footprint plus a horizontal distance beyond the edge of the footprint equal to the depth of excavation below the bearing surface (i.e. a 1H:1V splay from the edge of the foundation).

After removal of the required materials, the exposed surfaces should be re-graded, compacted, and inspected by qualified geotechnical personnel prior to any placement of fill, formwork, or concrete. Structural fill should meet the requirements of Section 5.3.

Temporary excavation side slopes in soils should be cut no steeper than 1H:1V and should be closely monitored for sloughing or seepage which could result in the need for further flattening.

5.2.2 Control of Surface Water and Groundwater

At the time of the investigation, the water level was measured at approximately 10.9 m below the ground surface. As previously noted, groundwater levels were also inferred based on the noticeably wet samples encountered at a depth of approximately 3 m. Groundwater will likely be encountered during excavations required for construction. Based on the relative proximity to the Minas Basin, groundwater may also be influenced tidally. However, this will depend on the depth of excavations. Groundwater inflow rates and excavation stability should be closely monitored and addressed based on encountered field conditions.

Good practice dictates that surface water should be directed away from excavations. This may be accomplished through the use of ditches and swales. The base of excavations should be shaped to drain to one or more sumps and pumped, if required. A layer of graded-gravel should be used as a filter material lining ditches, swales, and the intake area of sumps in order to limit loss of ground and migration of fines during dewatering. Any water discharged from site should meet all applicable regulatory requirements including those related to erosion and sedimentation control.

5.2.3 Sequencing Work and Protection of Exposed Soils

Work should be sequenced to limit exposed soils to those areas where work can be performed in a timely manner. Therefore, handling of site and nearby borrow materials should be well-planned to minimized degradation and material would ideally be excavated and replaced as part of one continuous operation.

Prepared surfaces should be protected to limit rendering suitable soils from becoming unsuitable. The site soils contain a relatively high proportion of fine-grained material and are anticipated to deteriorate due to trafficking, particularly in the presence of water. It would be prudent to include a provision for a stabilizing layer of rockfill, well-graded gravel, or a mudslab in areas where construction will require trafficking over the exposed surface.

5.3 *STRUCTURAL FILL*

All structural fill within the influence area of shallow foundations and slabs-on-grade should be placed and compacted to 100 percent of standard Proctor maximum dry density in lift thicknesses compatible with the material and compaction equipment used.

All subgrade fills for driveways and parking areas should be compacted as follows:

- Within 300 mm of design subgrade elevation: 98 percent of standard Proctor maximum dry density.
- Below 300 mm of design subgrade elevation: 95 percent of standard Proctor maximum dry density.

Portions of the existing fill in parking areas may be acceptable for reuse, as long as they do not contain deleterious materials such as organics or construction debris. Furthermore, working with relatively fine-grained materials during wet weather conditions can render initially suitable material

to become unsuitable due to ingress of water during handling. Therefore, any placement of site materials should be well-planned to minimize degradation of the material.

Imported structural fill could consist of common fill from a local borrow pit excavated within the local glacial till or it may consist of well-graded granular material such as imported sand and gravel or quarried rock. Structural fill should have a water content during placement within approximately two percent of the standard Proctor optimum water content, be free or organic matter, and have a maximum particle size of about 200 mm. Finer-grained fill should not be placed over coarser-grained material without a proper filter medium.

Over-excavation of disturbed or excessively loose soil below the proposed slab and footing grades and replacement with granular structural fill may be required to stabilize the base of some excavations. Granular fill, such as 200-mm minus rock fill, should be used where over-excavation is completed for this purpose.

To ensure that unsuitable materials are removed, that approved fills are used, and that proper placement techniques and procedures are being followed, we recommend that placement of all structural fill be supervised by experienced geotechnical personnel.

5.4 *FOUNDATIONS*

The design depth of frost penetration should be taken as 1.2 m. Therefore, for frost protection, exterior footings and other foundations in unheated areas should be provided with a minimum of 1.2 m of soil cover or an equivalent combination of soil and insulation.

5.4.1 Spread Footings

Shallow foundations placed on undisturbed silty sands, or approved structural fill are a suitable option to support the anticipated structure.

The factored bearing resistance of shallow foundations at ultimate limit states (ULS) depends on a number of factors that are unknown at this time including the foundation width and length, the condition of the material placed under the footing, and the thickness of fill placed above the native ground. Table 4, below, may be used from preliminary design. This table assuming a long strip footing of various widths, and a concentric load. Bearing resistances should be confirmed once the loading and geometry are known in more detail.

Table 4 also indicates the geotechnical resistance at serviceability limit states (SLS) conditions for 25-mm and 50-mm of settlement. Excavation and replacement of material 2.0 m below the underside of footing with compacted fill against structure such as a well-graded rock fill could increase SLS bearing resistances by approximately 50%.

Table 4 Geotechnical Bearing Resistance

Footing Width (m)	ULS Bearing Resistance (kPa)	SLS Bearing Resistance (for 25 mm of settlement)	SLS Bearing Resistance (for 50 mm of settlement)
2.0	305	135	265
2.5	325	115	230
3.0	345	105	210
3.5	365	95	195

Footings were assumed to have a minimum burial depth of 1.2 m below finished grade. The bearing resistances assume vertical concentric loads and footings placed on horizontal ground away from any downward slopes. The bearing resistance will be reduced under eccentric or inclined loading or if footings are placed near sloping ground.

In accordance with the National Building Code of Canada a resistance factor of 0.5 has been applied to the ULS values.

5.5 *SLABS-ON-GROUND*

Slabs-on-ground should be bedded on a layer of free-draining gravel, such as 25-mm clear stone or gravel type 1, placed over silty sand. The specific material and thickness of bedding will be dependent on slab loading and drainage requirements; however, a minimum thickness of 200 mm is generally recommended.

For design of slabs constructed above silty sand, a preliminary subgrade modulus (k) of 14 MPa/m (based on a 750 mm diameter plate) may be used.

5.6 *EROSION CONTROL AND DRAINAGE*

Based on the particle-size distributions of the soils encountered at the test locations, they are generally considered to have a moderate to high erodibility. In order to control erosion and sedimentation off-site, the following general measures are recommended:

- Contain all sediment-impacted water on the site. This may require construction of a rock-lined settling pond.
- Grade all stripped areas so that the runoff remains within the excavation.
- Prepare limited plan areas to subgrade and cover the area with rock fill or gravel prior to any precipitation events.
- Place and compact all excavated material that is intended for reuse as soon as practical. All excavated material not reused should be promptly removed off site. Excavated reusable material that cannot be promptly used should be placed in a compact stockpile surrounded at the toe by silt fence. Stockpiles could also be covered by tarps, to limit water infiltration and erosion in wet weather.
- Erect and maintain sediment fences to intercept sediment-contaminated water and reduce the runoff velocity.

5.7 *RETAINING WALLS*

Retaining walls, if required, should be founded on undisturbed silty sand or structural fill prepared as described above. Footings for retaining walls may be designed based on the ULS and SLS criteria provided in Section 5.4.

Retaining walls should generally be backfilled with a non-frost susceptible, non-expansive, non-corrosive, free-draining, well-graded material such as NSTIR fill against structure, gravel type 1, or gravel type 2. The extent of the granular backfill should be in accordance with the wall design requirements.

It is important that retaining walls are designed to ensure thorough drainage of the backfill material. This may be accomplished with a drainage system such as a longitudinal drainpipe discharging to a positive outlet. When backfilling behind a retaining wall, fill should be placed in lifts and compacted as a minimum to 95 percent of the standard Proctor maximum dry density. Care should be taken not to damage walls when performing backfilling and compaction

operations. To limit compaction-induced stresses, compaction within 1.0 m of retaining structures should be performed with a walk-behind vibratory plate tamper or another lightweight compaction equipment in lieu of a vibratory drum roller.

All drainage materials, including backfill and drainage blankets, must be designed to limit loss of soil according to filter criteria.

The values for the soil parameters presented in the next section may be used for design of retaining walls. The earth pressure coefficients used for design should be selected or adjusted based on the appropriate finished back-slope angle. Walls that can tolerate little or no movement should be designed for at-rest lateral earth pressures.

5.8 *GEOTECHNICAL PARAMETERS*

The following unfactored values (Table 5) for the indicated parameters may be used for design purposes:

Table 5 Unfactored Geotechnical Parameters

Parameter	Value		
	Existing Fill or Compacted Common Fill[a]	Silty Sand	Fill Against Structure, Gravel Type 1, or Gravel Type 2 [a][b]
Effective Angle of Internal Friction, degrees	32	30	36
Total Unit Weight, kN/m^3	21.5	20.5	22.0
Submerged Unit Weight[c], kN/m^3	11.7	10.7	12.2
Coefficient of Active Earth Pressure[d]	0.31	0.33	0.26
Coefficient of Passive Earth Pressure[d]	3.25	3.00	3.85
Coefficient of At-Rest Earth Pressure[d]	0.47	0.50	0.41
Friction Factor, Soil/ Mass Concrete Interface[e]	0.40	0.35	0.50

(a) Compacted material shall be placed in lifts and suitably compacted as described above.
(b) As NSTIR's Standard Specification for Highway Construction and Maintenance (2011).
(c) For uplift design the groundwater table should be assumed at the ground surface and submerged unit weights should be used.
(d) Coefficients of earth pressure presented in table assume a frictionless wall with a vertical back face and a horizontal back slope.
(e) For mass concrete or masonry, lower values will be required for precast or formed concrete.

5.9 *WINTER WEATHER CONDITIONS*

Where practical, earthwork during freezing temperatures should be avoided. In the event of winter construction, special measures will be required to ensure that fills and foundations are not placed on frozen ground and that the soils are protected from freezing after placement. Even following careful procedures and precautions experience has shown that earthworks in these types of soils often become impractical at temperatures below approximately -5°C.

5.10 *SEISMIC SITE CLASSIFICATION*

Based on the findings at the test pits, the site classification for seismic site response in accordance with the National Building Code of Canada is Seismic Site Class D (stiff soil).

6.0 CLOSURE

This report has been prepared to assist in the design and construction of the new Hantsport Fire Station. This report has been prepared for the sole benefit of WWH and their agents. Any use which a third party makes of this report is the responsibility of such third party.

The recommendations made in this report are in accordance with our present understanding of your project. If any details are included in the final design of the proposed structure that differ from the assumptions outlined in this report, the geotechnical engineer should be consulted.

This report is based on the site conditions encountered by Harbourside Geotechnical Consultants at the time of the work at the specific sampling locations and can only be extrapolated to a limited extent around these locations. Should any conditions differ from those detailed on the test pit records, the engineer should be notified to allow reassessment of any design assumptions.

If you have any questions or require any additional information, please do not hesitate to contact the undersigned at your convenience.

H a r b o u r s i d e
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APPENDIX A

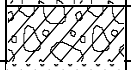
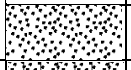
Symbols and Terms Used on Borehole and Test Pit Records
Borehole Records BH01, BH02, and BH03

SYMBOLS AND TERMS USED ON BOREHOLE AND TEST PIT RECORDS

STRATA PLOT

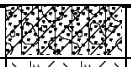
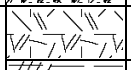
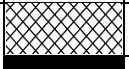
Strata plots symbolize the soil or bedrock description. They are combinations of the following basic symbols:

USCS SOIL CLASSIFICATION SYMBOLS

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN 75 µm SIEVE SIZE	GRAVELS MORE THAN 50% OF COARSE FRACTION RETAINED ON 4.75 mm SIEVE	CLEAN GRAVELS		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES. LITTLE OR NO FINES
		GRAVELS WITH FINES		GM	SILTY GRAVELS, GRAVEL – SAND – SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL – SAND – CLAY MIXTURES
	SANDS MORE THAN 50% OF COARSE FRACTION PASSING THE 4.75 mm SIEVE	CLEAN SANDS		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES		SM	SILTY SANDS, SAND – SILT MIXTURES
				SC	CLAYEY SANDS, SAND – CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN 75 µm SIEZE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

OTHER COMMONLY USED SYMBOLS

GLACIAL TILL		UNSTRATIFIED GLACIAL DEPOSIT RANGING FROM CLAY TO BOULDERS
BEDROCK		IGNEOUS BEDROCK
		METAMORPHIC BEDROCK
		SEDIMENTARY BEDROCK
MATERIALS PLACED BY HUMANS		FILL: SUBSURFACE MATERIALS IDENTIFIED AS PLACED BY HUMANS
		ASPHALT
		CONCRETE

SAMPLE TYPE

SS	Split Spoon (obtained by performing SPT)
ST	Shelby Tube (Thin-Walled Tube)
GB	Grab Sample
PS	Piston Sample
WS	Wash Sample
HQ, NQ, AQ, BQ, etc.	Rock Core Samples Obtained Using Standard Size Diamond Bits

SPT N-VALUE (N-INDEX)

The standard penetration test (SPT) provides a qualitative evaluation of compactness and a qualitative comparison of subsoil stratification. The SPT is performed in in the bottom of a borehole where a split-barrel sampler having an outside diameter of 50.8 mm is impacted using a hammer weighing 623 N falling 0.76 m for each hammer blow. The SPT N-value is the blow count representation of the penetration resistance of the soil. In accordance with ASTM D1586, the N-value, reported in blows per 300 mm, equals the sum of the number of blows (N) required to drive the sampler over the depth interval of 150 to 450 mm. However, when a 600 mm sampler is used the number of blows (N) required to drive the sampler over the interval of 300 to 600 mm may be reported if this value is lower. For samples where insufficient penetration was achieved and N-Values cannot be presented, the number of blows are reported over sampler penetration in mm (e.g. 50/120). Although some methods make use of N-values corrected for various factors (for equipment used, overburden stress, length of drill rod, etc.) no corrections have been applied to the N-values presented on the logs.

DYNAMIC CONE PENETRATION TEST (DCPT)

Dynamic cone penetration tests (DCPT) are performed using a standard 60-degree apex cone connected to 'A' size drill rods with the same standard fall height and weight as the SPT test. The DCPT value is the number of blows of the hammer required to drive the cone 300 mm. The DCPT provides a qualitative evaluation of compactness and allows for a qualitative comparison of subsurface stratification.

RECOVERY

For soil samples, recovery is recorded as the total length of the soil sample recovered. For rock core, recovery is expressed as a percentage of the total length drilled on a per run basis.

OTHER TESTS

S	Sieve Analysis	CD	Consolidated-Drained Triaxial	C	Consolidation
H	Hydrometer Analysis	CU	Consolidated-Undrained Triaxial	Q_u	Unconfined Compression
γ	Unit Weight	UU	Unconsolidated Undrained Triaxial	I_p	Point Load Index, Ip(50)
G_s	Specific Gravity of Soil Particles	DS	Direct Shear	k	Laboratory Permeability

SOIL DESCRIPTION

Terminology describing common soil genesis:

Rootmat	Vegetation, roots, and moss with organic matter and topsoil typically forming a mattress at the ground surface.
Topsoil	Mixture of soil and humus capable of supporting vegetative growth.
Peat	A soil composed of vegetable tissue in various stages of decomposition usually with an organic odor, a dark-brown to black color, a spongy consistency, and a texture ranging from fibrous to amorphous.
Till	Non-stratified glacial deposit which may range from clay to boulders
Fill	Artificial (man-made) deposits transported and placed on the natural surface of soil or rock.

Terminology describing soil structure:

Homogeneous	The lack of visible bedding and the same appearance and colour throughout
Desiccated	Having visible signs of weathering by oxidation of clay minerals, shrinking cracks, etc.
Fissured	Having cracks and hence a blocky structure
Stratified	Composed of regular alternating successions of different soil types
Varved	Comprised of regular alternating successions of silt and clay which were transported into freshwater lakes by melt water
Layer	> 75 mm
Seam	2 mm to 75 mm
Parting	< 2 mm
Pocket	Small erratic deposit, usually less than 300 mm
Lens	Lenticular deposit

Terminology describing soil types:
Soils are described in accordance with the Unified Soil Classification System (USCS) as described in ASTM D2487 and ASTM D2488. This system classifies soil into categories representing the results of laboratory tests to determine the particle-size characteristics, the liquid limit, and the plasticity index. Using this system, soils are assigned a group name (e.g. silty sand) and symbol (e.g. SM). The various groupings of this classification system have been devised to correlate in a general way with the engineering behavior of soils. Laboratory tests are performed on the portion of the sample passing the 75 mm sieve.

When laboratory test results indicate that that the soil is close to another classification group, the borderline condition can be indicated with two symbols separated by a slash (e.g. CL/CH).

Terminology describing cobbles, boulders, and non-matrix materials:
Materials outside of the USCS (e.g. particles larger than 75 mm, organic matter, construction debris) are described based on the proportion of these materials by weight using the following terminology:

Trace, or occasional	< 10%
Some	10% to 20%
Frequent	> 20%

Terminology describing the compactness condition of cohesionless soils:
A qualitative term describing the compactness condition of a cohesionless soil is interpreted from the SPT N-value (also known as the N-index). The relationship between the SPT N-value and the compactness condition is shown in the following table.

Compactness Condition	**SPT N-Value (blows per 0.3 m)**
Very Loose	0 to 4
Loose	4 to 10
Compact	10 to 30
Dense	30 to 50
Very Dense	Over 50

Terminology describing the compactness condition of cohesive soils:
Cohesive soils can be classified in relation to undrained strength. Undrained strength can be determined by a number of tests including: unconfined compression tests, field and laboratory vane tests, laboratory fall-cone tests, shear-box tests, and triaxial tests. The consistency and undrained shear strength may also be approximately related the SPT N-Value. The relationship between the consistency and the undrained shear strength, as well as a rough correlation with SPT N-Value as shown in the following table.

Consistency	Undrained Shear Strength (kPa)	SPT N-Value (blows per 0.3 m)
Very Soft	< 12	< 2
Soft	12 to 25	2 to 4
Firm	25 to 50	4 to 8
Stiff	50 to 100	8 to 15
Very Stiff	100 to 200	15 to 30
Hard	> 200	> 30

ROCK DESCRIPTION

Rock is a natural aggregate of minerals that cannot be readily broken by hand and that will not disintegrate on a first wetting and drying cycle. A rockmass comprises blocks of intact rock that are separated by discontinuities such as cleavage, bedding planes, joints, shears and faults.

Terminology Describing Geological Classification of Rock:

Rock is classified with respect to its geological origin or lithology as follows:

Igneous Rocks	Rocks such as granite, diorite, and basalt, which are formed by the solidification of molten material.
Sedimentary Rocks	Rocks such as sandstone, limestone and shale, which are formed by the lithification of sedimentary soils.
Metamorphic Rocks	Rocks such as quartzite, schist, and gneiss, which have been altered by the application of intense heat and/or pressure.

Terminology Describing the Strength of Intact Rock:

Strength is the maximum stress level that can be carried by a specimen. Rocks may be classified based on their intact strength as shown in the following table.

Term	Unconfined Compressive Strength (MPa)
Extremely Weak	0.25 to 1
Very Weak	1 to 5
Weak	5 to 25
Medium Strong	25 to 50
Strong	50 to 100
Very Strong	100 to 250
Extremely Strong	> 250

Terminology Describing Discontinuity Spacing

The structural integrity of a rockmass will be affected by the presence of discontinuities. The spacing of discontinuities can vary from extremely wide to extremely close as indicated in the table below.

Term	Spacing Width (m)
Extremely Close	< 0.02
Very Close	0.02 to 0.06
Close	0.06 to 0.20
Moderately Close	0.20 to 0.6
Wide	0.6 to 2.0
Very Wide	2.0 to 6.0
Extremely Wide	> 6.0

Rock Quality Designation (RQD)

RQD is an indirect measure of the number of fractures within a rockmass. The method provides a quick and objective technique to estimate rockmass quality during diamond drill core logging. All pieces of intact and sound rock greater than 100 mm long are summed and divided by the total length of the core run in accordance with ASTM D6032.

RQD Classification	RQD (%)
Very Poor Quality	0 to 25
Poor Quality	25 to 50
Fair Quality	50 to 75
Good Quality	75 to 90
Excellent Quality	90 to 100

Terminology to Describe Rock Weathering

The state of weathering significantly alters the geotechnical behaviour of rocks and rockmasses. Weathering of the rockmass may be classified as shown in the following table.

Term	Description
Fresh	No visible sign of rock material weathering; perhaps slight discolouration on major discontinuity surfaces.
Slightly Weathered	Discolouration indicates weathering of rock material and discontinuity surfaces. All the rock material may be discoloured by weathering and may be somewhat weaker than its fresh condition.
Moderately Weathered	Less than half of the rock material is decomposed and/or disintegrated to a soil. Fresh or discoloured rock is present either as a discontinuous framework or as corestones
Highly Weathered	More than a half of the rock material is decomposed and/or disintegrated to a soil. Fresh or discoloured rock is present either as a discontinuous framework or as corestones.
Completely Weathered	All rock material is decomposed and/or disintegrated to soil. The original mass structure is still largely intact.

HARBOURSIDE
Geotechnical Consultants

BOREHOLE RECORD

BH01

N: 4991097 E: 407449

CLIENT WINDSOR-WEST HANTS REGIONAL MUNICIPALITY — **PROJECT No.** 203102

LOCATION HANTSPORT FIRE STATION, 5 OAK STREET, HANTSPORT, NS — **DATUM** CGVD2013

DATES: BORING 18/08/2020 — **WATER LEVEL** 19/08/2020 — **BH SIZE** HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm)	BLOWS / 150 mm (N VALUE)	OTHER TESTS
	14.42								
	14.12	FILL: grey gravel with silt and sand			SS	1	425	19-13-12-7 (19)	
1		FILL: brown silty sand with gravel			SS	2	350	11-6-4-6 (10)	S
	12.84								
2		Compact orange-brown silty SAND with gravel			SS	3	300	11-11-10-11 (21)	
					SS	4	350	10-11-9-7 (16)	S
3	11.20								
		Compact brown SILT with sand interlayered with lean CLAY			SS	5	450	4-5-7-10 (12)	
4					SS	6	550	10-10-11-10 (21)	S
	9.80				SS	7	350	3-3-7-6 (10)	
5		Firm to hard brown sandy lean clay to clayey sand TILL - with occasional cobbles			SS	8	425	8-8-10-14 (18)	
					SS	9	375	5-7-7-9 (14)	
6					SS	10	350	8-9-12-12 (21)	S
7									
					SS	11	0	11-14-13-21 (27)	
8					SS	12	225	14-16-20-30 (36)	
					GB	13	200		
9					SS	14	250	8-11-20-64 (31)	

UNDRAINED SHEAR STRENGTH - kPa
20 40 60 80
W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
DYNAMIC PENETRATION TEST, BLOWS/0.3m
STANDARD PENETRATION TEST, BLOWS/0.3m
0 10 20 30 40 50 60 70 80

105
100
125
200

■ Miniature Vane □ Torvane
◆ Penetrometer ◇ UU Triaxial
▲ Field Vane △ Unconfined Compression

HARBOURSIDE GEOTECHNICAL CONSULTANTS, BOREHOLE RECORD 23/9/20

(Continued Next Page)

HARBOURSIDE
Geotechnical Consultants

BOREHOLE RECORD

BH01

N: 4991097 E: 407449

CLIENT WINDSOR-WEST HANTS REGIONAL MUNICIPALITY — **PROJECT No.** 203102
LOCATION HANTSPORT FIRE STATION, 5 OAK STREET, HANTSPORT, NS — **DATUM** CGVD2013
DATES: BORING 18/08/2020 — **WATER LEVEL** 19/08/2020 — **BH SIZE** HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm)	BLOWS / 150 mm (N VALUE)	OTHER TESTS
11		Firm to hard brown sandy lean clay to clayey sand TILL - with occasional cobbles *(continued)*		▼	SS	15	300	20-58-50 / 50 mm	
12	2.23				SS	16	300	52-50 / 125 mm	
		End of Borehole - install standpipe							

UNDRAINED SHEAR STRENGTH - kPa
20 40 60 80
W_P W W_L
WATER CONTENT & ATTERBERG LIMITS
DYNAMIC PENETRATION TEST, BLOWS/0.3m
STANDARD PENETRATION TEST, BLOWS/0.3m
0 10 20 30 40 50 60 70 80
225

■ Miniature Vane □ Torvane
◆ Penetrometer ◇ UU Triaxial
▲ Field Vane △ Unconfined Compression

HARBOURSIDE
Geotechnical Consultants

BOREHOLE RECORD

BH02

N: 4991076 E: 407459

CLIENT WINDSOR-WEST HANTS REGIONAL MUNICIPALITY **PROJECT No.** 203102

LOCATION HANTSPORT FIRE STATION, 5 OAK STREET, HANTSPORT, NS **DATUM** CGVD2013

DATES: BORING 18/08/2020 TO 19/08/2020 **WATER LEVEL** Not Measured **BH SIZE** HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm)	BLOWS / 150 mm (N VALUE)	OTHER TESTS
	14.64								
	14.34	FILL: grey gravel with silt and sand			SS	1	375	4-5-5-6 (10)	
		FILL: brown silty sand with gravel			SS	2	450	8-5-5-6 (10)	
1	13.27								
		Loose to compact orange-brown silty SAND			SS	3	200	9-11-11-21 (22)	
2					SS	4	375	19-26-16-13 (29)	
3		- wet below 3.2 m			SS	5	400	5-5-4-5 (9)	S
					SS	6	425	4-4-5-9 (9)	
4									
					SS	7	300	3-5-4-4 (8)	
5	9.18				SS	8	425	8-5-8-13 (13)	
		Loose to compact brown SILT with sand interlayered with lean CLAY							
6					SS	9	425	9-5-8-10 (13)	
					SS	10	450	13-5-5-8 (10)	S
7									
					SS	11	0	3-4-5-11 (9)	
8	6.21				SS	12	500	13-22-17-17 (34)	
		Very stiff to hard brown sandy lean clay to clayey sand TILL							
9					SS	13	0	8-10-13-17 (23)	
					SS	14	500	13-22-17-17	

UNDRAINED SHEAR STRENGTH - kPa

20 40 60 80

W_P W W_L

WATER CONTENT & ATTERBERG LIMITS

DYNAMIC PENETRATION TEST, BLOWS/0.3m

STANDARD PENETRATION TEST, BLOWS/0.3m

0 10 20 30 40 50 60 70 80

115

131

■ Miniature Vane □ Torvane

◆ Penetrometer ◇ UU Triaxial

▲ Field Vane △ Unconfined Compression

HARBOURSIDE GEOTECHNICAL CONSULTANTS, BOREHOLE RECORD 23/9/20

(Continued Next Page)

HARBOURSIDE
Geotechnical Consultants

BOREHOLE RECORD

BH02

N: 4991076 E: 407459

CLIENT WINDSOR-WEST HANTS REGIONAL MUNICIPALITY **PROJECT No.** 203102

LOCATION HANTSPORT FIRE STATION, 5 OAK STREET, HANTSPORT, NS **DATUM** CGVD2013

DATES: BORING 18/08/2020 TO 19/08/2020 **WATER LEVEL** Not Measured **BH SIZE** HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm)	BLOWS / 150 mm (N VALUE)	OTHER TESTS
11		Very stiff to hard brown sandy lean clay to clayey sand TILL *(continued)*						(34)	
					SS	15	450	8-10-11-12 (21)	S
12	2.07				SS	16	350	11-14-18-21 (32)	
		End of Borehole							
13									
14									
15									
16									
17									
18									
19									

UNDRAINED SHEAR STRENGTH - kPa

20 40 60 80

W_P W W_L

WATER CONTENT & ATTERBERG LIMITS

DYNAMIC PENETRATION TEST, BLOWS/0.3m

STANDARD PENETRATION TEST, BLOWS/0.3m

0 10 20 30 40 50 60 70 80

105

165

■ Miniature Vane □ Torvane

◆ Penetrometer ◇ UU Triaxial

▲ Field Vane △ Unconfined Compression

HARBOURSIDE GEOTECHNICAL CONSULTANTS, BOREHOLE RECORD 23/9/20

HARBOURSIDE
Geotechnical Consultants

BOREHOLE RECORD

BH03

N: 4991085 E: 407426

CLIENT WINDSOR-WEST HANTS REGIONAL MUNICIPALITY — **PROJECT No.** 203102

LOCATION HANTSPORT FIRE STATION, 5 OAK STREET, HANTSPORT, NS — **DATUM** CGVD2013

DATES: BORING 19/08/2020 — **WATER LEVEL** Not Measured — **BH SIZE** HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm)	BLOWS / 150 mm (N VALUE)	OTHER TESTS
	16.35								
	16.27	ASPHALT							
		FILL: grey gravel with silt and sand			SS	1	350	8-10-10-8 (18)	
	15.76	FILL: brown silty sand with gravel			SS	2	325	9-7-12-8 (19)	S
1					SS	3	375	5-4-12-8 (16)	
2	14.29	Compact orange-brown silty SAND with gravel			SS	4	0	8-8-8-9 (16)	
					SS	5	250	8-8-7-9 (15)	
3					SS	6	250	7-6-6-7 (12)	S
4	11.98								
		Loose to compact brown SILT with sand interlayered with lean CLAY			SS	7	50	2-2-4-7 (6)	
5					SS	8	350	5-7-12-13 (19)	
6					SS	9	0	6-7-8-14 (15)	
	9.75								
7		Stiff to very stiff brown sandy lean clay with gravel TILL			SS	10	350	9-14-14-15 (28)	
					SS	11	0	7-9-9-9 (18)	
8					SS	12	500	9-10-12-48 (22)	
9					SS	13	200	5-7-12-10 (19)	
					SS	14	600	10-12-13-13	S

UNDRAINED SHEAR STRENGTH - kPa

0 10 20 30 40 50 60 70 80

20 40 60 80

WATER CONTENT & ATTERBERG LIMITS W_P W W_L

DYNAMIC PENETRATION TEST, BLOWS/0.3m

STANDARD PENETRATION TEST, BLOWS/0.3m

■ Miniature Vane □ Torvane

◆ Penetrometer ◇ UU Triaxial

▲ Field Vane △ Unconfined Compression

HARBOURSIDE GEOTECHNICAL CONSULTANTS, BOREHOLE RECORD 23/9/20

(Continued Next Page)

HARBOURSIDE
Geotechnical Consultants

BOREHOLE RECORD

BH03

N: 4991085 E: 407426

CLIENT WINDSOR-WEST HANTS REGIONAL MUNICIPALITY **PROJECT No.** 203102

LOCATION HANTSPORT FIRE STATION, 5 OAK STREET, HANTSPORT, NS **DATUM** CGVD2013

DATES: BORING 19/08/2020 **WATER LEVEL** Not Measured **BH SIZE** HW/HQ

DEPTH (m)	ELEVATION (m)	SOIL/BEDROCK DESCRIPTION	GRAPHIC LOG	WATER LEVEL	TYPE	NUMBER	REC. SOIL (mm)	BLOWS / 150 mm (N VALUE)	OTHER TESTS
								(25)	
	5.99								
11		Stiff to hard brown gravelly lean clay with sand TILL			SS	15	300	6-6-7-14 (13)	
12	3.88				SS	16	300	9-22-26-19 (45)	
		End of Borehole							
13									
14									
15									
16									
17									
18									
19									

UNDRAINED SHEAR STRENGTH - kPa

20 40 60 80

W_P W W_L

WATER CONTENT & ATTERBERG LIMITS

DYNAMIC PENETRATION TEST, BLOWS/0.3m

STANDARD PENETRATION TEST, BLOWS/0.3m

0 10 20 30 40 50 60 70 80

112

■ Miniature Vane □ Torvane

◆ Penetrometer ◇ UU Triaxial

▲ Field Vane △ Unconfined Compression

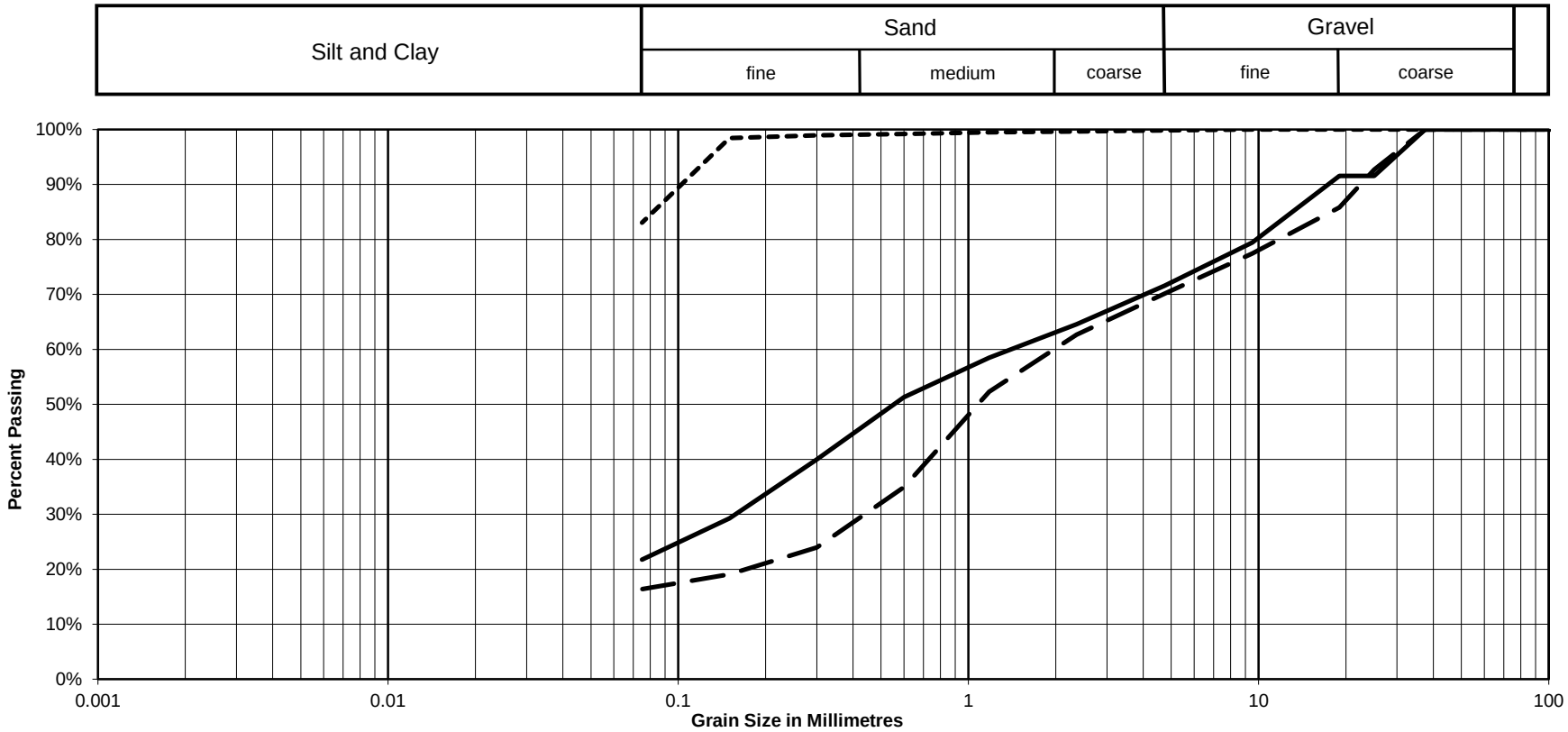
HARBOURSIDE GEOTECHNICAL CONSULTANTS, BOREHOLE RECORD 23/9/20

APPENDIX B

Laboratory Testing Results

Checked: **DJW**

GRAIN SIZE DISTRIBUTION



CURVE	BOREHOLE / TESTPIT	SAMPLE	DEPTH (m)	SOIL FRACTION			SOIL DESCRIPITION
				GRAVEL	SAND	SILT/CLAY	
———	BH01	SS02	0.6 to 1.2	28%	50%	22%	Silty Sand with Gravel
— — -	BH01	SS04	2.1 to 2.7	30%	54%	16%	Silty Sand with Gravel
- - - -	BH01	SS06	3.7 to 4.3	0%	17%	83%	Silt with Sand

PROJECT No.: 203102

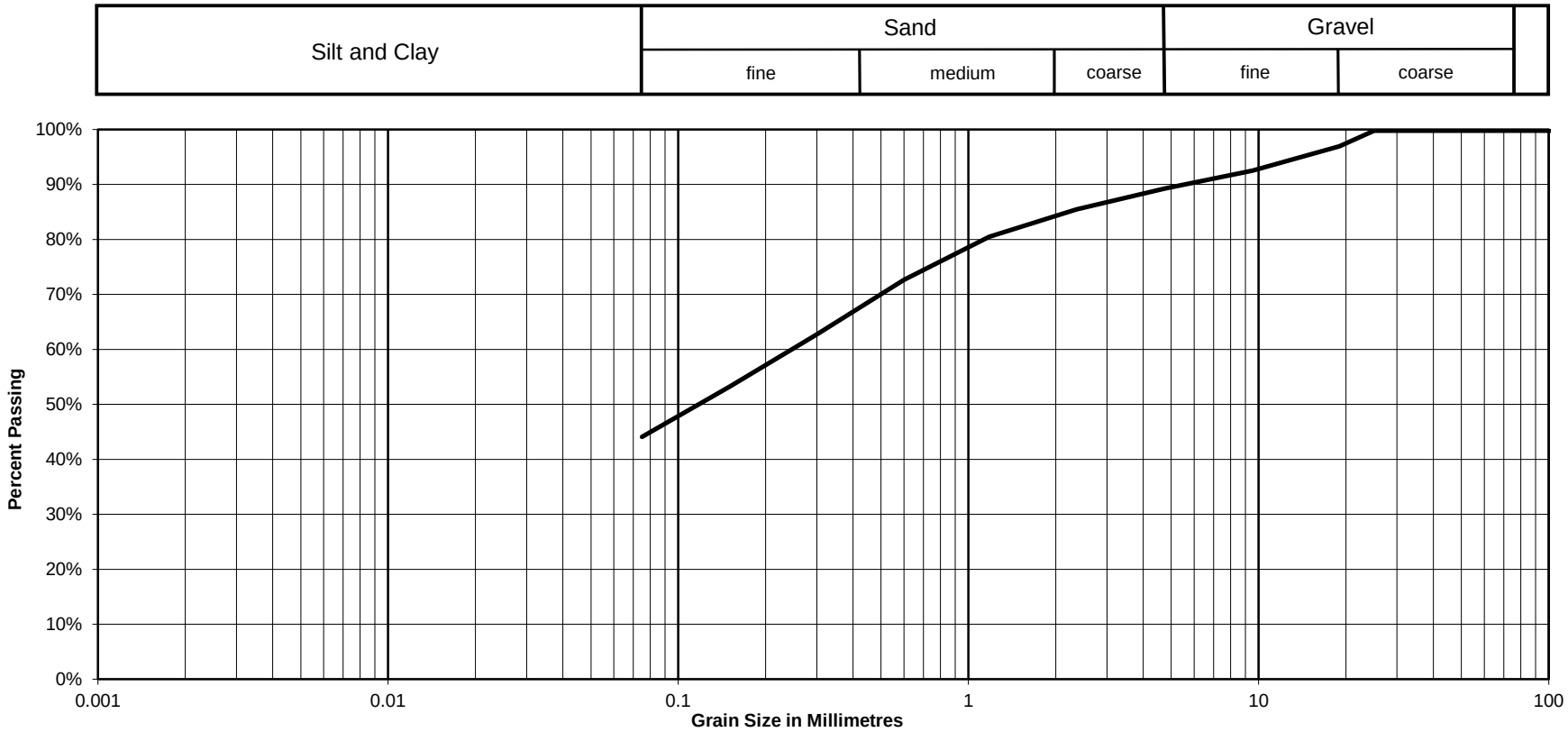
HGC

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219 Waverley Road, Suite 200
Dartmouth, NS B2X 2C3
http://harboursideengineering.ca

CLIENT Windsor-West Hants Municiplaity
PROJECT Hantsport Fire Station
LOCATION Hantsport, NS

Checked: **DJW**

GRAIN SIZE DISTRIBUTION



CURVE	BOREHOLE / TESTPIT	SAMPLE	DEPTH (m)	SOIL FRACTION			SOIL DESCRIPITION
				GRAVEL	SAND	SILT/CLAY	
———	BH01	SS10	6.1 to 6.7	11%	45%	44%	Clayey Sand

PROJECT No.: 203102

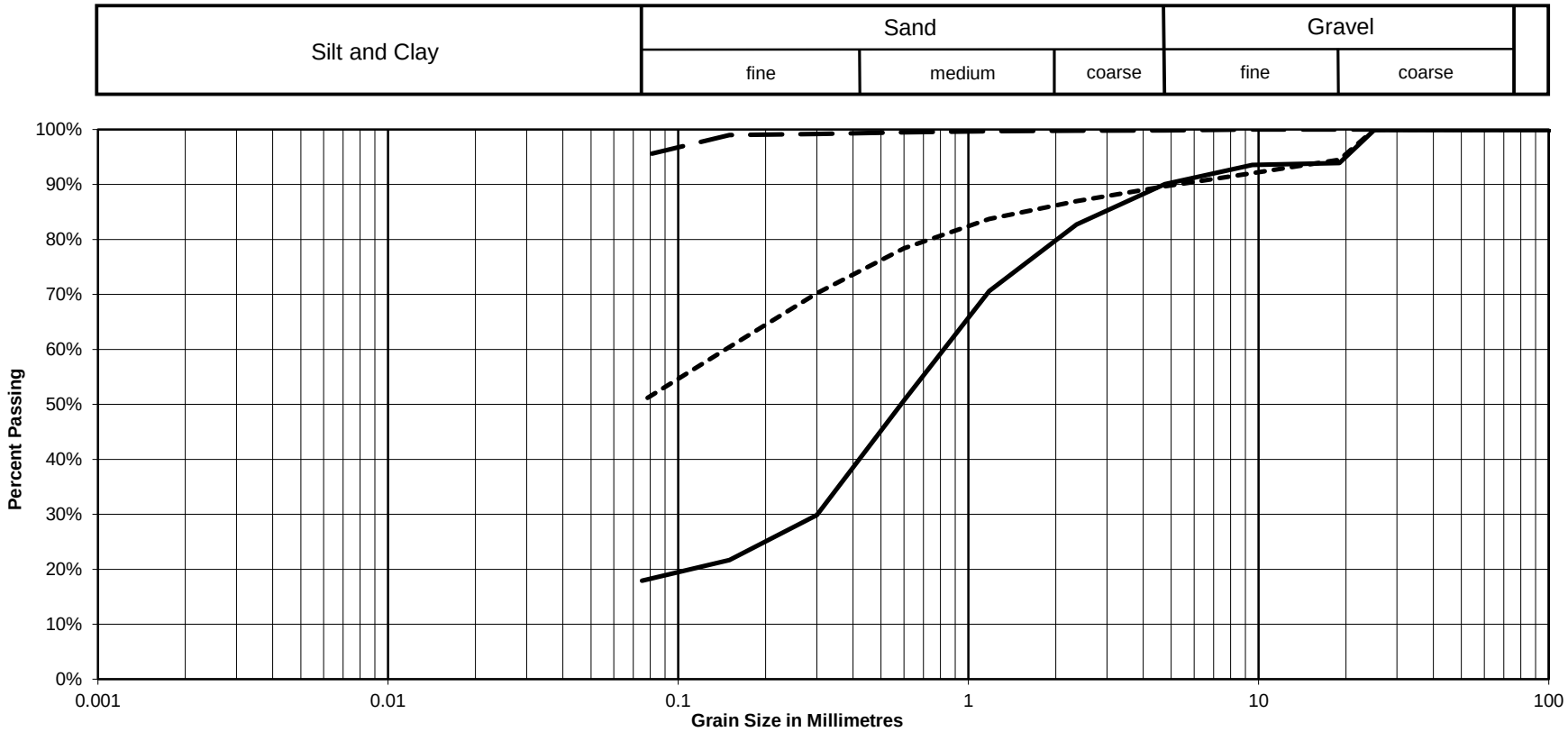
HGC

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Dartmouth, NS B2X 2C3
http://harboursideengineering.ca

CLIENT Windsor-West Hants Municiplaity
PROJECT Hantsport Fire Station
LOCATION Hantsport, NS

Checked: **DJW**

GRAIN SIZE DISTRIBUTION



CURVE	BOREHOLE / TESTPIT	SAMPLE	DEPTH (m)	SOIL FRACTION			SOIL DESCRIPITION
				GRAVEL	SAND	SILT/CLAY	
———	BH02	SS05	3.0 to 3.6	10%	72%	18%	Silty Sand
— — -	BH02	SS10	6.7 to 7.3	0%	5%	95%	Lean Clay
- - - -	BH02	SS15	10.5 to 11.1	10%	39%	51%	Sandy Lean Clay

PROJECT No.: 203102

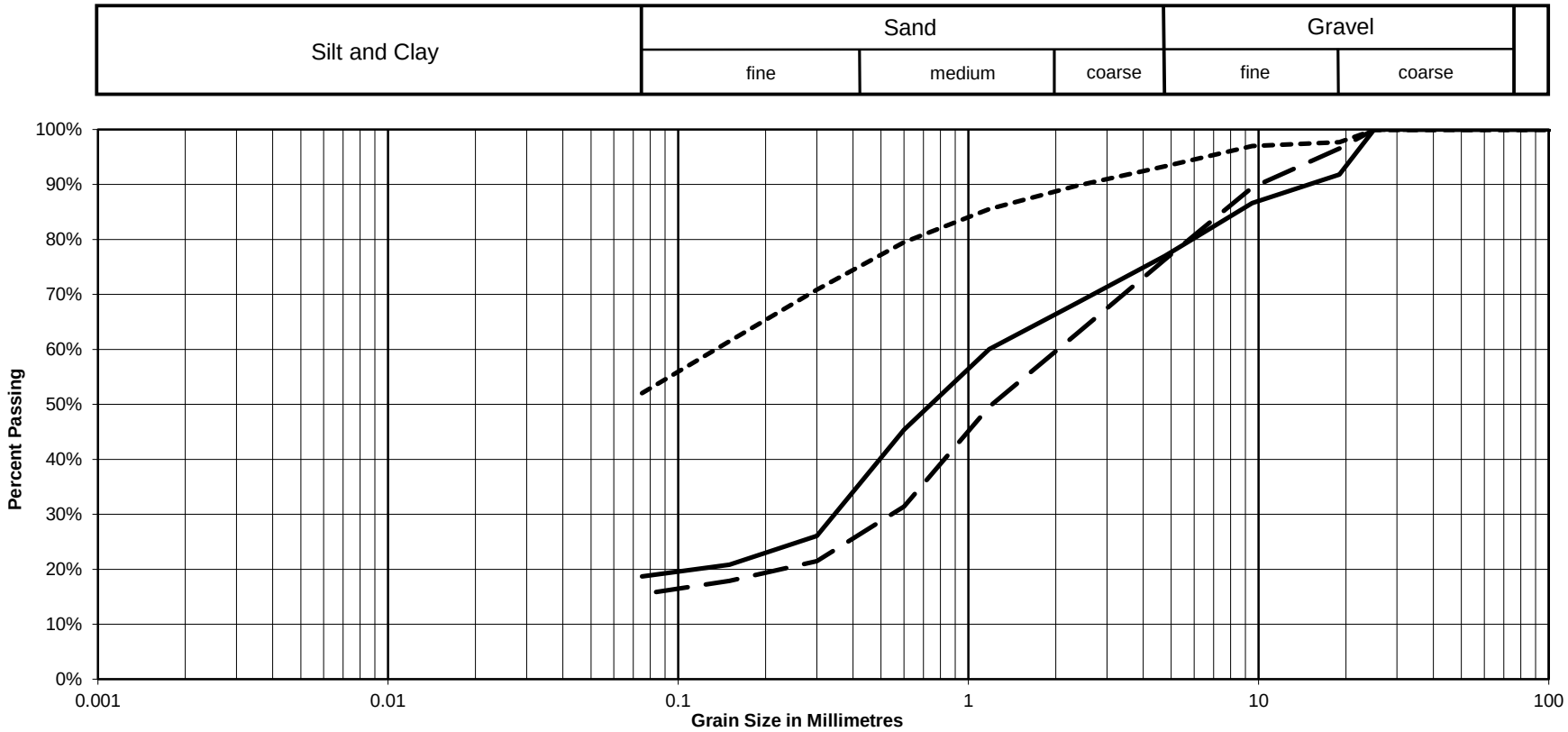
HGC

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Dartmouth, NS B2X 2C3
http://harboursideengineering.ca

CLIENT Windsor-West Hants Municiplaity
PROJECT Hantsport Fire Station
LOCATION Hantsport, NS

Checked: **DJW**

GRAIN SIZE DISTRIBUTION



CURVE	BOREHOLE / TESTPIT	SAMPLE	DEPTH (m)	SOIL FRACTION			SOIL DESCRIPITION
				GRAVEL	SAND	SILT/CLAY	
———	BH03	SS02	0.8 to 1.4	23%	58%	19%	Silty Sand with Gravel
— — -	BH03	SS06	3.3 to 3.9	24%	61%	15%	Silty Sand with Gravel
- - - -	BH03	SS14	9.5 to 10.1	7%	41%	52%	Sandy Lean Clay

PROJECT No.: 203102

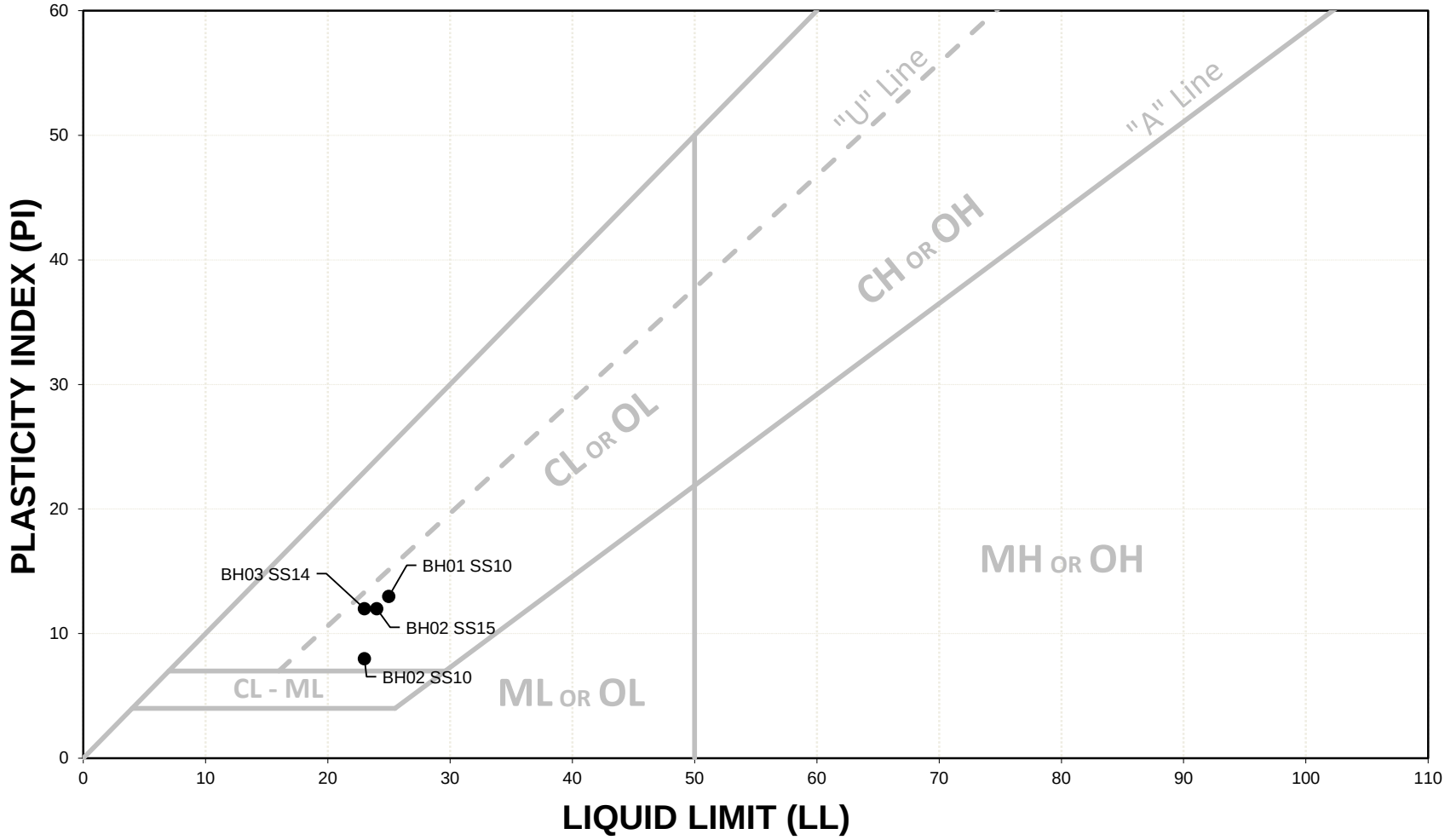
HGC

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CLIENT Windsor-West Hants Municiplaity
PROJECT Hantsport Fire Station
LOCATION Hantsport, NS

Checked: DJW

ATTERBERG LIMITS



PROJECT No.: 203102

HGC

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CLIENT	Windsor-West Hants Regional Municipality
PROJECT	Hantsport Fire Station
LOCATION	Hantsport, NS

APPENDIX C

Borehole Location Plan

BOREHOLE LOCATION PLAN

PROJECT 203102:
HANTSPORT FIRE HALL

HARBOURSIDE
Geotechnical Consultants

N

B H 0 1

B H 0 3

B H 0 2

BOREHOLE(BH)	NORTHING	EASTING	ELEVATION
BH01	4991097.4	407448.5	14.4
BH02	4991075.5	407459.3	14.6
BH03	4991084.9	407425.8	16.3

LEGEND

BOREHOLE(BH)

COORDINATES ARE IN REFERENCE TO NAD83 UTM ZONE 20

ELEVATIONS ARE IN REFEENCE TO CGVD2013

DATA SOURCES: IMAGERY OBTAINED FROM ESRI

DD-MM-YYYY: 28-08-2020

0 5 10 20 m

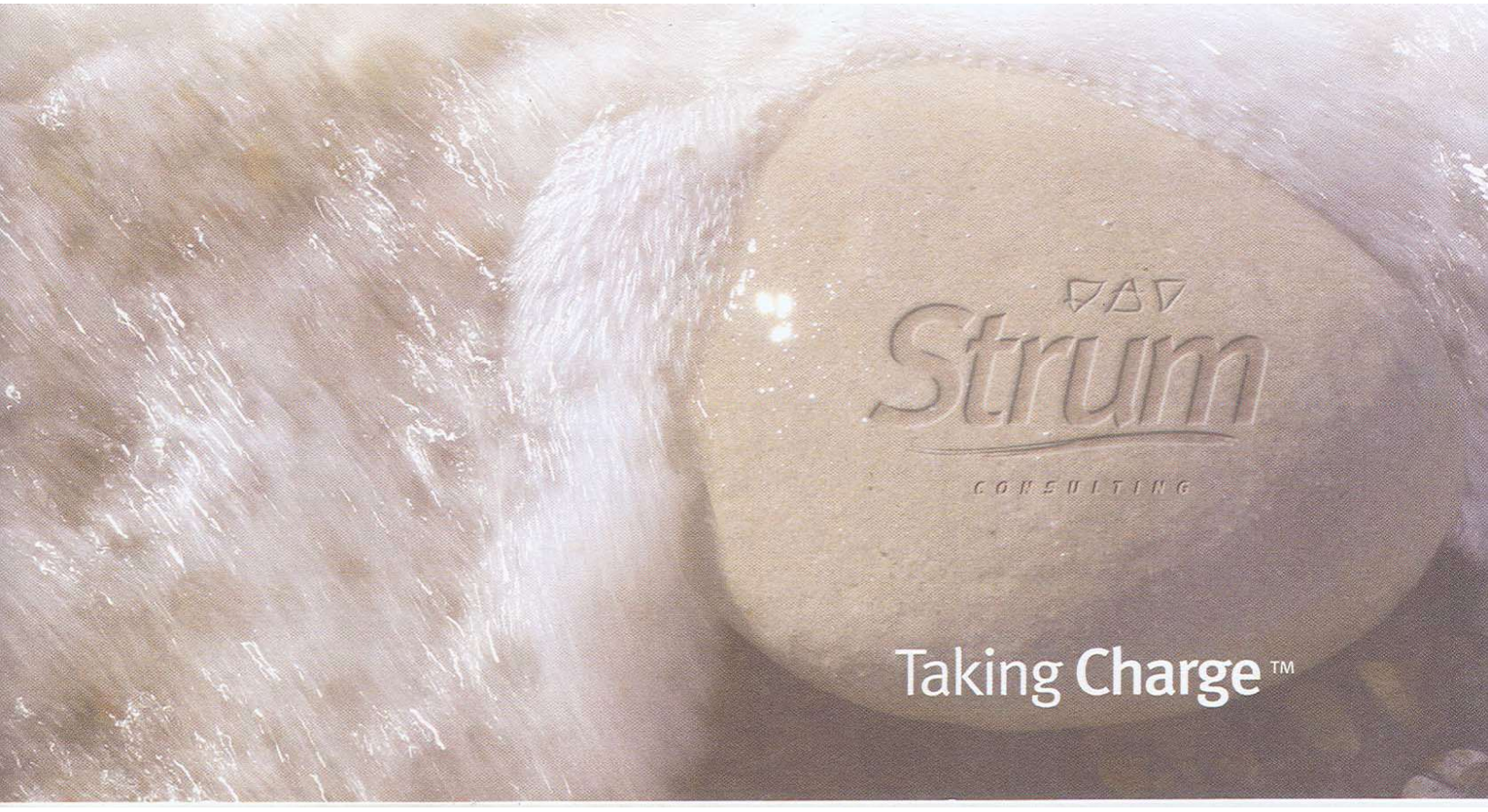
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KEY PLAN



QUALITATIVE REGULATED MATERIALS SURVEY
Hantsport Fire Station
5 Oak Street
Hantsport, NS

October 1, 2020



October 1, 2020

Mr. Wade Noiles
Harvey Architecture Ltd.
#3004 - 7071 Bayers Road
Halifax, NS B3L 2C2

Dear Mr. Noiles,

Re: Qualitative Regulated Materials Survey
Hantsport Fire Station, 5 Oak Street, Hantsport, NS

Attached is the Qualitative Regulated Materials Survey report prepared for the Hantsport Fire Station, 5 Oak Street, Hantsport, NS.

This report documents our observations, findings, and recommendations.

We trust this to be satisfactory at this time. Once you have had an opportunity to review this correspondence, please contact us to address any questions you may have.

Thank you,

Patrick Avery, CET
Environmental Technologist
pavery@strum.com

Jeff Faulkner, P.Geo.
Senior Project Manager
jfaulkner@strum.com

EXECUTIVE SUMMARY

In August 2020, Strum Consulting was retained by Harvey Architecture Ltd. to undertake a Regulated (Hazardous) Materials Survey at the Hantsport Fire Station and adjacent food bank building, located at 5 Oak Street in Hantsport, Nova Scotia. The scope of the Regulated Materials Survey consisted of a site visit to review building materials and the sampling of building materials that may require special handling or disposal during deconstruction of the building. This report provides our findings and recommendations.

Main Findings & Recommendations

The main findings of the assessment are outlined below:

Asbestos	• Non-friable asbestos containing material (ACM) was identified during the assessment, including vinyl flooring located within several areas of the food bank building and in roofing tar underlying the asphalt shingles of the food bank building. As such, all flooring similar in appearance to flooring within the client and kitchen area on the main floor of the food bank building, and all roofing material of the food bank building should be considered to contain ACM. • Asbestos abatement practices and precautionary measures protective of human health will be required to safely remove all ACM prior to the proposed demolition.
Lead in Paint	• Concentrations of lead in paint samples were reported to range from non-detect to 35,000 mg/kg. • Two samples collected from black and white paint within the upper level of the food bank building reported leachable lead concentrations that exceed the provincial disposal guidelines of 5 mg/L, and therefore, are considered to be leachate toxic and not suitable for regular disposal at an NSE approved solid waste landfill or C&D waste disposal site. These materials will require disposal through the services of an approved hazardous waste disposal company. • Precautionary measures protective of human health will be required during the disturbance and disposal of lead containing building materials containing lead concentrations exceeding the Surface Coating Materials Regulations (SCMR 90 mg/kg) defined by the Canada Consumer Product Safety Act.
Mercury in Appliances	• Fluorescent lighting that may contain mercury vapour and tilt-switch thermostats that may contain mercury were identified throughout the building.
Ozone-Depleting Substances	• Several refrigerators and wall mounted air conditioning units were identified in the assessment area as potentially ODS containing and should be screened for ODS prior to disposal.

Polychlorinated Biphenyls (PCBs)	• Potential PCB containing ballasts were identified during the assessment. • No potential PCB containing caulking or electrical equipment was observed during the assessment.
Silica	• Typical of standard construction, concrete, and masonry materials used for foundations, flooring, and walls may contain silica.
Mould	• Potential mould and water damage were observed throughout the assessment area. Precautionary measures protective of human health will be required during the disturbance and disposal of these materials.

Based on the findings of this assessment the following recommendations are forwarded:

1. Prior to the completion of any demolition activities, a qualified abatement contractor should be retained to complete the safe removal and disposal of non-friable asbestos containing vinyl flooring and roofing materials, as per the applicable provincial regulations and codes of practices. Workers handling ACM should be outfitted with appropriate personal protective equipment (PPE). The appropriate level of barriers and/or containment should be put in place to restrict access to the work areas, until such time that the abatement activities can be completed.

2. Workers handling lead or other metal containing dusts should be outfitted with appropriate PPE. Special care should be taken not to grind or pulverize leaded materials during removal. Materials coated in black and white paint sampled within the food bank building will require disposal through the services of an approved hazardous waste disposal company.

3. Potentially mercury containing fluorescent bulbs should be removed prior to demolition activities and disposed of in an appropriate manner in accordance with applicable regulations.

4. Although no PCB-containing ballasts were identified, ballasts should be screened on an individual basis to determine PCB content and appropriate disposal options prior to demolition activities.

5. All fixtures identified to contain an ozone depleting refrigerant should be decommissioned by a qualified refrigeration technician prior to disposal.

6. Workers involved in the demolition and disposal of building materials should be outfitted with appropriate PPE, protective of asbestos, lead, silica, and mould. Special care should be taken not to grind or pulverize leaded materials during removal. In addition, appropriate dust hoarding should be erected if excessive dust is generated.

This Executive Summary provides a brief overview of the main conclusions of this assessment. Complete details are provided in the report and the attached Appendices. The statements made in this Executive Summary are subject to the same limitations as described in Sections 1.2 and 15.0.

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1.0 INTRODUCTION

In August 2020, Strum Consulting was retained by Harvey Architecture Ltd. to undertake a Regulated (Hazardous) Materials Survey at the Hansport Fire Station and adjacent food bank building, located at 5 Oak Street in Hansport, Nova Scotia. The objective of this assessment is to identify any regulated materials that will require removal from the building prior to proposed demolition.

1.1 Scope of Work

The scope of the Regulated Materials Survey consisted of a site visit on August 27, 2020, to review building materials and the sampling of building materials that may require special handling or disposal during deconstruction. The assessment areas and investigation points are shown on Drawings 1 and 2 (Appendix A). The following is a list of materials reviewed:

- Asbestos containing material (ACM)
- Lead containing material (LCM)
- Mercury
- Ozone depleting substances (ODS)
- Polychlorinated biphenyls (PCBs)
- Silica (free crystalline silica)
- Mould
- Radioactive materials
- Urea formaldehyde foam insulations (UFFI)

Other regulated materials referred to in various provincial and federal regulations are not expected to be present in this location. Should any of the excluded substances be found within the areas designated for deconstruction, they should be assessed on an individual basis prior to disturbance.

1.2 Limitations

While every effort was made to identify all hazardous materials within the assessment area, undiscovered regulated materials may still exist in the building within enclosed areas such as wall cavities.

If additional materials suspected of potentially containing hazardous materials are identified during site work, these materials should be assessed to determine if they contain hazardous materials.

2.0 ASBESTOS SAMPLING & ANALYSIS

2.1 Applicable Guidelines & Regulations

Nova Scotia has issued guidelines and codes of practice for the handling and disposal of ACM. Regulations and Codes of Practice governing asbestos work in Nova Scotia and Federal sites are listed below.

- Code of Practice for Removal of Friable Asbestos Containing Material (11/21/13)
- Code of Practice for A Guide to Assessment & Management of Asbestos in the Workplace (11/21/13)
- Outdoor Work with Asbestos (Removal Projects)
- Asbestos Waste Management Regulations N.S Reg. 53/95
- Canada Occupational Health and Safety Regulations - SOR/86-304
- Hazardous Products Act, R.S., c. H-3
- Hazardous Products (Crocidolite Asbestos) Regulations, SOR/89-440
- Occupational Health and Safety Act, S.N.S 1996

These codes define ACM as a material which contains greater than 0.5% asbestos by volume. Prior to the commencement of any architectural demolition, all identified ACM must be removed from the building and disposed of appropriately. Workers and building occupants must be protected at all times from potential exposure to fibres from both friable and non-friable ACM sources. The American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) for exposure to asbestos is 0.1 fibres/cc. This TLV is enforced through the Nova Scotia Occupational Health and Safety Act.

Where a friable material contains trace amounts of asbestos (i.e. < 0.5%), but has the potential to release sufficient amount of fibres to create an area where there is a reasonable potential that airborne concentrations of asbestos will exceed occupational health and safety exposure limits, the materials are to be treated as asbestos-containing and must be removed under controlled conditions prior to general demolition or renovations.

2.2 Sampling Methodology

Samples of materials potentially containing asbestos were obtained throughout the fire station and food bank building by Strum staff on August 27, 2020. The collection of asbestos samples was performed with the intent to determine a general pattern of asbestos use within the building.

Efforts were made to ensure that every type of material that could potentially contain asbestos was sampled. Materials that were sampled for asbestos content within the fire station included drywall/joint compound, vinyl flooring, textured ceiling plaster, and ceiling tiles. Materials that were sampled for asbestos content within the food bank building included drywall/joint compound, vinyl flooring and countertop, plaster parging, paper underlay, ceiling tiles, caulking and asphalt roofing shingles.

A total of 15 building material samples [A1(AU27) – A13(AU27), A15(AU27) – A16(AU27)] from the fire station and 19 building material samples [A17(AU27) – A35(AU27)] from the food bank building were collected by Strum field staff. All samples were submitted to EMSL Analytical in Mississauga, ON, for analysis of asbestos by Polarized Light Microscopy (EPA 600R-93/116). Sampling methodology was in compliance with Strum QA/QC protocols.

Site Plans showing the locations of the collected samples are provided as Drawings 1 and 2 in Appendix A. A Photo Log of samples collected, along with analytical results, is provided in Appendix B. Laboratory reports are provided in Appendix C.

2.3 Asbestos Sample Results

As per the regulations and codes of practice listed in Section 2.1, any building materials found to contain greater than 0.5% asbestos is considered to be ACM. Samples identified as ACM are highlighted on Drawings 1 and 2 (Appendix A).

A summary of the bulk samples collected from the fire station and food bank building, as well as the number of samples identified to be are presented in the following Table A and Table B.

Table A: Summary of Fire Station Bulk Asbestos Samples

Bulk Material	Number of Samples Submitted for Analysis	Number of Samples Identified as ACM
Drywall/Joint Compound	5	0
Vinyl flooring	5	0
Textured Ceiling Plaster	3	0
Ceiling Tiles	2	0
Total	**15**	**0**

As shown in Table A, none of the bulk material building samples collected from the fire station were found to contain asbestos content.

Table B: Summary of Food bank Building Bulk Asbestos Samples

Bulk Material	Number of Samples Submitted for Analysis	Number of Samples Identified as ACM
Drywall/Joint Compound	4	0
Vinyl flooring	7	2
Paper Flooring Underlay	2	0
Vinyl Countertop	1	0
Plaster Parging	2	0
Ceiling Tile	1	0
Caulking	1	0
Asphalt Roofing Shingles/Tar	1	1
Total	**19**	**3**

As shown in Table B, three of the 19 building materials collected from the food bank building were found to be asbestos containing, including in vinyl flooring, and in tar of the asphalt shingles.

Vinyl Flooring
Vinyl flooring found to be non-friable ACM includes off-white vinyl roll-out flooring located within the kitchen and adjacent office room, and a light brown 9 x 9 vinyl floor tiles located within the client area, both on the main level of the food bank building.

Asphalt Roofing Tar/Shingles
Roofing tar found to be non-friable ACM was identified underlying the asphalt roofing shingles.

At the time of testing, the materials sampled were in good or fair condition. It is understood that demolition of the site building assessment area is to be completed; and therefore, ACM containing materials should be safely removed under controlled conditions by an experienced abatement contractor, prior to any demolition or disturbance of this material. Asbestos abatement should be completed as per the applicable provincial regulations and codes of practices presented in this report. The appropriate level of containment should be constructed to prevent the escape of asbestos contamination from the work area. Workers handling ACM should be outfitted with appropriate PPE.

3.0 LEAD IN PAINT & SURFACE COATINGS

3.1 Applicable Guidelines & Regulations
Regulations and guidelines dealing with the disposal of lead containing materials in Nova Scotia include the following:

- Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids (1994)
- Code of Practice for Working with Lead
- Working with Inorganic Lead – An Information Package
- Hazardous Products Act, R.S., c. H-3

Regulations and guidelines which govern the safe handling and disposal of lead containing materials in Nova Scotia are defined by the Federal Hazardous Products Act (HPA). The amount of lead in consumer paint products is currently regulated according to the Surface Coating Materials Regulations (SCMR) under the Canada Consumer Product Safety Act to not contain more than 90 mg/kg lead.

Disposal of lead-containing materials from a demolition standpoint should be evaluated on an individual basis, taking into account the concentrations contained within the material as well as the total volume of material to be disposed. If the reported concentrations of lead comply with

disposal guideline criteria (1,000 mg/kg), the material can be disposed of at a local solid waste disposal facility without any special considerations.

If the concentrations of lead exceed the disposal criteria, additional leachate testing must be completed on the material to determine if the concentrations in a leachate extraction exceed 5 mg/L. This is to prevent toxic materials from leaching or migrating into the ground and creating adverse environmental effects. If lead leachate concentrations are below the landfill disposal guidelines, the material is deemed suitable for disposal at an NSE approved solid waste landfill or C&D waste disposal site. If the material reports leachate concentrations which exceed the landfill guidelines, it is considered *leachate toxic* and must be disposed of at an approved facility.

3.2 Sampling Methodology

Paint samples were collected by Strum field staff on August 27, 2020 and analyzed to determine the concentrations of lead. The collection of paint samples was performed with the intent to determine a general pattern of paint use within the building. Samples were collected based on condition, pliability, and layering, and included the painted substrate where paint remained well adhered. Painted areas from which the samples were collected were observed to typically be in fair condition.

A total of 12 paint samples [L1(AU27) – L12(AU27)] were submitted to Bureau Veritas in Bedford, NS for analysis of lead in paint (ICPMS). Sampling methodology was in compliance with Strum QA/QC protocols.

Site Plans showing the locations of the collected samples are provided as Drawing 1 and 2 (Appendix A). A Photo Log of samples collected, along with the analytical results, is provided in Appendix B. Laboratory reports are provided in Appendix C.

3.3 Lead in Paint Sample Results

Samples collected for lead in paint analysis reported concentrations of lead ranging from below laboratory detection limits (i.e. non-detect) to 35,000 mg/kg. Eight samples reported lead concentrations that comply with the Nova Scotia Department of the Environment Disposal Guidelines of 1,000 mg/kg; however, the remaining four samples [L2(AU27), L6(AU27), L7(AU27), and L8(AU27)] reported lead concentrations that exceed the applicable guidelines. Material containing lead in paint concentrations below the applicable guideline of 1,000 mg/kg can be disposed of at a local solid waste disposal facility without any special considerations. To address the elevated lead concentrations reported in these four samples, analysis of lead leachate was completed as detailed in Section 4.0.

As a best management practice, all workers handling paints and surface coatings containing concentrations of lead exceeding the SCMR defined by the Canada Consumer Product Safety Act (90 mg/kg) should be outfitted with appropriate Personal Protective Equipment (PPE) if

disturbing the material during renovation or demolition activities. Special care should be taken not to grind or pulverize lead containing materials during removal.

4.0 LEAD LEACHATE

4.1 Sampling Methodology

To determine the disposal requirements for materials reported to contain concentrations that exceed the provincial disposal guidelines for lead (1,000 mg/kg), additional leachate testing was completed on samples L2(AU27), L6(AU27), L7(AU27), and L8(AU27). These samples were analyzed for lead leachate (CGSB) by Bureau Veritas in Bedford, NS. Sampling methodology was in compliance with Strum QA/QC protocols.

A Photo Log of samples collected, along with the analytical results, is provided in Appendix B. Laboratory reports are provided in Appendix C.

4.2 Analytical Results

The samples submitted for CGSB leachate analysis reported leachate concentrations ranging from 0.81 to 7.2 mg/L. Two of the four samples [L7(AU27) and L8(AU27)] analyzed for leachable lead concentrations were reported to exceed the provincial disposal guidelines of 5 mg/L, and therefore, are considered to be leachate toxic and not suitable for regular disposal at an NSE approved solid waste landfill or C&D waste disposal site. Samples L7(AU27) and L8(AU27) were both collected from the common area within the upper level of the food bank building.

Based on these findings, materials coated in black paint on walls and white paint on trim within the food bank building will require disposal through the services of an approved hazardous waste disposal company. All remaining materials sampled reported lead or leachable lead concentrations that comply with the provincial regulations, and therefore, can be disposed of at a local solid waste or C&D facility.

5.0 MERCURY ASSESSMENT

During the site visit, a visual inspection was completed within the assessment area to identify and assess materials potentially containing mercury such as switches, fluorescent lighting, and thermostats. Mercury containing materials are regulated through Health Canada's Hazardous Products Act and Transportation of Dangerous Goods Act.

Fluorescent lighting was identified throughout the building area and may potentially contain mercury vapour. Fluorescent bulbs were identified in light fixtures and stored in various areas throughout the building. Several tilt-switch thermostats were also observed in various locations within the building that may potentially contain mercury.

Any appliances/fixtures that potentially contain mercury and will be disturbed by demolition activities should be removed and sealed in appropriate sealable containers and be disposed of at an appropriate disposal facility.

6.0 OZONE DEPLETING SUBSTANCES

Strum personnel completed an inventory to document all potential ozone depleting substances (ODS) within the assessment area. To classify the potential of a chemical in relation to its ozone depleting properties, an Ozone Depleting Potential (ODP) is assigned to each gas. This is a relative value that indicates the potential of a substance to destroy ozone gas as compared with the potential of chlorofluorocarbon-11 (CFC-11) which is assigned a reference value of 1. Any substance with an ODP value greater than zero is known to be ozone depleting.

Several refrigerators and vending machines potentially containing ODS were identified throughout the building during the assessment. Potentially ODS containing wall-mounted air conditioners were also identified in the buildings. No other ODS containing appliances were identified within the assessment area.

All fixtures/appliances containing or potentially containing ODS should be decommissioned by a qualified refrigeration contractor in accordance with applicable regulations, if the unit is to be disposed of.

7.0 PCB ASSESSMENT

A survey of the assessment area was completed to identify electrical equipment (ballasts, transformers, capacitors) which may contain liquid PCBs and building materials which may contain non-liquid PCBs (i.e. Thiokol caulking).

7.1 Applicable Guidelines & Regulations

Regulatory requirements detailing the manufacturing, processing, and handling of PCB containing materials are listed below.

- Canadian Environmental Protection Act (CEPA) SOR 2008-273
- Nova Scotia PCB Management Regulations N.S. Reg. 163/97

In addition, the Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids (1994) states that material containing PCBs in excess of 50 ppm are not suitable for landfill disposal. Materials which exceed this concentration are classified as hazardous waste and therefore require disposal at an approved hazardous waste disposal facility.

7.2 PCB Assessment Methodology

Fluorescent light fixtures were visually identified throughout the buildings during the assessment. To determine if dielectric fluid containing PCBs was present within the ballasts of the fluorescent lighting, accessible light ballasts will need to evaluated. Identification of PCB containing light ballasts should be completed based on available manufacturer information and procedures detailed in the Environment Canada publication entitled Identification of Lamp Ballasts Containing PCBs. Screening of light ballasts or sampling of dielectric fluid was not completed during this survey.

No evidence of fluid leakage from lighting fixtures was noted during the assessment. No other electrical equipment that may contain PCBs (e.g. transformers, capacitors) was identified within the assessment area.

It is therefore recommended that all ballasts be screened prior to demolition to ensure specialized disposal is not required.

7.3 NLPCBs (Non-Liquid PCBs)

Non-liquid PCBs are materials containing PCBs that by visual inspection do not flow at room temperature (25˚C or 77˚F). Buildings that were constructed or refurbished before 1977 may still contain caulking with elevated levels of PCBs.

No potential PCB containing caulking was identified during the assessment. Should it be discovered during renovations, testing should be completed to determine PCB content for disposal purposes.

8.0 SILICA

No sampling of silica containing materials was completed during this assessment, however, silica, sand, and gravel are commonly used in building construction (i.e. concrete, ceramic, and refractory materials). Concrete and/or masonry block used for footings, flooring, and walls inside the building may contain silica.

As a best management practice, special precautions should be undertaken during demolition activities if dust is being generated to protect workers and occupants from potential silica containing dust. At a minimum, PPE should consist of a full body protective suit and a half-faced Air Purifying Respirator employing HEPA P100 filtration.

The American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) for worker exposure to the respirable fraction of crystalline silica is 0.05 mg/m^3.

9.0 MOULD

Potential mould or evidence of chronic water damage issues were not observed within the buildings at the time of the assessment.

As a best management practice, workers should wear appropriate PPE, including respirators with organic filters, if exposed to materials exhibiting mould contamination during demolition of the buildings.

10.0 RADIOACTIVE MATERIALS

No radioactive materials were identified within the assessment area.

11.0 UREA FORMALDEHYDE FOAM INSULATION (UFFI)

No UFFI was identified to be within the assessment area.

12.0 OTHER REGULATED MATERIALS

Other regulated materials referred to in various provincial and federal regulations are typically only present in industrial or manufacturing facilities. For this reason, isocyanates, vinyl chloride monomer, benzene, acrylonitrile, coke oven emissions, and ethylene oxide are not expected to be present in this building. Should any of the excluded substances be found within the areas designated for deconstruction, they should be assessed on an individual basis prior to disturbance.

13.0 SUMMARY OF FINDINGS

The findings of the August 2020 Regulated Materials Survey completed at 5 Oak Street, in Hantsport, NS are summarized below:

Table C: Summary of Findings

Asbestos	• Non-friable ACM was identified during the assessment, including vinyl flooring located within several areas of the food bank building and in roofing tar underlying the asphalt shingles of the food bank building. As such, all flooring similar in appearance to flooring within the client and kitchen area on the main floor of the food bank building, and all roofing material of the food bank building should be considered to contain ACM. • Asbestos abatement practices and precautionary measures protective of human health will be required to safely remove all ACM prior to the proposed demolition.

Lead in Paint	• Concentrations of lead in paint samples were reported to range from non-detect to 35,000 mg/kg. • Two samples collected from black and white paint within the upper level of the food bank building reported leachable lead concentrations that exceed the provincial disposal guidelines of 5 mg/L, and therefore, are considered to be leachate toxic and not suitable for regular disposal at an NSE approved solid waste landfill or C&D waste disposal site. These materials will require disposal through the services of an approved hazardous waste disposal company. • Precautionary measures protective of human health will be required during the disturbance and disposal of lead containing building materials containing lead concentrations exceeding the SCMR (90 mg/kg) defined by the Canada Consumer Product Safety Act.
Mercury in Appliances	• Fluorescent lighting that may contain mercury vapour and tilt-switch thermostats that may contain mercury were identified throughout the building.
Ozone-Depleting Substances	• Several refrigerators and wall mounted air conditioning units were identified in the assessment area as potentially ODS containing and should be screened for ODS prior to disposal.
Polychlorinated Biphenyls (PCBs)	• Potential PCB containing ballasts were identified during the assessment. • No potential PCB containing caulking or electrical equipment was observed during the assessment.
Silica	• Typical of standard construction, concrete, and masonry materials used for foundations, flooring, and walls may contain silica.
Mould	• Potential mould or evidence of chronic water damage issues were not observed within the buildings at the time of the assessment.

14.0 RECOMMENDATIONS

Based on the findings of this assessment the following recommendations are forwarded:

1. Prior to the completion of any demolition activities, a qualified abatement contractor should be retained to complete the safe removal and disposal of non-friable asbestos containing vinyl flooring and roofing materials, as per the applicable provincial regulations and codes of practices. Workers handling ACM should be outfitted with appropriate personal protective equipment (PPE). The appropriate level of barriers and/or containment should be put in place to restrict access to the work areas, until such time that the abatement activities can be completed.

2. Workers handling lead or other metal containing dusts should be outfitted with appropriate PPE. Special care should be taken not to grind or pulverize leaded materials during removal. Materials coated in black and white paint sampled within the food bank building will require disposal through the services of an approved hazardous waste disposal company.

3. Potentially mercury containing fluorescent bulbs should be removed prior to demolition activities and disposed of in an appropriate manner in accordance with applicable regulations.

4. Although no PCB-containing ballasts were identified, ballasts should be screened on an individual basis to determine PCB content and appropriate disposal options prior to demolition activities.

5. All fixtures identified to contain an ozone depleting refrigerant should be decommissioned by a qualified refrigeration technician prior to disposal.

6. Workers involved in the demolition and disposal of building materials should be outfitted with appropriate PPE, protective of asbestos, lead, silica, and mould. Special care should be taken not to grind or pulverize leaded materials during removal. In addition, appropriate dust hoarding should be erected if excessive dust is generated.

15.0 STATEMENT OF QUALIFICATIONS AND LIMITATIONS

This Report (the "Report") has been prepared by Strum Consulting ("Consultant") for the benefit of the Harvey Architecture Ltd. ("Client") in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the "Agreement").

The information, data, recommendations, and conclusions contained in the Report (collectively, the "Information"):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations");
- represents Consultant's professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to Consultant which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement;
- in the case of subsurface, environmental, or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time

Consultant shall be entitled to rely upon the accuracy and completeness of information that was provided and has no obligation to update such information. Consultant accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental, or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

Consultant agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but Consultant makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

The Report is to be treated as confidential and may not be used or relied upon by third parties, except:

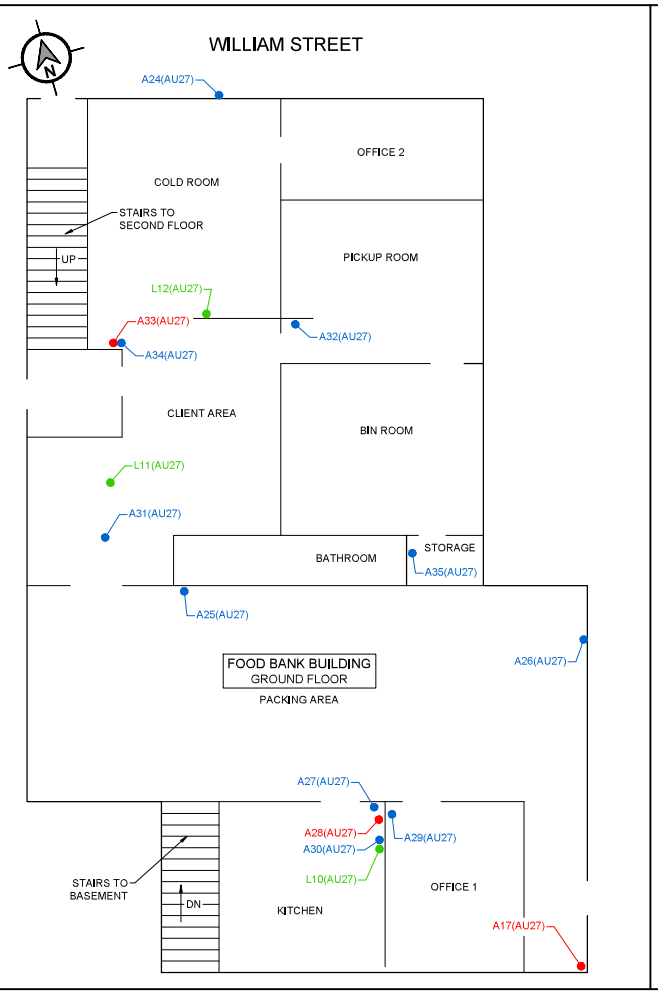
- as agreed in writing by Consultant and Client;
- as required by law; and
- for use by governmental reviewing agencies.

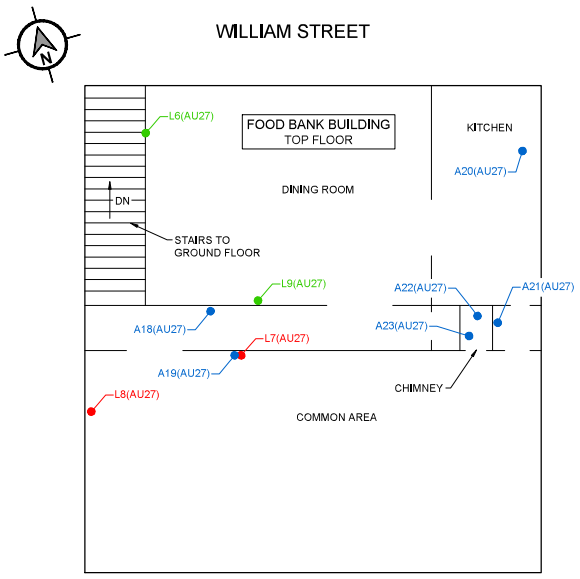
Consultant accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss, or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of Consultant to use and rely upon the Report and the Information. Any damages arising from improper use of the Report or parts thereof shall be borne by the party making such use.

This Statement of Qualifications and Limitations forms part of the Report and any use of the Report is subject to the terms hereof.

This report was prepared by Patrick Avery, CET, Environmental Technologist and was reviewed by Jeff Faulkner, P.Geo., Senior Project Manager.

APPENDIX A
SITE DIAGRAMS





LEGEND

ASBESTOS SAMPLE.. A#(mmdd) A#(mmdd)

LEAD SAMPLE..... L#(mmdd) L#(mmdd)

RED LABELS INDICATES EXCEEDANCE OF APPLICABLE CRITERIA

GENERAL NOTES:

1. SITE FEATURES AND SERVICES ARE APPROXIMATE ONLY. SUBJECT TO SURVEY.

CLIENT:
HARVEY ARCHITECTURE LTD.

PROJECT:
HAZARDOUS MATERIALS SURVEY

LOCATION:
OAK STREET
HANTSPORT, N.S.

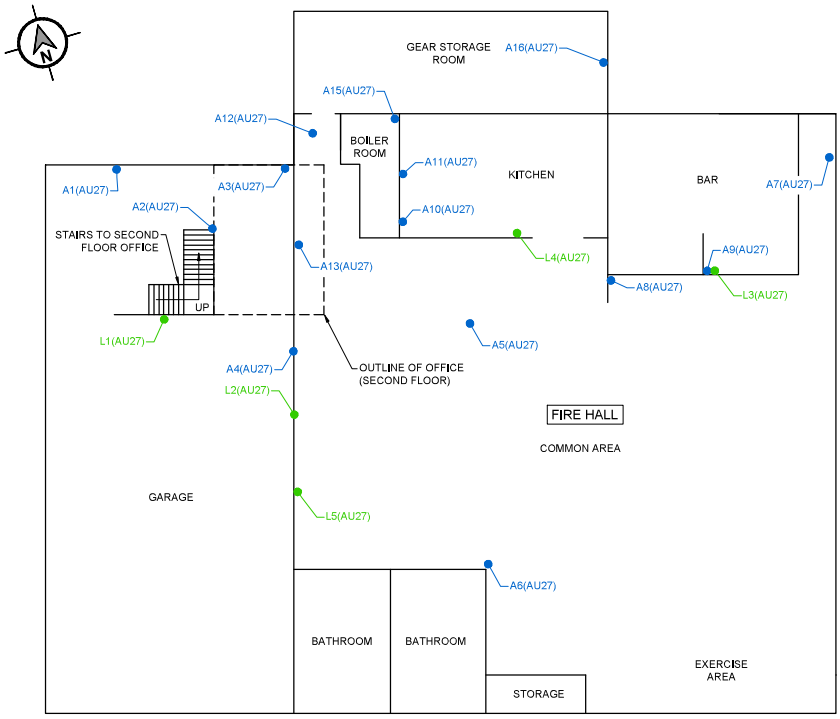
TITLE:
FOOD BANK BUILDING
GROUND FLOOR & SECOND FLOOR

CONSULTANT:
Strum CONSULTING
Engineering * Surveying * Environmental
Bedford * Antigonish * St John's * Moncton

SCALE: H: NOT TO SCALE V:		
DATE: SEPTEMBER 2020		DRAWN: L. PEMBERTON
DESIGNED:	CHECKED: P. AVERY	APPR'D: J. FAULKNER

PROJECT No.: 20-7511

DRAWING No.: 1



LEGEND:

ASBESTOS SAMPLE.. A#(mmdd) A#(mmdd)

LEAD SAMPLE..... L#(mmdd) L#(mmdd)

RED LABELS INDICATES EXCEEDANCE OF APPLICABLE CRITERIA

GENERAL NOTES:

1. SITE FEATURES AND SERVICES ARE APPROXIMATE ONLY. SUBJECT TO SURVEY.

CLIENT:
HARVEY ARCHITECTURE LTD.

PROJECT:
HAZARDOUS MATERIALS SURVEY

LOCATION:
OAK STREET
HANTSPORT, N.S.

TITLE:
FIRE STATION

CONSULTANT:
Strum CONSULTING
Engineering * Surveying * Environmental
Bedford * Antigonish * St John's * Moncton

SCALE: H: NOT TO SCALE V:

DATE:	DRAWN:
SEPTEMBER 2020	L. PEMBERTON

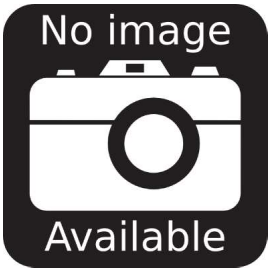
DESIGNED:	CHECKED:	APPR'D:
	P. AVERY	J. FAULKNER

PROJECT No.: 20-7511

DRAWING No.: 2

APPENDIX B
SAMPLE LOGS

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

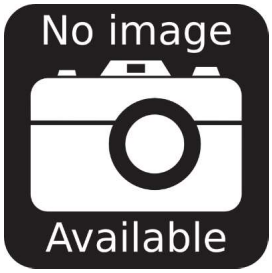
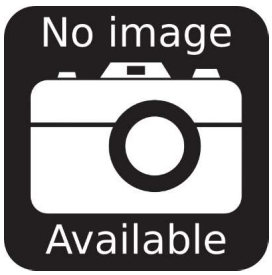
Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A1(AU27)	Joint Compound	Fire Station - Garage		White painted joint compound **Covering**: Paint **Condition**: Good **Access**: A **Hazard**: No **Friability**: - **PLM Analytical Results –** Lab ID # 552008923-0001 Phase: Joint Compound; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100
A2(AU27)	**Grey floor Tile**	Fire Station - Office		Grey 12”x12” floor tile **Covering**: None **Condition**: Good **Access**: A **Hazard**: No **Friability**: - **PLM Analytical Results –** Lab ID # 552008923-0002 Phase: Floor Tile; Asbestos Fibres (%): -; Non-asbestos fibres (%): 0; Non-fibrous material (%): 100

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A3(AU27)	Joint Compound	Fire Station - Office		White painted joint compound **Covering**: Paint **Condition**: Good **Access**: A **Hazard**: No **Friability**: - **PLM Analytical Results –** Lab ID # 552008923-0003 Phase: Joint Compound; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100
A4(AU27)	Vinyl Floor Tile	Fire Station – Common area		White / Brown 12”x12” vinyl floor tile **Covering**: None **Condition**: Fair **Access**: A **Hazard**: No **Friability**: - **PLM Analytical Results –** Lab ID # 552008923-0004 Phase: Floor Tile; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A5(AU27)	Stipple Ceiling	Fire Station – Common area ceiling		White stipple/ popcorn ceiling **Covering:** None **Condition:** Good **Access:** A **Hazard:** No **Friability:** - **PLM Analytical Results –** Lab ID # 552008923-0005 Phase: Stipple Ceiling Plaster; Asbestos Fibres (%): -; Non-asbestos fibres (%): 0; Non-fibrous material (%): 100
A6(AU27)	Stipple Ceiling	Fire Station – Common area ceiling		White stipple/ popcorn ceiling **Covering:** Paint **Condition:** Good **Access:** A **Hazard:** No **Friability:** - **PLM Analytical Results –** Lab ID # 552008923-0006 Phase: Stipple Ceiling Plaster; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100

Legend:

ACCESS		CONDITION	
A	**All Building Occupants**	**Good**	**No visible damage or exposed material**
B	**Maintenance & Operations Staff without use of a ladder**	**Fair**	**Repairable damage with minor amounts of exposed material**
C	**Maintenance & Operations Staff with use of a ladder**	**Poor**	**Irreparable damage with exposed and missing material**
D	**Inaccessible**		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A7(AU27)	Stipple Ceiling	Fire Station – Common area ceiling		White stipple/ popcorn ceiling **Covering**: Paint **Condition**: Good **Access**: A **Hazard**: No **Friability**: -
				PLM Analytical Results – Lab ID # 552008923-0007
				Phase: Stipple Ceiling Plaster; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100
A8(AU27)	Vinyl Floor Tile with Caulking and Mastic	Fire Station – Common area		3 Phases • Caulking • Off white with brown flecks 12”x12” Vinyl floor tile • Mastic **Covering**: None **Condition**: Good **Access**: A **Hazard**: No **Friability**: -
				PLM Analytical Results – Lab ID # 552008923-0008
				Caulking: Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100
				Floor Tile: Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100
				Mastic: Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A9(AU27)	Joint Compound	Fire Station - Bar		Pink painted joint compound **Covering**: Paint **Condition**: Good **Access**: A **Hazard**: No **Friability**: - **PLM Analytical Results –** Lab ID # 552008923-0009 Phase: Joint Compound; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100
A10(AU27)	Vinyl Roll Flooring	Fire Station - Kitchen		Brown vinyl roll flooring **Covering**: None **Condition**: Good **Access**: A **Hazard**: No **Friability**: - **PLM Analytical Results –** Lab ID # 552008923-0010 Phase: **Vinyl Flooring**; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100

Legend:

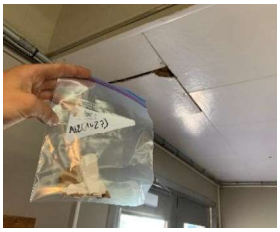
ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A11(AU27)	Joint Compound	Fire Station - Kitchen		White painted joint compound **Covering:** Paint **Condition:** Good **Access:** A **Hazard:** No **Friability:** - **PLM Analytical Results –** Lab ID # 552008923-0011

Phase	Asbestos Fibres (%)	Non-asbestos fibres (%)	Non-fibrous material (%)
Joint Compound	-	-	100

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A12(AU27)	Ceiling Tile	Fire Station - Hallway		White/brown fibrous ceiling tile **Covering:** None **Condition:** Good **Access:** A **Hazard:** No **Friability:** - **PLM Analytical Results –** Lab ID # 552008923-0012

Phase	Asbestos Fibres (%)	Non-asbestos fibres (%)	Non-fibrous material (%)
Ceiling Tile	-	90	10

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A13(AU27)	Ceiling Tile	Fire Station - Hallway		White/ brown fibrous ceiling tile **Covering**: None **Condition**: Good **Access**: A **Hazard**: No **Friability**: - **PLM Analytical Results –** Lab ID # 552008923-0013 Phase: Ceiling Tile; Asbestos Fibres (%): -; Non-asbestos fibres (%): 90; Non-fibrous material (%): 10
A15(AU27)	Joint Compound	Fire Station – Electrical/ Boiler room		White joint compound **Covering**: None **Condition**: Fair **Access**: B **Hazard**: No **Friability**: - **PLM Analytical Results –** Lab ID # 552008923-0014 Phase: Joint Compound; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A16(AU27)	Vinyl Flooring	Fire Station – Gear room		Brown/Grey vinyl flooring **Covering**: None **Condition**: Fair **Access**: B **Hazard**: No **Friability**: - **PLM Analytical Results** – Lab ID # 552008923-0015 Phase: Vinyl Flooring; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100
A17(AU27)	Asphalt Shingle	Food Bank – Exterior Roof		2 Phases • Asphalt shingle – Black • Tar **Covering**: None **Condition**: Good **Access**: C **Hazard**: Yes **Friability**: Non-Friable **PLM Analytical Results** – Lab ID # 552008923-0016 Shingle: Asbestos Fibres (%): -; Non-asbestos fibres (%): 55; Non-fibrous material (%): 45 **Tar**: Asbestos Fibres (%): **4 (Chrysotile)**; Non-asbestos fibres (%): **-**; Non-fibrous material (%): **96** **4% Chrysotile Asbestos**

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A18(AU27)	Vinyl Roll Flooring	Foodbank – Upper Level – Hallway		Patterned vinyl roll flooring- Brown **Covering**: None **Condition**: Good **Access**: A **Hazard**: No **Friability**: - **PLM Analytical Results –** Lab ID 552008923-0017 Phase: Vinyl Flooring; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100
A19(AU27)	Tar Paper	Foodbank – Upper Level - Common area		2 Phases • Sheet Flooring • Tar paper underlay – Black **Covering**: Flooring **Condition**: Good **Access**: B **Hazard**: No **Friability**: Non-Friable **PLM Analytical Results –** Lab ID # 552008923-0018 Sheet Flooring: Asbestos Fibres (%): -; Non-asbestos fibres (%): 55; Non-fibrous material (%): 45 Tar Paper: Asbestos Fibres (%): <0.25; Non-asbestos fibres (%): -; Non-fibrous material (%): 100

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result		
A20(AU27)	Vinyl Laminate Countertop	Foodbank - Upper Level - Kitchen		Off white Vinyl Countertop	**Covering**	None
					Condition	Good
					Access	B
					Hazard	No
					Friability	-
				PLM Analytical Results – Lab ID 552008923-0019		
				Phase	Asbestos Fibres (%)	Non-asbestos fibres (%) / Non-fibrous material (%)
				Countertop	-	- / 100
A21(AU27)	Joint Compound	Foodbank - Upper Level - Kitchen		White painted joint compound	**Covering**	Paint
					Condition	Good
					Access	A
					Hazard	No
					Friability	-
				PLM Analytical Results – Lab ID # 552008923-0020		
				Phase	Asbestos Fibres (%)	Non-asbestos fibres (%) / Non-fibrous material (%)
				Joint Compound	-	- / 100

Legend:

ACCESS		CONDITION	
A	**All Building Occupants**	**Good**	**No visible damage or exposed material**
B	**Maintenance & Operations Staff without use of a ladder**	**Fair**	**Repairable damage with minor amounts of exposed material**
C	**Maintenance & Operations Staff with use of a ladder**	**Poor**	**Irreparable damage with exposed and missing material**
D	**Inaccessible**		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A22(AU27)	Tar Paper	Foodbank - Upper Level -		Tar Paper - Black **Covering:** Flooring **Condition:** Poor **Access:** B **Hazard:** No **Friability:** - **PLM Analytical Results –** Lab ID 552008923-0019

Phase	Asbestos Fibres (%)	Non-asbestos fibres (%)	Non-fibrous material (%)
Tar Paper	-	60	40

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A23(AU27)	Plaster Parging	Foodbank - Upper Level -		2 Phases • Skim coat • Rough coat **Covering:** None **Condition:** Poor **Access:** B **Hazard:** Yes **Friability:** - **PLM Analytical Results –** Lab ID # 552008923-0020

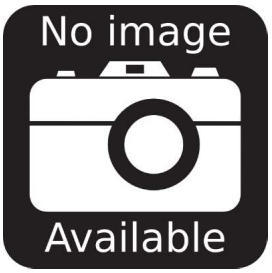
Phase	Asbestos Fibres (%)	Non-asbestos fibres (%)	Non-fibrous material (%)
Skim Coat	-	-	100
Rough Coat	-	-	100

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
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C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

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Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

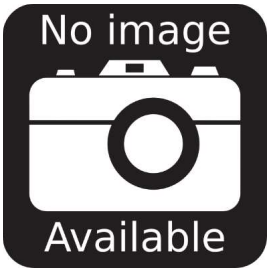
Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A24(AU27)	Caulking	Foodbank - Exterior		Painted exterior window caulking - Brown **Covering:** Paint **Condition:** Fair **Access:** C **Hazard:** No **Friability:** - **PLM Analytical Results –** Lab ID 552008923-0017 Phase: Caulking; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100
A25(AU27)	Vinyl Roll Flooring	Foodbank - Lower Level – Packing Area		Yellow / Brown vinyl roll flooring **Covering:** None **Condition:** Good **Access:** A **Hazard:** No **Friability:** - **PLM Analytical Results –** Lab ID # 552008923-0018 Phase: Vinyl Flooring; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result			
A26(AU27)	Joint Compound	Foodbank - Lower Level – Storage Area		White joint compound	**Covering**	Paint	
					Condition	Good	
					Access	B	
					Hazard	No	
					Friability	-	
				PLM Analytical Results – Lab ID 552008923-0019			
				Phase	Asbestos Fibres (%)	Non-asbestos fibres (%)	Non-fibrous material (%)
				Joint Compound	-	-	100
A27(AU27)	Vinyl Roll Flooring	Foodbank – Lower Level – Kitchen		Vinyl Roll flooring - White with brown flecks	**Covering**	None	
					Condition	Good	
					Access	A	
					Hazard	No	
					Friability	-	
				PLM Analytical Results – Lab ID # 552008923-0020			
				Phase	Asbestos Fibres (%)	Non-asbestos fibres (%)	Non-fibrous material (%)
				Vinyl Flooring	-	-	100

Legend:

ACCESS		CONDITION	
A	**All Building Occupants**	**Good**	**No visible damage or exposed material**
B	**Maintenance & Operations Staff without use of a ladder**	**Fair**	**Repairable damage with minor amounts of exposed material**
C	**Maintenance & Operations Staff with use of a ladder**	**Poor**	**Irreparable damage with exposed and missing material**
D	**Inaccessible**		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A28(AU27)	Vinyl Roll Flooring	Foodbank - Lower Level – Kitchen		Vinyl Roll flooring - Off white **Covering:** None **Condition:** Good **Access:** A **Hazard:** Yes **Friability:** Non-friable **PLM Analytical Results –** Lab ID 552008923-0019 Phase: Vinyl Flooring; Asbestos Fibres (%): **15**; Non-asbestos fibres (%): -; Non-fibrous material (%): 85 **15% Chrysotile**
A29(AU27)	Vinyl Floor Tile with Mastic	Foodbank - Lower Level -		2 Phase • 12”x12” Vinyl Grey with green flecks floor tile • Mastic **Covering:** None **Condition:** Good **Access:** A **Hazard:** No **Friability:** - **PLM Analytical Results –** Lab ID # 552008923-0020 Phase: Vinyl Tile; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100 Phase: Mastic; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

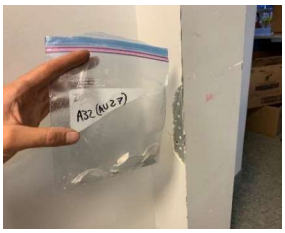
Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A30(AU27)	Joint Compound	Foodbank - Lower Level -		White painted joint compound **Covering:** Paint **Condition:** Good **Access:** A **Hazard:** No **Friability:** - **PLM Analytical Results –** Lab ID 552008923-0017 Phase: Joint Compound; Asbestos Fibres (%): -; Non-asbestos fibres (%): -; Non-fibrous material (%): 100
A31(AU27)	Plaster	Foodbank - Lower Level – Wall Cavity in Attic		White plaster **Covering:** None **Condition:** Poor **Access:** C **Hazard:** No **Friability:** - **PLM Analytical Results –** Lab ID # 552008923-0018 Phase: Plaster; Asbestos Fibres (%): -; Non-asbestos fibres (%): 0; Non-fibrous material (%): 100

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

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Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A32(AU27)	Joint Compound	Foodbank - Lower Level – Pickup Room		White painted joint compound **Covering:** Paint **Condition:** Good **Access:** A **Hazard:** No **Friability:** - **PLM Analytical Results –** Lab ID # 552008923-0013 Joint Compound: Asbestos Fibres (%) -; Non-asbestos fibres (%) -; Non-fibrous material (%) 100
A33(AU27)	Vinyl Floor Tile with Mastic	Foodbank – Lower Level -		2 Phases • 9x9 Vinyl floor tile – Light brown • Mastic **Covering:** Carpet **Condition:** Fair **Access:** A **Hazard:** No **Friability:** Non-Friable **PLM Analytical Results –** Lab ID # 552008923-0014 **Vinyl Tile**: Asbestos Fibres (%) **3**; Non-asbestos fibres (%) **-**; Non-fibrous material (%) **97** Mastic **3% Chrysotile**

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and exterior	**Site Address:**	Hantsport Fire Hall & Foodbank
	Asbestos Analysis By:	EMSL Analytical		

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A34(AU27)	Ceiling Tile	Foodbank - Lower Level – Cold Room		Fibrous ceiling tile – White / Brown **Covering:** None **Condition:** Fair **Access:** A **Hazard:** No **Friability:** - **PLM Analytical Results –** Lab ID # 552008923-0015

Phase	Asbestos Fibres (%)	Non-asbestos fibres (%)	Non-fibrous material (%)
Ceiling Tile	-	90	10

Sample ID	Material Type	Area	Photo	Material Description & Analytical Result
A35(AU27)	Vinyl Roll Flooring	Foodbank – Lower Level – Bin room closet		Vinyl Roll Flooring - Blue **Covering:** None **Condition:** Good **Access:** A **Hazard:** No **Friability:** - **PLM Analytical Results –** Lab ID # 552008923-0016

Phase	Asbestos Fibres (%)	Non-asbestos fibres (%)	Non-fibrous material (%)
Vinyl Flooring	-	-	100

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected (no asbestos fibres were observed)

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and Exterior	**Site Address:**	Hantsport Firehall & Foodbank
	Paint Analysis By:	Bureau Veritas Labs		

Sample ID	Material Type	Area	Photo	Analytical Result
L1(AU27)	Navy blue paint	Fire Station - Garage		**Analytes** / **Result** / **RDL** / ***Guideline** Lead / 38 mg/kg / 5.0 mg/kg / 1000 mg/kg **Paint Metals:** Lab ID NFI821 * Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids In Landfills, 2004.
L2(AU27)	Red paint	Fire Station - Garage		**Analytes** / **Result** / **RDL** / ***Guideline** Lead / **1700 mg/kg** / 5.0 mg/kg / 1000 mg/kg Leachable Lead / 0.81 / 0.005 mg/L / 5 mg/L **Paint Metals:** Lab ID NFI822 * Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids In Landfills, 2004.

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and Exterior	**Site Address:**	Hantsport Firehall & Foodbank
	Paint Analysis By:	Bureau Veritas Labs		

Sample ID	Material Type	Area	Photo	Analytical Result
L3(AU27)	Light pink paint	Fire Station - Bar		**Analytes** / **Result** / **RDL** / ***Guideline** Lead / nd / 5.0 mg/kg / 1000 mg/kg Lab-Dup / nd / 5.0 mg/kg / 1000 mg/kg **Paint Metals:** Lab ID NFI823 * Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids In Landfills, 2004.
L4(AU27)	Cream paint	Fire Station - Kitchen		**Analytes** / **Result** / **RDL** / ***Guideline** Lead / 610 mg/kg / 5.0 mg/kg / 1000 mg/kg **Paint Metals:** Lab ID NFI824 * Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids In Landfills, 2004.

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and Exterior	**Site Address:**	Hantsport Firehall & Foodbank
	Paint Analysis By:	Bureau Veritas Labs		

Sample ID	Material Type	Area	Photo	Analytical Result
L5(AU27)	Grey paint	Fire Station – Common Area		**Analytes** / **Result** / **RDL** / ***Guideline**: Lead — 27 mg/kg — 5.0 mg/kg — 1000 mg/kg **Paint Metals:** Lab ID NFI825 * Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids In Landfills, 2004.
L6(AU27)	Red paint	Foodbank – Upper Level - Stairwell		**Analytes** / **Result** / **RDL** / ***Guideline**: Lead — **10000 mg/kg** — 5.0 mg/kg — 1000 mg/kg; Leachable Lead — 1.4 mg/L — 0.005 mg/L — 5 mg/L **Paint Metals:** Lab ID NFI826 * Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids In Landfills, 2004.

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and Exterior	**Site Address:**	Hantsport Firehall & Foodbank
	Paint Analysis By:	Bureau Veritas Labs		

Sample ID	Material Type	Area	Photo	Analytical Result
L7(AU27)	Black paint	Foodbank – Upper Level – Common Area		**Analytes** / **Result** / **RDL** / ***Guideline** Lead: **35000 mg/kg** / 5.0 mg/kg / 1000 mg/kg Leachable Lead: **6.0 mg/L** / 0.005 mg/L / 5 mg/L **Paint Metals:** Lab ID NFI827 * Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids In Landfills, 2004.
L8(AU27)	White trim/ ceiling paint	Foodbank – Upper Level – Common Area		**Analytes** / **Result** / **RDL** / ***Guideline** Lead: **20000 mg/kg** / 5.0 mg/kg / 1000 mg/kg Leachable Lead: **7.2 mg/L** / 0.005 mg/L / 5 mg/L **Paint Metals:** Lab ID NFI828 * Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids In Landfills, 2004.

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and Exterior	**Site Address:**	Hantsport Firehall & Foodbank
	Paint Analysis By:	Bureau Veritas Labs		

Sample ID	Material Type	Area	Photo	Analytical Result
L9(AU27)	Light blue green paint	Foodbank – Upper Level - Kitchen		**Analytes** / **Result** / **RDL** / ***Guideline**: Lead / 280 mg/kg / 5.0 mg/kg / 1000 mg/kg **Paint Metals:** Lab ID NFI827 * Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids In Landfills, 2004.
L10(AU27)	White paint	Foodbank – Lower Level - Kitchen		Layered **Analytes** / **Result** / **RDL** / ***Guideline**: Lead / nd / 5.0 mg/kg / 1000 mg/kg **Paint Metals:** Lab ID NFI828 * Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids In Landfills, 2004.

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected

Strum CONSULTING	**Project #**	20-7511	**Field Work Date:**	August 27, 2020
	Assessment Area(s):	Building(s) Interior and Exterior	**Site Address:**	Hantsport Firehall & Foodbank
	Paint Analysis By:	Bureau Veritas Labs		

Sample ID	Material Type	Area	Photo	Analytical Result
L11(AU27)	Green/ Brown paint	Foodbank – Lower Level - False Ceiling		**Analytes** / **Result** / **RDL** / ***Guideline**: Lead / 110 mg/kg / 5.0 mg/kg / 1000 mg/kg **Paint Metals:** Lab ID NFI827 * Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids In Landfills, 2004.
L12(AU27)	Blue paint	Foodbank – Lower Level – Cold Room		Layered **Analytes** / **Result** / **RDL** / ***Guideline**: Lead / 5.5 mg/kg / 5.0 mg/kg / 1000 mg/kg **Paint Metals:** Lab ID NFI828 * Nova Scotia Department of the Environment Guidelines for Disposal of Contaminated Solids In Landfills, 2004.

Legend:

ACCESS		CONDITION	
A	All Building Occupants	Good	No visible damage or exposed material
B	Maintenance & Operations Staff without use of a ladder	Fair	Repairable damage with minor amounts of exposed material
C	Maintenance & Operations Staff with use of a ladder	Poor	Irreparable damage with exposed and missing material
D	Inaccessible		

nd = None Detected

APPENDIX C
LABORATORY REPORTS

EMSL Canada Inc.

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EMSL Canada Order 552010923
Customer ID: 55STRU78
Customer PO: 20-7511
Project ID:

Attn: Jeff Faulkner
Strum Consulting
Railside, 1355 Bedford Highway
Bedford, Nova Scotia, NS B4A 1C5

Phone: (902) 835-5560
Fax: (902) 835-5574
Collected:
Received: 9/01/2020
Analyzed: 9/05/2020

Proj: 20-7511

Test Report: Asbestos Analysis of Bulk Materials for Nova Scotia Code of Practice Section 66 OHS Act - Asbestos in the Workplace via EPA600/R-93/116 Method

Client Sample ID: A1(AU27) ***Lab Sample ID:*** **552010923-0001**
Sample Description: garage/joint compound

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: A2(AU27) ***Lab Sample ID:*** **552010923-0002**
Sample Description: office/grey vinyl floor tile

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Gray/Black	0.0%	100.0%	None Detected	

Client Sample ID: A3(AU27) ***Lab Sample ID:*** **552010923-0003**
Sample Description: office/joint compound

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: A4(AU27) ***Lab Sample ID:*** **552010923-0004**
Sample Description: common area/white/ grey vinyl tile

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: A5(AU27) ***Lab Sample ID:*** **552010923-0005**
Sample Description: ceiling common area/stucko/ popcorn ceiling

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: A6(AU27) ***Lab Sample ID:*** **552010923-0006**
Sample Description: ceiling common area/stucko/ popcorn ceiling

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: A7(AU27) ***Lab Sample ID:*** **552010923-0007**
Sample Description: ceiling common area/stucko/ popcorn ceiling

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	White	0.0%	100.0%	None Detected	

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Project ID:

Test Report: Asbestos Analysis of Bulk Materials for Nova Scotia Code of Practice Section 66 OHS Act - Asbestos in the Workplace via EPA600/R-93/116 Method

Client Sample ID: A8(AU27)-Caulking ***Lab Sample ID:*** **552010923-0008**

Sample Description: common area/brown/ white vinyl tile

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Tan/Beige	0.0%	100.0%	None Detected	

Client Sample ID: A8(AU27)-Floor Tile ***Lab Sample ID:*** **552010923-0008A**

Sample Description: common area/brown/ white vinyl tile

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: A8(AU27)-Mastic ***Lab Sample ID:*** **552010923-0008B**

Sample Description: common area/brown/ white vinyl tile

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Gray/Black	0.0%	100.0%	None Detected	

Client Sample ID: A9(AU27) ***Lab Sample ID:*** **552010923-0009**

Sample Description: bar/white joint compound

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: A10(AU27) ***Lab Sample ID:*** **552010923-0010**

Sample Description: kitchen/brown roll flooring

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Brown/Black	0.0%	100.0%	None Detected	

Client Sample ID: A11(AU27) ***Lab Sample ID:*** **552010923-0011**

Sample Description: kitchen/white joint compound

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: A12(AU27) ***Lab Sample ID:*** **552010923-0012**

Sample Description: hallway/fibrous ceiling tile- white/ brown

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Brown/White	90.0%	10.0%	None Detected	

Client Sample ID: A13(AU27) ***Lab Sample ID:*** **552010923-0013**

Sample Description: hallway/fibrous ceiling tile- white/ brown

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Brown/White	90.0%	10.0%	None Detected	

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Test Report: Asbestos Analysis of Bulk Materials for Nova Scotia Code of Practice Section 66 OHS Act - Asbestos in the Workplace via EPA600/R-93/116 Method

Client Sample ID: A15(AU27) ***Lab Sample ID:*** **552010923-0014**

Sample Description: electrical/ boiler room/white joint compound

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: A16(AU27) ***Lab Sample ID:*** **552010923-0015**

Sample Description: gear room/grey flooring

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Brown/Black	0.0%	100.0%	None Detected	

Client Sample ID: A17(AU27)-Shingle ***Lab Sample ID:*** **552010923-0016**

Sample Description: roof/black- ashphalt shingle

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Black	55.0%	45.0%	None Detected	

Client Sample ID: A17(AU27)-Tar ***Lab Sample ID:*** **552010923-0016A**

Sample Description: roof/black- ashphalt shingle

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Black	0.0%	96.0%	**4% Chrysotile**	

Client Sample ID: A18(AU27) ***Lab Sample ID:*** **552010923-0017**

Sample Description: hall/ kitchen/patterned roll flooring

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Brown/Beige	0.0%	100.0%	None Detected	

Client Sample ID: A19(AU27)-Sheet Flooring ***Lab Sample ID:*** **552010923-0018**

Sample Description: common area (under carpet)/black tar paper underlay

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Black/Beige	55.0%	45.0%	None Detected	

Client Sample ID: A19(AU27)-Underlay Paper ***Lab Sample ID:*** **552010923-0018A**

Sample Description: common area (under carpet)/black tar paper underlay

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Gray	80.0%	20.0%	**<1% Chrysotile**	
400 PLM Pt Ct	9/05/2020	Gray	0.0%	100.0%	**<0.25% Chrysotile**	

Client Sample ID: A20AU27) ***Lab Sample ID:*** **552010923-0019**

Sample Description: kitchen counter/laminated counter top

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Brown/Beige	0.0%	100.0%	None Detected	

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Test Report: Asbestos Analysis of Bulk Materials for Nova Scotia Code of Practice Section 66 OHS Act - Asbestos in the Workplace via EPA600/R-93/116 Method

Client Sample ID: A21(AU27) ***Lab Sample ID:*** **552010923-0020**

Sample Description: kitchen/joint compound -white

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: A22(AU27) ***Lab Sample ID:*** **552010923-0021**

Sample Description: chimney room/ storage room/tar paper

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Black	60.0%	40.0%	None Detected	

Client Sample ID: A23(AU27)-Skim Coat ***Lab Sample ID:*** **552010923-0022**

Sample Description: chimmney- chimney / storage room/plaster/ parging on chimney- white

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: A23(AU27)-Rough Coat ***Lab Sample ID:*** **552010923-0022A**

Sample Description: chimmney- chimney / storage room/plaster/ parging on chimney- white

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: A24(AU27) ***Lab Sample ID:*** **552010923-0023**

Sample Description: building exterior windows/window caulking

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Brown	0.0%	100.0%	None Detected	

Client Sample ID: A25(AU27) ***Lab Sample ID:*** **552010923-0024**

Sample Description: packing area/yellow brown roll flooring

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: A26(AU27) ***Lab Sample ID:*** **552010923-0025**

Sample Description: storage area/joint compound- white

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: A27(AU27) ***Lab Sample ID:*** **552010923-0026**

Sample Description: kitchen/white-ish roll flooring

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Beige	0.0%	100.0%	None Detected	

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Test Report: Asbestos Analysis of Bulk Materials for Nova Scotia Code of Practice Section 66 OHS Act - Asbestos in the Workplace via EPA600/R-93/116 Method

Client Sample ID: A28(AU27) ***Lab Sample ID:*** **552010923-0027**
Sample Description: kitchen/off white roll flooring

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Yellow/Beige	0.0%	85.0%	**15% Chrysotile**	

Client Sample ID: A29(AU27)-Floor Tile ***Lab Sample ID:*** **552010923-0028**
Sample Description: office 1/grey/ green vinyl floor tile

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: A29(AU27)-Mastic ***Lab Sample ID:*** **552010923-0028A**
Sample Description: office 1/grey/ green vinyl floor tile

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: A30(AU27) ***Lab Sample ID:*** **552010923-0029**
Sample Description: kitchen/joint compound

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: A31(AU27) ***Lab Sample ID:*** **552010923-0030**
Sample Description: attic of addition inside wall cavity/white plaster

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: A32(AU27) ***Lab Sample ID:*** **552010923-0031**
Sample Description: pickup room/white joint compound

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: A33(AU27)-Floor Tile ***Lab Sample ID:*** **552010923-0032**
Sample Description: cold room (under carpet)/brown tile

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Tan	0.0%	97.0%	**3% Chrysotile**	

Client Sample ID: A33(AU27)-Mastic ***Lab Sample ID:*** **552010923-0032A**
Sample Description: cold room (under carpet)/brown tile

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Black	0.0%	100.0%	None Detected	

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Client Sample ID: A34(AU27) ***Lab Sample ID:*** **552010923-0033**

Sample Description: cold room/ceiling tile- white

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Brown/White	90.0%	10.0%	None Detected	

Client Sample ID: A35(AU27) ***Lab Sample ID:*** **552010923-0034**

Sample Description: bin room closet/blue roll flooring

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	9/05/2020	Gray/Beige	0.0%	100.0%	None Detected	

Analyst(s):

Kira Ramphal PLM (41)
400 PLM Pt Ct (1)

Reviewed and approved by:



Matthew Davis or other approved signatory
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP of any agency or the U.S. Government

Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0

Report amended: 09/08/202009:10:36 Replaces initial report from: 09/05/202013:50:33 Reason Code: Client-Change to Project

BV Labs Job #: C0M5768
Report Date: 2020/09/30

Strum Environmental
Client Project #: 20-7511
Sampler Initials: PA

RESULTS OF ANALYSES OF PAINT

BV Labs ID		NNH408		
Sampling Date		2020/08/27		
COC Number		n/a		
	UNITS	L2 (AU27)	RDL	QC Batch
Charge/Prep Analysis				
Dry Weight	g	13	0.010	6941548
Volume of Acetic Acid	mL/L	10	N/A	6941550
Inorganics				
Moisture	%	ND (1)	5.0	6933507
Initial pH	N/A	6.2	N/A	6941549
Final pH	N/A	5.1	N/A	6941549

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Moisture value reported is a visual estimate for calculation purposes.

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ELEMENTS BY ICP/MS (PAINT)

BV Labs ID		NNH408		
Sampling Date		2020/08/27		
COC Number		n/a		
	UNITS	L2 (AU27)	RDL	QC Batch
Metals				
Leachable Lead (Pb)	ug/L	810	5.0	6944102

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C0M5768
Report Date: 2020/09/30

Strum Environmental
Client Project #: 20-7511
Sampler Initials: PA

ELEMENTS BY ATOMIC SPECTROSCOPY (PAINT)

BV Labs ID		NNH407	NNH408	NNH409	NNH409	NNH416		
Sampling Date		2020/08/27	2020/08/27	2020/08/27	2020/08/27	2020/08/27		
COC Number		n/a	n/a	n/a	n/a	n/a		
	UNITS	L1 (AU27)	L2 (AU27)	L3 (AU27)	L3 (AU27) Lab-Dup	L10 (AU27)	RDL	QC Batch
Metals								
Acid Extractable Lead (Pb)	mg/kg	38	1700	ND	ND	ND	5.0	6925182

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
ND = Not detected

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BV Labs Job #: C0M5768
Report Date: 2020/09/30

Strum Environmental
Client Project #: 20-7511
Sampler Initials: PA

RESULTS OF ANALYSES OF SOLID

BV Labs ID		NNH412	NNH413	NNH414		
Sampling Date		2020/08/27	2020/08/27	2020/08/27		
COC Number		n/a	n/a	n/a		
	UNITS	L6 (AU27)	L7 (AU27)	L8 (AU27)	RDL	QC Batch
Charge/Prep Analysis						
Dry Weight	g	13	12	6.5	0.010	6968123
Volume of Acetic Acid	mL/L	1.9	0.0	0.0	N/A	6968127
Inorganics						
Moisture	%	7.9	3.6	3.5	1.0	6962137
Initial pH	N/A	5.3	4.5	4.8	N/A	6968125
Final pH	N/A	5.4	4.6	5.1	N/A	6968125

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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ELEMENTS BY ICP/MS (SOLID)

BV Labs ID		NNH412	NNH413	NNH414		
Sampling Date		2020/08/27	2020/08/27	2020/08/27		
COC Number		n/a	n/a	n/a		
	UNITS	L6 (AU27)	L7 (AU27)	L8 (AU27)	RDL	QC Batch
Metals						
Leachable Lead (Pb)	ug/L	1400	6000	7200	5.0	6970681

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C0M5768
Report Date: 2020/09/30

Strum Environmental
Client Project #: 20-7511
Sampler Initials: PA

ELEMENTS BY ATOMIC SPECTROSCOPY (SOLID)

BV Labs ID		NNH410	NNH411	NNH412	NNH413	NNH414	NNH415	NNH417		
Sampling Date		2020/08/27	2020/08/27	2020/08/27	2020/08/27	2020/08/27	2020/08/27	2020/08/27		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	UNITS	L4 (AU27)	L5 (AU27)	L6 (AU27)	L7 (AU27)	L8 (AU27)	L9 (AU27)	L11 (AU27)	RDL	QC Batch
Metals										
Acid Extractable Lead (Pb)	mg/kg	610	27	10000	35000	20000	280	110	5.0	6925181

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs ID		NNH418		
Sampling Date		2020/08/27		
COC Number		n/a		
	UNITS	L12 (AU27)	RDL	QC Batch
Metals				
Acid Extractable Lead (Pb)	mg/kg	5.5	5.0	6925181

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel: 902-420-0203 Toll-free: 800-565-7227 Fax: 902-420-8612 www.bvlabs.com

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	21.3°C

REVISED REPORT - re-issued to include CGSB leachate + lead on sample L2(AU27) as per email request from J. Faulkner 2020-09-09 KMA

REVISED Report - re-issued to include CGSB leachate + lead on samples L6(AU27), L7(AU27 and L8(AU27) as per email request from J. Faulkner. 2020-09-24 KMA

Sample NNH408 [L2 (AU27)] : The minimum weight of 50g for the standard CGSB extraction, as per Reference Method CGSB 164-GP-1 MP R1999, could not be achieved due to insufficient sample. Client consent has been received to proceed using the modified CGSB method. The uncertainty of the analysis may be increased, and the reported results may not be suitable for compliance purposes.

Sample NNH412 [L6 (AU27)] : The minimum weight of 50g for the standard CGSB extraction, as per Reference Method CGSB 164-GP-1 MP R1999, could not be achieved due to insufficient sample. Client consent has been received to proceed using the modified CGSB method. The uncertainty of the analysis may be increased, and the reported results may not be suitable for compliance purposes.

Sample NNH413 [L7 (AU27)] : The minimum weight of 50g for the standard CGSB extraction, as per Reference Method CGSB 164-GP-1 MP R1999, could not be achieved due to insufficient sample. Client consent has been received to proceed using the modified CGSB method. The uncertainty of the analysis may be increased, and the reported results may not be suitable for compliance purposes.

Sample NNH414 [L8 (AU27)] : The minimum weight of 50g for the standard CGSB extraction, as per Reference Method CGSB 164-GP-1 MP R1999, could not be achieved due to insufficient sample. Client consent has been received to proceed using the modified CGSB method. The uncertainty of the analysis may be increased, and the reported results may not be suitable for compliance purposes.

Results relate only to the items tested.

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DILLON CONSULTING

MUNICIPALITY OF WEST HANTS

Hantsport Stormwater Management Study



July 2018 – 17-6276

July 3, 2018

137 Chain Lake Drive
Suite 100
Halifax, Nova Scotia
Canada
B3S 1B3
Telephone
902.450.4000
Fax
902.450.2008

Hantsport Municipal Public Works Office
20 Main Street
Hantsport, NS
B0N 2T0

Municipality of West Hants
Hantsport Stormwater Management Study

Attention: Mr. Brad Carrigan, Director of Public Works

Dear Mr. Carrigan,

Dillon Consulting Limited (Dillon) is pleased to present the following report entitled Hantsport Stormwater Management Study.

The attached report provides the methodology and hydrologic and hydraulic simulation results for the drainage network in Hantsport. The report assesses the current drainage network under existing and future development conditions. The effects of climate change have also been investigated as part of the study. Preliminary recommendations have been developed for areas of concern with respect to the need for stormwater conveyance improvements.

Sincerely,

DILLON CONSULTING LIMITED



Sarah Devereaux, M.Eng., P.Eng., FEC
Partner, Project Manager

SLD:jgc

Our file: 17-6276

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Executive Summary

The Municipality of West Hants (the Municipality) has retained Dillon Consulting Limited (Dillon) to undertake a Stormwater Management Study within the Community of Hantsport (Community). The Community is located along the west coast of mainland Nova Scotia in the vicinity of the Avon River estuary near the Bay of Fundy. The Community has a population of approximately 1,200 people. Historically, the Community has experienced drainage issues in the following areas:

- Chittick Avenue;
- Foundry Road;
- Riverview Road;
- Library/Playground on Main Street;
- Avon Street (no existing drainage infrastructure); and,
- Maple Drive.

The purpose of this study is to assess the performance of the current drainage system for a series of scenarios including existing and future conditions. Based on these assessments, a set of conceptual drainage improvement options were developed with the following objectives:

- Protect citizens from flooding dangers (loss of life, loss of property, etc.);
- Mitigate damage to public infrastructure; and,
- Use low impact development (LID) and best management practices (BMP) stormwater management techniques to improve groundwater and surface runoff quality, and in turn improve the quality of aquatic habitat in the area.

Drainage infrastructure within the Community consists of a combination of storm and combined sewer, along with numerous overland drainage routes. Many of the roadways within the Community do not appear to be constructed as a dual-drainage network (i.e. major/minor drainage). However some of the recently upgraded road sections include new curb and gutter and would provide a degree of minor and major conveyance.

Hydrologic/hydraulic modelling was undertaken to simulate the performance of current drainage network. The numerical simulation was completed using the latest version (2017 Professional) of the Computational Hydraulic Institutes (CHI) PCSWMM modelling software. The PCSWMM model was used to assess the drainage network in Hantsport for six (6) 24-hour rainfall events with return periods ranging from two (2) years to 100 years. These rainfall events were developed using historical rainfall data as well as developed with climate change adjustments assuming a moderate greenhouse gas emissions scenario (RCP 4.5).

The future land use model was developed based on discussion the Municipality on November 22nd, 2017. The Municipality indicated a projected annual growth over a 50 year horizon of approximately two

(2) homes per year along with the potential construction of a nursing home. The expected developments were assumed to take place at the following locations:

- Extension of Faulkner Drive to Bog Road – Estimated 16 new homes;
- Connection of Chestnut Avenue to Evangeline Drive – Estimated 15 new homes;
- Extension of Mariner Drive – Nursing home;
- Extension of Alders Avenue to the west – Estimated 48 new homes; and,
- Extension of McCully Crescent and Mariner's Drive – Estimated 18 new homes.

The future land use model incorporates an estimated 97 new homes and a nursing home.

A series of simulations for both existing and future conditions were completed to assess the performance of the existing drainage works. The simulations scenarios included existing conditions with historical climate, future land use with historical climate, and future land use with climate change conditions. These simulations identified nine (9) areas potentially vulnerable to flooding, including:

- Holmes Hill Road – At the intersection with Riverbank Drive;
- Riverview Road – In the vicinity of Civic #8 and #23, and the ditch near the intersection with Rand Street;
- Maple Avenue – In the vicinity of Civic #24 and #30;
- Main Street Bridge Crossing;
- Chittick Avenue, Main Street, and School Street (Downtown) – In the vicinity of Civic #22 and #47 on Chittick Avenue, Civic #25 and #39 on Main Street, and Civic #12 on School Street;
- Foundry Road – In the vicinity of the soccer field;
- Prince Street and William Street – In the vicinity of Civic #11 on Prince Street and Civic #14 on William Street;
- Willow Street – At the intersection with Main Street; and,
- Faulkner Drive – In the vicinity of Civic #80.

A set of conceptual drainage improvement options were prepared for the vulnerable areas; improvements were also recommended for Avon Street and the library/playground area on Main Street (as noted by the Municipality). Recommendations include separation of the combined sewer systems on Willow Street, Prince Street, and William Street, and increased storm sewer sizes along Holmes Hill Road, Riverview Road, and Foundry. Storm sewers were sized to convey the 5-year return period event with climate change adjustments.

The aboiteau in the lower Halfway River failed in November 2017. The failure was concerning due to the potential of increased flood risk associated with storm surge from the Bay. Based on review of potential future water levels and surrounding topography, the estimated freeboard between the extreme water level elevation and the lowest residence adjacent to the river is approximately 8.8 m. The risk of riverine flooding to the residents of Hantsport is expected to be minimal.

1.0 Introduction

The Municipality of West Hants (the Municipality) has commissioned Dillon Consulting Limited (Dillon) to undertake a Stormwater Management Study within the Community of Hantsport (Community). This report describes the methodology and findings of the study, and puts forth recommendations to improve drainage conditions within the Community. The objectives of recommended drainage improvements are as follows:

- Protect citizens from flooding dangers (loss of life, loss of property, etc.);
- Mitigate damage to public infrastructure; and,
- Use low impact development (LID) and best management practices (BMP) stormwater management techniques to improve groundwater and surface runoff quality, and in turn improve the quality of aquatic habitat in the area.

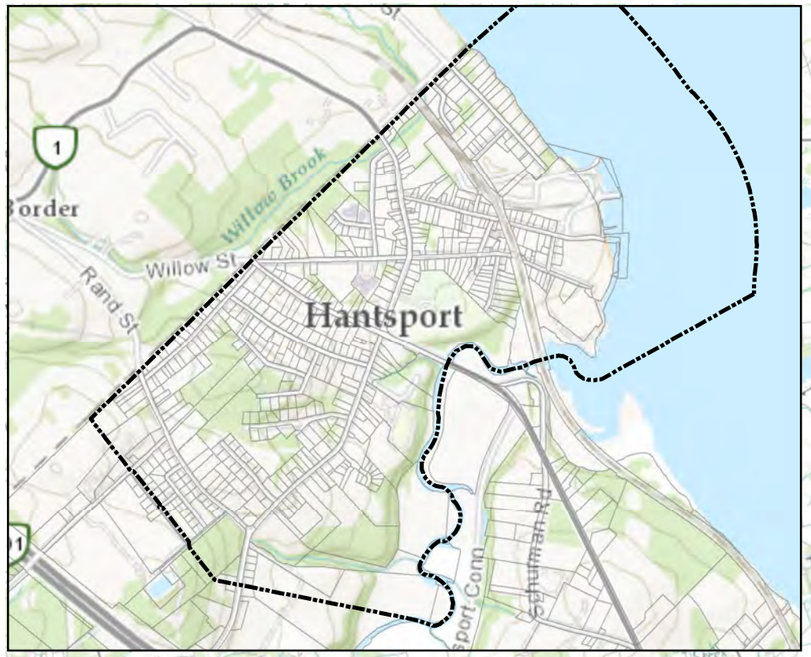
2.0 Background

The Community of Hantsport is located along the west coast of mainland Nova Scotia in the vicinity of the Avon River estuary near the Bay of Fundy. The general location of Hantsport and municipal boundaries are presented in Figure 2-1. The community has a population of approximately 1,200 people and is home to the CKF Food Services and Packaging Plant which is a significant employer in the area.

Historical significant flooding within the Community is limited to reports of localized flooding along the route connecting NS Highway 101 (Exit 8) to Route 1. The most recent instance of flooding was reported in late September 2017 where Exit 8 was closed and traffic was redirected. This flooding is probably the result of increased levels along the Halfway River. Furthermore, this section of highway near the Halfway River has been identified as at risk due to the effects of storm surge and projected sea level rise (Proosdij, 2009). Additionally, drainage issues have been noted throughout the Community at the following locations:

- Chittick Avenue;
- Riverview Road;
- Avon Street (no existing drainage infrastructure); and,
- Maple Drive.

Of special note, the existing aboiteau located at the mouth of Halfway River was reported to be in disrepair (Proosdig, 2009), allowing for partially restricted tidal flow to propagate up the Halfway River. In the fall of 2017 the Municipality reported that the aboiteau had completely collapsed. A photograph of the post-failure aboiteau taken on November 22 is presented in Figure 2-2. The failure of the



MUNICIPALITY OF THE DISTRICT OF WEST HANTS
HANTSPORT SWM STUDY

REGIONAL CONTEXT
FIGURE 2-1

KENTVILLE CDA METEOROLOGICAL STATION (ID: 8202800)

MUNICIPAL BOUNDARY

LAND PARCEL

MAP DRAWING INFORMATION:
DATA PROVIDED BY ESRI & WEST HANTS

MAP CREATED BY: JGC
MAP CHECKED BY: JAM
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N

SCALE 1:30,000
0 1 2 4 Kilometers

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PROJECT: 17-6276 STATUS: FINAL DATE: 18/04/27

aboiteau is expected to impact flood levels along the Halfway River, potentially increasing the effects of storm surge and/or restricting drainage along the Halfway River watershed to the Bay of Fundy.



Figure 2-2: Photograph of Post-Failure Aboiteau near Hantsport (taken November 22, 2017)

Drainage infrastructure within the Community consists of a combination of storm and combined sewer, along with numerous semi formalized overland drainage routes. Many of the roadways within the Community do not appear to be constructed as a dual-drainage network (i.e. provision for major/minor drainage). However some of the recently upgraded road sections include new curb and gutter and would be expected to provide a degree of minor and major flow conveyance. Examples of these road sections within the Community are presented in Figure 2-3.

Dual drainage networks are generally designed such that stormwater runoff is evacuated from the drainage area and conveyed through a combination of overland infrastructure, such as roadways (i.e. the major system), and sewer infrastructure (i.e. the minor system). The minor system is commonly sized to accommodate a 1:5 year or 1:10 year flood without surcharging into the roadway. For more intense flood events (e.g. the 1:100 year flood), the sewers would be expected to surcharge to the roadway and combined with excess flow from within the right of way (ROW) would be conveyed by the roadway. The roadway section is expected to provide safe conveyance without flooding areas outside the road ROW. Maximum ponding depths along the roadway are commonly designed to be no greater than ~ 0.3 m during a 1:100 year flood. The advantage of a dual-drainage system is that the size of underground sewers can be significantly reduced (i.e. limited to 1:5 or 1:10 year level of service) and not require significant stormwater management facilities.



Figure 2-3: Photos of Recently Upgrade Roadway on Chittick Avenue (left) and typical Road section (right)

Referring to Figure 2-3, the recently upgraded roadway section (e.g. Chittick Avenue) would be expected to perform as a dual-drainage network. However, the older road sections without curb and gutter would be expected to spill onto private property once the capacities of the catchbasins and/or sewer are exceeded. This may result in uncontrolled overland flow routes, potentially impacting low-lying private property.

To address flood risk within the Community and to identify mitigation options to improve drainage, an assessment of existing stormwater infrastructure has been undertaken. This assessment seeks to identify both minor and major drainage routes within the study area and to identify hydraulic constrictions (i.e. bottlenecks) where surcharging occurs. Numerical simulation of design rainfall events has been undertaken to facilitate this assessment.

This study has also evaluated, at a conceptual level, the flood risk posed by the Halfway River as a result of the recent aboiteau failure.

3.0 Existing Drainage Network

3.1 Site Reconnaissance and Survey

To understand the existing level of flood risk within the Community, a series of site visits were completed in the fall of 2017. These visits included topographical survey, visual inspection of drainage infrastructure and water level monitoring. These observations were also used to support the development of the drainage model (described in subsequent sections of this report). A summary of each site visit is provided in the sections below.

3.1.1 September 5th – 8th, 2017

The first site visit took place on September 5th with objectives including the installation of a water level logger, and a targeted survey of the drainage network. The water level logger was installed along

Halfway River downstream of the Highway 1 bridge crossing (see Figure 4-3). The purpose of the logger was to record a period of water level fluctuations and obtain an understanding of the tidal influences on the lower river reach. The targeted survey investigated areas that have historically exhibited drainage issues, as discussed in the kickoff meeting which took place on August 29th. These areas include the following:

- Chittick Avenue;
- Riverview Road;
- Avon Street (no existing drainage infrastructure); and,
- Maple Drive.

A detailed survey was completed along Chittick Avenue on September 5th. The street consists of a curb/gutter and piped system. Dimensions and measurements were also collected along the Willow Brook crossing on Main Street.

The second site visit (undertaken on September 8th) involved a continued investigation and survey of the areas noted in the kickoff meeting. The ditch at the southern end of Riverview Road was noted as historically exhibiting drainage issues. Field observations revealed the ditch to be overgrown with an outlet pipe that was partially blocked due to soil/debris, leading the potential for roadway flooding.

3.1.2 October 4th, 2017

The site visit undertaken on October 4th involved relocation of the water level logger along with a survey of the select sites within the Community. The water level logger was relocated to Willow Brook slightly upstream of the Tannery Road culvert crossing (see Figure 4-3) to collect data for rainfall events to calibrate the PCSWMM model (described further in Section 4.5).

This survey focused on manhole inspections to investigate both their condition as well as obtain estimates of pipe diameters and depth. The purpose of the survey was also to confirm drainage routes due to limited records available for the drainage network. Based on this survey it was determined that the majority of the Community discharges to Willow Brook while the remainder discharges to Halfway River or directly to the Avon River. The location of these rivers can be seen in Figure 4-1.

Based on the site visits conducted in September and October it was observed that several catchbasins throughout Hantsport were full of leaves and debris significantly limiting the inlet capacity of the catchbasins which can potentially lead to roadway flooding. Performing regular maintenance flushing and cleaning would reduce this risk. Streets that contained a significant number of blocked structures included:

- Riverview Road;
- Willow Street;
- Maple Avenue;
- Alders Avenue;

- Cedar Avenue; and,
- Northern portion of Rand Street.

3.1.3 November 22nd, 2017

The site was visited to remove the water level logger from the Willow Brook monitoring location (deployed October 4th) and to undertake additional targeted survey of select drainage infrastructure. The survey was intended to infill some of the data gaps identified during model development.

A progress meeting with the Municipality was also organized during this visit. The meeting entailed discussions concerning the preliminary simulation results for existing conditions. At the time, municipal staff also provided an account of anecdotal flooding reports within the community during this meeting. The following areas were noted as areas of concern for flooding:

- Chittick Avenue – existing ditch located adjacent to a dentist office has caused localized flooding in the past;
- Chittick Avenue – flooding in the vicinity of the Community municipal storage yard has been reported;
- Library/Playground located along Main Street has experienced flooding in the past;
- The section of Cottage Street near the Soccer Field and adjacent to the CKF plant;
- Localized flooding at the top of Riverview Road has been reported; and,
- Flooding along Chestnut Avenue has been reported in the past – however, a new French drain was constructed and is believed to have mitigated the issue.

In addition to the above historical flood reports, the Municipality also identified the following drainage concerns:

- Ball Field located at the end of Porters Avenue has been used as a snow dump in the past and has been the site of bank failures; and,
- The failure of the Halfway River aboiteau was discussed, and noted as an issue of particular concern to Municipal staff.

3.2 Hydrometric Observations

3.2.1 Halfway River (September 5th – October 4th)

The water level data at the Halfway River monitoring station were collected and readings were compensated for changes in barometric pressure. A summary of water level fluctuations during the observation period is presented in Figure 3-1. Water levels at the observation site are clearly tidally influenced, and are indicative of the semi-diurnal tide cycles dominate in the Bay of Fundy. Figure 3-1 also includes the coincident observations at the Department of Fisheries and Oceans (DFO) gauge located in Saint John, NB.

It is noteworthy that the Halfway River level logger is not submerged during periods of low tidal fluctuations; this can be seen in Figure 3-1 where the level observations have a minimum value of approximately 2.5 m. Given the significant tidal range, the level logger could not safely be installed in a location that allowed for capture of the complete tidal cycle.

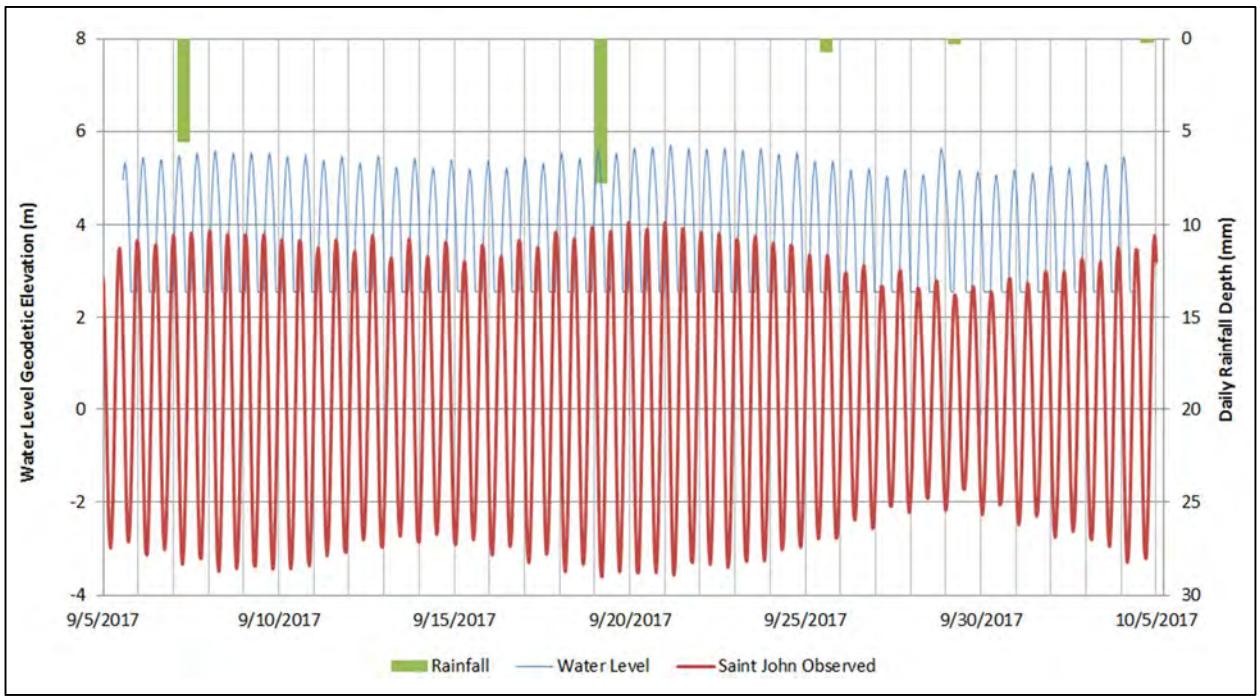


Figure 3-1: Halfway River Water Level Observations

It can be seen in the above figure that variation between the Fisheries and Oceans Canada (DFO) and Halfway River observations is evident. A refined view of a typical 24-hour observation period is also presented in Figure 3-2 to further demonstrate this deviation. This variation suggests that the Halfway River water level is frequently more than 2 m higher than levels in the Bay of Fundy. There is also a delay of roughly 3.5 hours between the high water level in the Halfway River compared to the Bay of Fundy at Saint John. Some of this variation is presumably due to the considerable distance between the two gauges (~150 km) and the backwatering effects along the channels; however the impact of runoff from the Halfway River and hydraulic constriction at the aboiteau is also a possible factor.

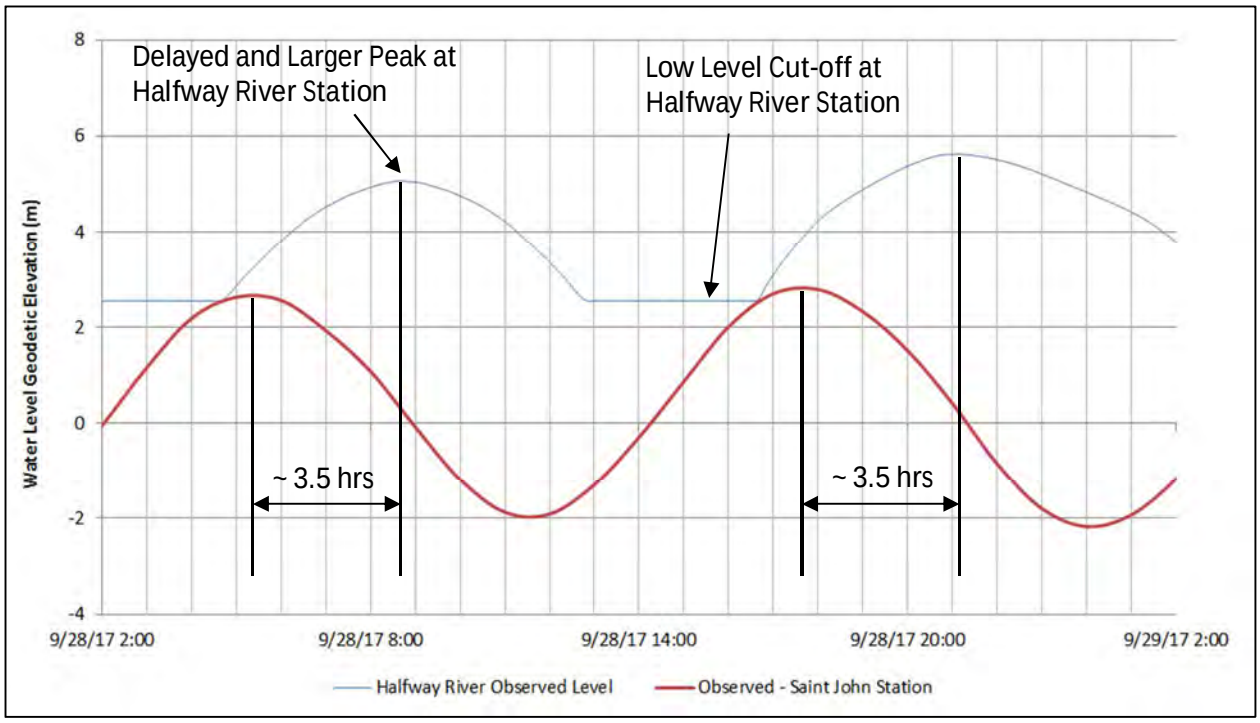


Figure 3-2: 24-Hour Water Level Observation Summary

It is important to note that the typical tidal fluctuation (high to low) along the Halfway River was significant (>2 m) leaving the monitoring station unsubmerged at times during the tidal cycle; as discussed above, this results in a low level cut-off of approximately 2.5.

It is noted that these observations were made prior to the recent failure of the Halfway River aboiteau. The failure has created a free outlet to the Avon River. It is expected that the current condition of the aboiteau (see Figure 2-2) could potentially increase flood risk associated with storm surge from the Bay. However the free outlet may slightly decrease flood risk associated with high flows in the Halfway River, since discharges to the Avon River are no longer restricted by the capacity of the aboiteau.

3.2.2 Willow Brook (October 4th – November 22nd)

As noted previously the water level logger was relocated on October 4th from the Halfway River to Willow Brook. The location of the logger is presented in Figure 4-3. A photograph of the Willow Brook level logger station is presented in Figure 3-3. Willow Brook receives runoff from a substantial portion of the Hantsport study area and therefore provides a suitable model calibration/validation point for evaluating peak flows within the watershed.

The logger was installed immediately upstream of the existing pre-cast concrete box culvert structure conveying flows under Tannery Road. The conveyance structure provides a controlled flow section,

thus allowing for a simple estimation of the discharge through the structure using the observed water levels recorded upstream.

A summary of water level observations and rainfall records from the Environment Canada Kentville climate station (#8202810) are presented in Figure 3-4. The two largest rainfall events occurred on October 26 and 30th with 14.9 and 15.7 mm of daily rainfall reported, respectively. While higher intensity rainfall events (50+ mm) would provide a stronger indication of rainfall-runoff response, these two events were the highest observed daily rainfall accumulations during the monitoring period. These rainfall data will be used to support subsequent model validation calibration (Section 4.5).



Figure 3-3: Level Logger Deployment in Willow Brook (left), and Downstream Open Bottom Pre-Cast Structure Facing Downstream (right)

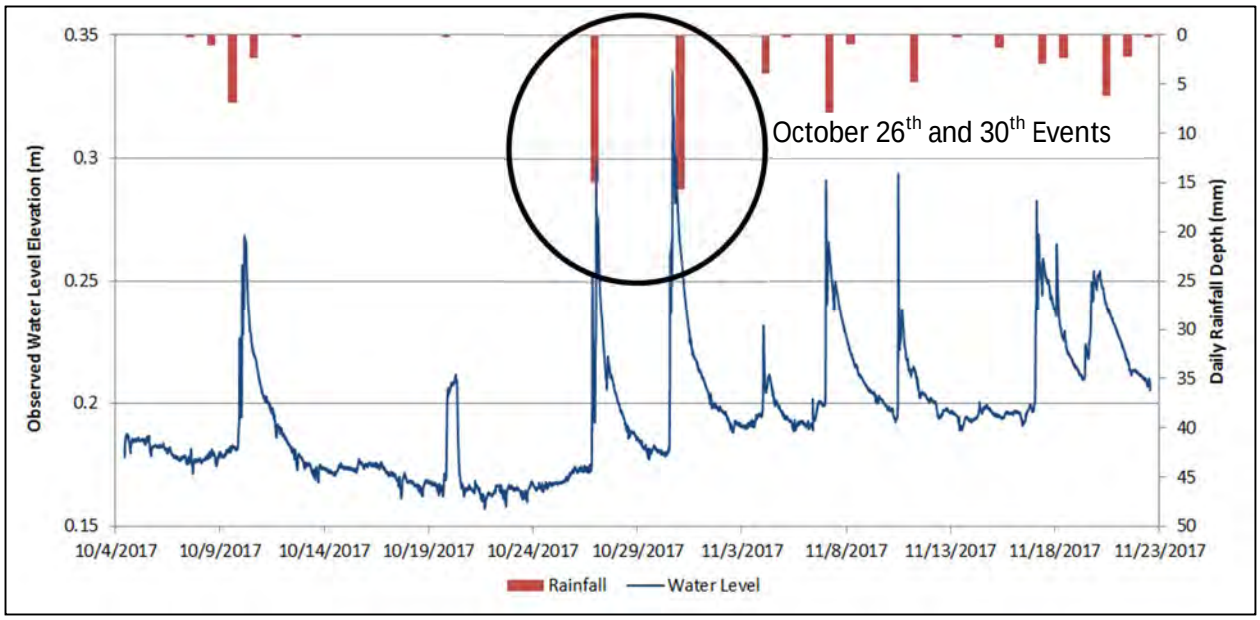


Figure 3-4: Willow Brook Water Level Observations (Geodetic Elevation)

3.2.3 Flood Frequency Analysis

A review of other regional hydrometric gauges along the west coast of Nova Scotia was undertaken to generate a regional flood frequency analysis for the study region. This exercise involved using the HYFRAN statistical software to perform a frequency analysis of six hydrometric stations in Nova Scotia. The stations used for the frequency analysis are summarized in Table 3-1, and were chosen due to their proximity to the study area and the period of record. Only stations with greater than 20 years of data were used to support the regional frequency analysis discussed below.

Table 3-1: Regional Hydrometric Station Summary

Station Name	Station ID	Period of Record	Years of Complete Data	Drainage Area (km^2)
Kelley River at Eight Mile Ford	01DL001	1969 - 2013	44	63.2
Great Village River near Scrabble Hill	01DJ005	1993 - 2013	21	89.0
Sharpe Brook at Lloyds	01DD004	1966 - 1995	30	8.81
Fraser Brook near Archibald	01DH003	1965 - 1991	27	10.1
North Brook at North River	01DD004	1973 - 1995	20	202
Salmon River at Union	01DH005	1977 - 1999	23	287

Based on the frequency analysis of the six regional stations with >20 years of observations, a log-log graph was plotted of drainage area against peak flow for each return period flood events (i.e. 2-year, 5-year, etc.). A trend line was fitted to each return event to obtain a relationship between peak flow and drainage area for the west coast of Nova Scotia. Using these relationships, the theoretical peak flow for each return period flood may be estimated for watersheds of various sizes within the west coast of Nova Scotia. The log-log graph of the six regional stations is presented in Figure 3-5.

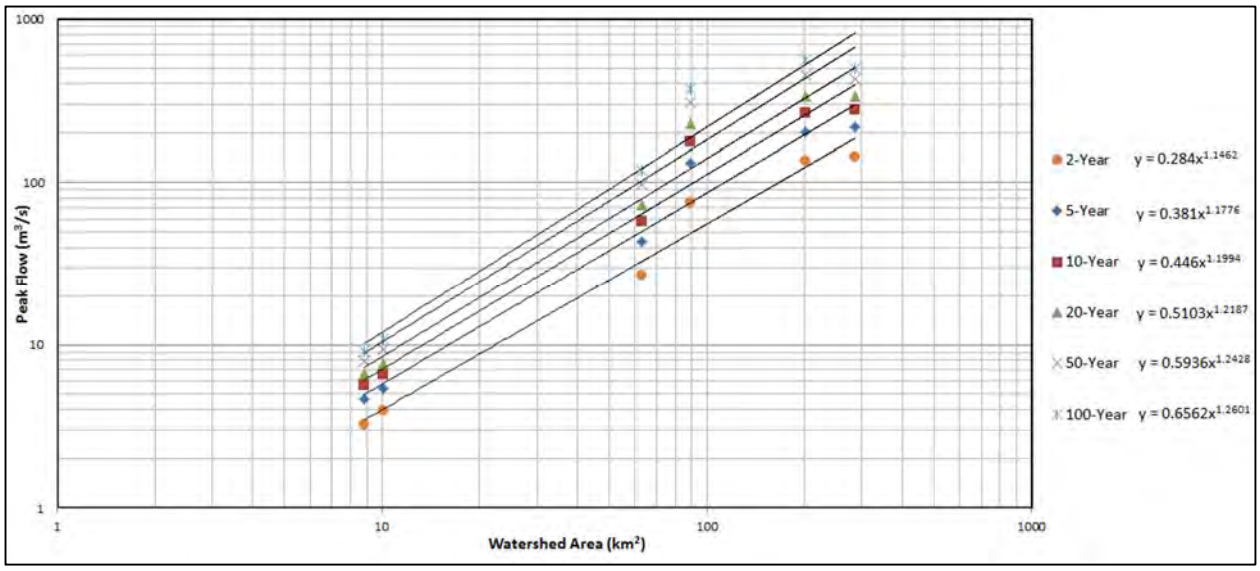


Figure 3-5: Regional Frequency Analysis Theoretical Peak Flow Plot

Table 3-2 presents a summary of the estimated peak flow values for Willow Brook and Halfway River using regional frequency analysis approach. The total drainage areas for Willow Brook and Halfway River were approximately 3.30 km^2 and 201 km^2, respectively.

Table 3-2: Regional Flood Frequency Peak Flow Estimates for Willow Brook and Halfway River

Return Period (Years)	Regional Flood Frequency Results for Willow Brook (m^3/s)	Regional Flood Frequency Results for Halfway River (m^3/s)
100	201	2.30
50	168	2.00
20	129	1.70
10	104	1.50
5	80.1	1.20
2	51.7	0.90

It is noteworthy that flows in Willow Brook are expected to be higher than above due to the degree of urbanization in the Willow Brook catchment area.

4.0 Hydrologic and Hydraulic Analysis

Hydrologic/hydraulic modelling was undertaken to simulate the performance of the current drainage system within the study area under both existing and projected future conditions. The numerical simulation was completed using the latest version (2017 Professional) of the Computational Hydraulic Institutes (CHI) PCSWMM modelling software. This model was selected based on its integrated hydrologic and hydraulic computational abilities.

The following sections describe the model inputs and set up required to complete the numerical simulation.

4.1 Hydrologic Characteristics

4.1.1 Catchment Parameters

4.1.1.1 Catchment Delineation

Catchment delineation was initially completed using the existing LiDAR data (obtained from GeoNova) for the Hantsport study area. The initial coarse sub-catchment delineation was further refined based on the observations made during the site visits. The basin was delineated into 56 sub-catchments as shown in Figure 4-1. Each sub-catchment was given a unique identifier for the PCSWMM model.

4.1.1.2 Rainfall-Runoff Parameters

Runoff from the catchment that can directly contribute to flooding occurs when the rate of rainfall far exceeds the capacity of the ground to absorb the water. This is often impacted by impervious covers, such as asphalt, concrete and building roofs. The magnitude of runoff that may lead to flooding depends on the intensity and duration of the rainfall, the areal extent of the storm, antecedent (pre-storm) ground moisture conditions, and drainage basin characteristics (e.g. topography, slope, soils, vegetation, and land cover type).

The U.S. Soil Conservation Service (SCS) Unit Hydrograph transformation method was adopted for the numerical simulation. Using the curve number, catchment lag is estimated as a function of the average basin slope, flow length and the SCS Curve Number (CN) value. The digital elevation model derived from existing LiDAR data was used to estimate the average basin slope and flow length for each sub-catchment. The CN value for each sub-catchment was estimated based on the dominant land cover type/surficial geology (OAS, 1984), and published CN values according to Ponce (1989).

Losses of precipitation due to infiltration, depression storages and interception in the sub-catchments were incorporated into the model through CN values. A review of topography within the study area was also undertaken to estimate the effective runoff from each sub-catchment. This review identified

significant natural landform barriers and/or depressions that diverted or collected large amounts of surface runoff. These estimates were then included in the simulated sub-catchments.

A summary of the runoff parameters assigned to each sub-catchment is provided in Table A-1 in Appendix A.

4.1.2 Meteorological Inputs

Rainfall intensity-duration-frequency (IDF) statistics for the Kentville Environment Canada climate station (#8202800) were retrieved. The Kentville station is approximately 25 km from Hantsport with about 32 years (1960 – 1995) of continuous climate observations, including precipitation. Estimated existing rainfall depths for a range of short duration (24-hour) rainfall events are presented in Table 4-1.

A potential future rainfall climate change scenario has also been considered in this assessment. The Canadian Water Network's IDF Climate Change Computerized Tool (https://www.idf-cc-uwo.ca) has been used to estimate future rainfall intensity. A comparison of historical and future rainfall for the Kentville station is also presented in Table 4-1.

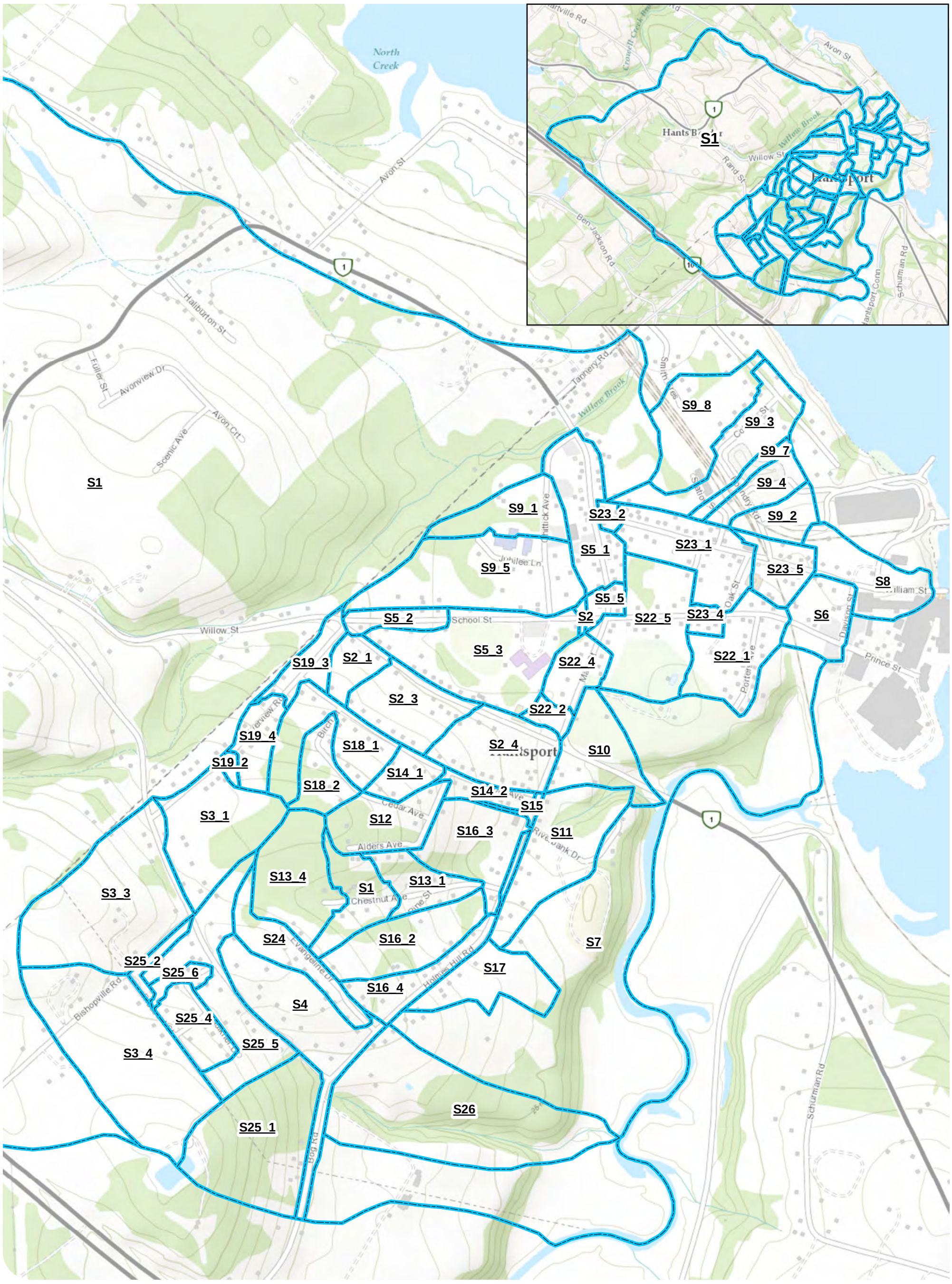
Table 4-1: Summary of Historical and Estimated Future Rainfall Depth for 24-hour Rainfall Events at Kentville, NS

Return Period (Years)	Historical Rainfall Depth (mm)	Estimated Future (2020 – 2070) Climate Change Rainfall Depth (mm)[1]	Percent Difference
2	56.2	64.1	+14%
5	74.2	87.3	+18%
10	86.3	103.9	+20%
25	101.7	126.3	+24%
50	113.3	144.7	+28%
100	124.9	162.7	+30%

[1]Assumes Moderate Emissions Scenario – RCP 4.5

It can be seen that for a range of return periods, and for a storm duration of 24-hours, an increase of roughly 14 – 30% is expected under estimated future conditions. It is noteworthy that the largest increase in total rainfall accumulation is associated with the lowest frequency event (i.e. 100-year return period). The implications of such increases in rainfall intensity can be significant and must be considered when assessing drainage under future scenarios.

The total 24-hour rainfall depths presented in Table 4-1 were distributed using the Alternating Block Method (Chow, 1988). The Alternating Block Method allows for the development of a design hyetograph from regional IDF statistics. The rainfall time series generated includes rainfall accumulation for the 10-minute, up to the 24-hour storm duration. Thus, the Alternating Block Method allows for some flexibility with respect to the estimation of lag time within the watershed. An example of this distribution for the 100-year historical rainfall event is presented in Figure 4-2.



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SUB-CATCHMENT DELINEATIONS
FIGURE 4-1

SUB-CATCHMENT

S1 SUB-CATCHMENT IDENTIFIER FOR PCSWMM MODEL

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MAP DRAWING INFORMATION:
DATA PROVIDED BY ESRI & WEST HANTS

MAP CREATED BY: JGC
MAP CHECKED BY: JAM
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\LONDON\LONDON CAD\GIS\VISUAL COMMUNICATIONS DI\MXD TEMPLATES\BEIGE - 11X17 LANDSCAPE - LEGEND BOTTOM.MXD

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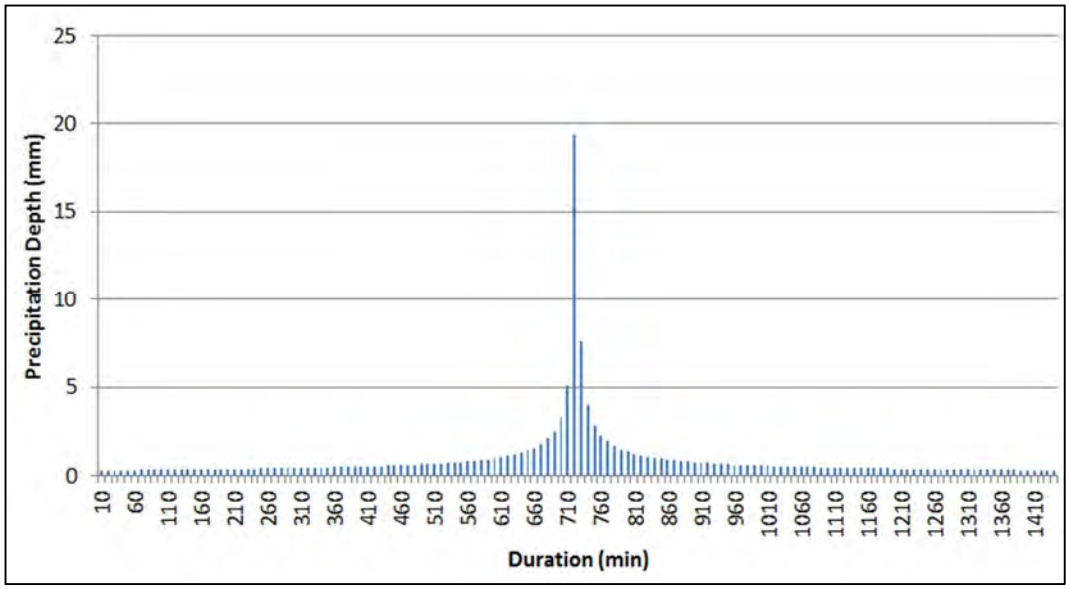


Figure 4-2: 24-Hour Alternating Block Method Distribution for 100-year Historical Event

4.1.3 Water Level Data

The water level boundary conditions were determined by reviewing the observed data along the Halfway River, and comparing to observed water levels in the Bay of Fundy (DFO station #65 at Saint John), see Figure 3-2. The confluence of the Halfway and Avon rivers is located approximately 7 km from the Minas Basin (Bay of Fundy); the downstream boundary condition for the study area is located approximately 0.5 km upstream of the confluence. Due to the proximity of the study area to the Minas Basin, it has been assumed that water levels in lower Halfway River are tidally influenced, as demonstrated in Figure 3-2. The tidal outlet boundary conditions considered in model development include the ditch outlets near Mariner's Drive and adjacent to NS Route 1.

Generally, an ordinary high water condition would be expected to coincide with a typical spring tide for the area. A moderate high water condition was determined to be comparable with the 10-year water level estimated using frequency analysis of the water level observations at Saint John. The frequency analysis was completed using 41 years (1977 – 2017) of complete record.

The estimated extreme tide condition was determined by obtaining the 100-year water level and adding a value of 0.5 m for storm surge (assumed typical surge for extreme event). The boundary conditions considered for this assessment are summarized in Table 4-2. The boundary conditions assume that the recently failed aboiteau provides no protection from storm surge; rehabilitation of the aboiteau would presumably reduce impacts of storm surge.

In addition to changes in future precipitation intensity, sea levels are also expected to increase along the coastal areas of the Bay of Fundy (Daigle, 2011). The estimated future projected sea level rise for over

the next 80 years is approximately 1.10 m (+/- 0.48 m) for coastal sections of Hantsport according to Daigle (2011). The estimated future projected water level elevation is presented in Table 4-2.

Table 4-2: Downstream Boundary Condition Summary for Study Area

Event	Peak Water Level Geodetic Elevation(m)
Typical Boundary Condition (normal spring tide)	4.60
Moderate Boundary Condition (1 in 10 year)	4.77
Extreme Boundary Condition (1 in 100 year + 0.5 m surge)	5.43
Future Projected Boundary Condition – Year 2100 (1 in 100 year + 0.5 m surge)	6.53

The estimated water levels presented above have been used as downstream boundary inputs for the hydraulic model. It is important to note that the water levels presented in Table 4-2 have been increased by 2 m in the hydraulic model to remain consistent with the difference in water level observations collected at the Saint John station and the Halfway River monitoring station (see Figure 3-3).

4.2 Hydraulic Model Development

To simulate drainage within the study area under existing conditions, hydrologic/hydraulic modelling was undertaken to simulate the performance of the existing drainage network. The numerical simulation was completed using the latest version (2017 Professional) of the Computational Hydraulic Institute's (CHI) PCSWMM modelling software. This model was selected based on its integrated hydrologic and hydraulic computational abilities. This allows for the dynamic simultaneous simulation of the rainfall-runoff relationship for complex drainage networks. The PCSWMM model was used to assess the existing drainage network in Hantsport with six (6) rainfall events.

The drainage network observed during the site visits in September and October was used to develop the model in PCSWMM for analysis. The drainage network in the Community of Hantsport consists of combined sewers, storm sewers, culverts and open ditches/watercourses. It is important to note that the PCSWMM model assumed the drainage network to be operating under ideal conditions (i.e. manholes have been cleaned and sewers have been flushed). A visual of the Community's drainage network is presented in Figure 4-3.

Combined sewers, which convey both storm and sanitary flows, run along six (6) streets within the Community which are listed below:

- Willow Street
- Prince Street;
- William Street;
- A portion of Main Street; and,

- Davidson Street.

The storm water makes its way into the system through catchbasins which connect laterally to the trunk sewer. Based on the site visits that took place in September 2017 and October 2017, these combined sewers eventually discharge to open watercourses included Halfway River and the Avon River.

Dedicated storm sewers are the primary method of storm water conveyance in Hantsport. Storm sewers convey all storm water from the residential lands located southwest of Willow Street as well as School Street, Chittick Avenue and Main Street. The majority of these storm sewers discharge to Willow Brook through open ditches.

The peak sanitary flow in the combined sewer systems were estimated using the Atlantic Canada Wastewater Design Guidelines (2006). These calculations assumed an average number of persons per dwelling of 2.3 based on the findings of the 2011 Census of Population and Statistics Canada. The Willow Street combined sewer was assumed to convey wastewater from 30 residential dwellings with an estimated peak daily flow of 1.0 L/s. The combined sewer system encompassing Prince Street, William Street, and Main Street assumed wastewater conveyance from 100 residential dwelling with an estimated peak daily flow of 4.0 L/s. It is important to note that these peak sanitary flows are small when compared to the estimated stormwater runoff flows.

It is important to note that the drainage network was not surveyed in its entirety. A targeted survey of the network was completed during the site visits carried out between September 2017 and November 2017 (see Section 3.1). These surveys captured the necessary components for model development; however several assumptions were necessary to complete the model. These assumptions are summarized below:

- Bridge slab thickness of 0.7 meters (Main Street and Tannery Road);
- Sewer grades equal to the grade of the roadway or a minimum of 1.0%;
- Watercourse and ditch centerlines that weren't collected by high resolution GPS have been estimated from aerial imagery;
- Watercourse and ditch cross sections have been estimated from the LiDAR; and,
- Catchbasin leads that were not surveyed are assumed to be 200mm diameter concrete pipe.

The assumptions described above were considered acceptable based on field observations noted during the site visits in the fall of 2017.
The following additional assumptions were also necessary to estimate catchment parameters:

- Hantsport soil has been given a Hydraulic Classification B - based on provincial surficial geologic mapping;
- Manning's roughness value (n) for concrete pipes and PVC pipes is 0.015 and 0.010, respectively (Chow, 1959); and,

- Effective catchment areas were used in the model; these reduced catchment areas were calculated assuming low lying areas did not contribute stormwater runoff to the drainage system. A topographical review revealed these low lying areas.

4.3 Hydraulic Model Calibration

4.3.1 Willow Brook

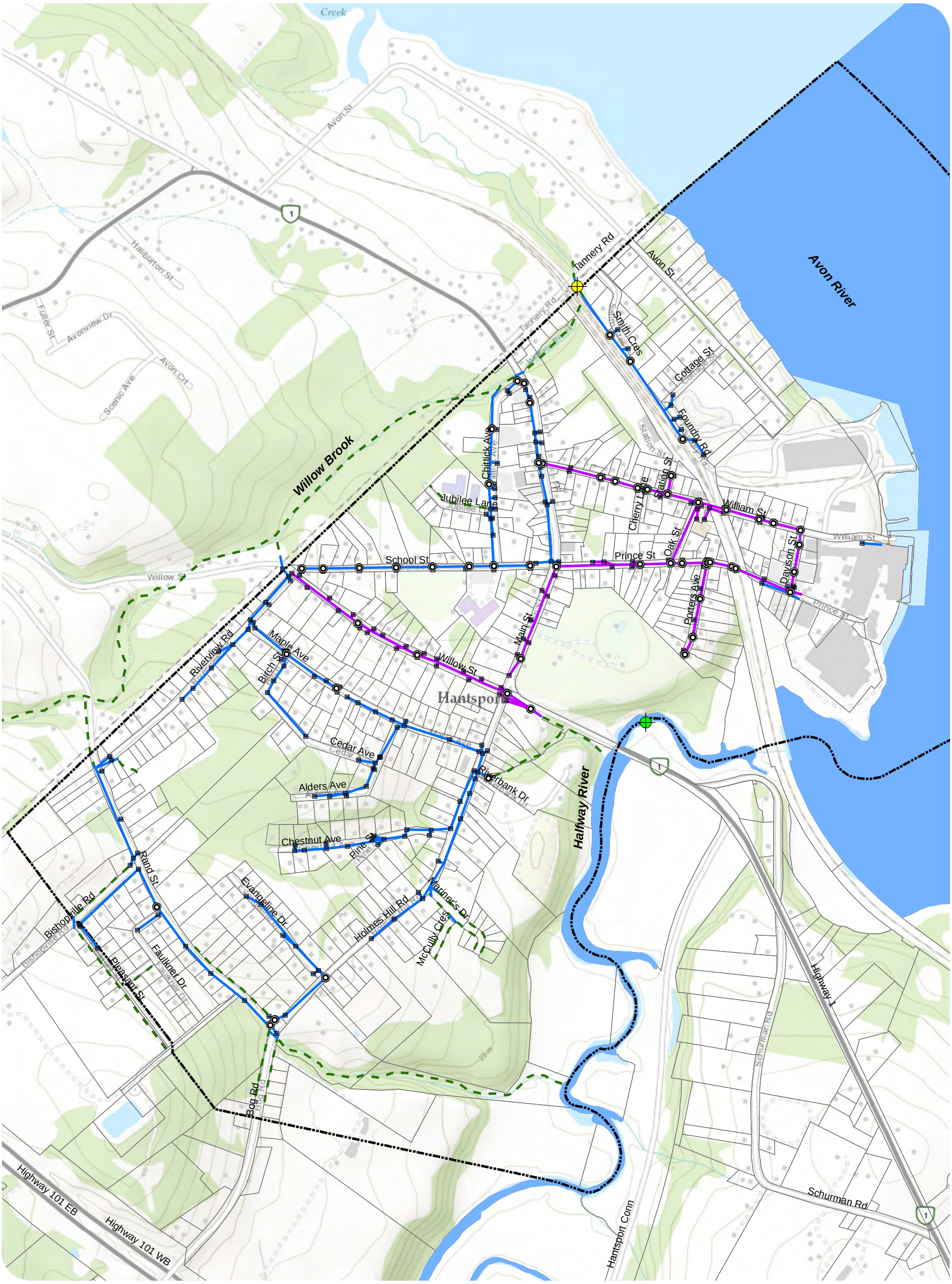
The water level observations discussed in Section 3.2.2 were used to estimate flow through the concrete box culvert at the Tannery Road crossing of Willow Brook. The Manning Equation was used to develop a rating curve for the Tannery Road crossing using the following parameters, collected during field survey and derived from LiDAR:

- Average bed slope of 3.6 %;
- Culvert Opening width of 3.66 m;
- Upstream Culvert Invert Elevation of 9.84 m;
- Downstream Culvert Invert Elevation of 9.86 m.

The Manning Equation assumes that flow is unobstructed by drainage infrastructure such as, bridges and culverts. This assumption was considered acceptable due to the low water levels associated with the daily rainfall on October 26th and 30th (14.9 and 15.7 mm, respectively). The recorded water levels for the October 26th and 30th rainfall events were approximately 0.30 and 0.34 m, corresponding to an HGL elevation of 10.14 and 10.18 m, respectively. Using the Manning's Equation the discharge during the two October events was estimated to be approximately 0.65 and 0.80 m^3/s.

A comparison of the simulated and observed runoff hydrograph for Willow Brook at the Tannery Road crossing during the October 30th event is presented in in Figure 4-4. The model results at this crossing encompass discharge generated from a large portion of the study area including sections of Rand Street, Riverview Road, Chittick Avenue, Main Street and Foundry Road (~0.6 km^2).

Observed rainfall depths at the Kentville climate station were requested from Environment Canada, and included 15-minute rainfall depth observations. These rainfall data were used to create a rainfall timeseries in the PCSWMM model.



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EXISTING DRAINAGE NETWORK
FIGURE 4-3

WEST HANTS
NOVA SCOTIA

- STORM SEWER
- COMBINED SEWER
- WATERCOUSE AND/OR OPEN DITCH
- CATCHBASIN
- MANHOLE
- MUNICIPAL BOUNDARY
- LAND PARCEL
- HALFWAY RIVER WATER LEVEL LOGGER
- WILLOW BROOK WATER LEVEL LOGGER

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MAP DRAWING INFORMATION:
DATA PROVIDED BY ESRI & WEST HANTS

MAP CREATED BY: JGC
MAP CHECKED BY: JAM
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\LONDON\LONDON CAD\GIS\VISUAL COMMUNICATIONS DI\MXD TEMPLATES\BEIGE - 11X17 LANDSCAPE - LEGEND BOTTOM.MXD

0 50 100 200 Meters
SCALE 1:7,500

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The following updates to the numerical model were made to simulate the Willow Brook response to the October 30th rainfall event:

- The PCSWMM model was updated to account for the observed baseline discharge leading up to the October 30th rainfall event (0.283 m^3/s) – this base flow was maintained for all subsequent simulations;
- The runoff curve number (CN) value was reduced to reflect the dry antecedent moisture leading up to the October rainfall events, from 65 (AMC II – Average) to 40 (AMC I – Dry) – this was in response to the unseasonably dry summer and fall months, whereby September recorded a total monthly rainfall depth of 15.9 mm compared to a historical average of 87.3 mm;
- Sections of sewer contributing to Willow Brook that were observed to be severely blocked with debris were restricted for this simulation (see Section 3.1).

The model required a slight calibration based on the comparison of observed and simulated flow. The depression storage values for pervious and impervious drainage areas were increased to 5 mm and 1 mm, respectively. This reduced the simulated peak flow slightly to be more in line with the observed peak flow. The simulated hydrograph in Figure 4-4 is the calibrated simulation results.

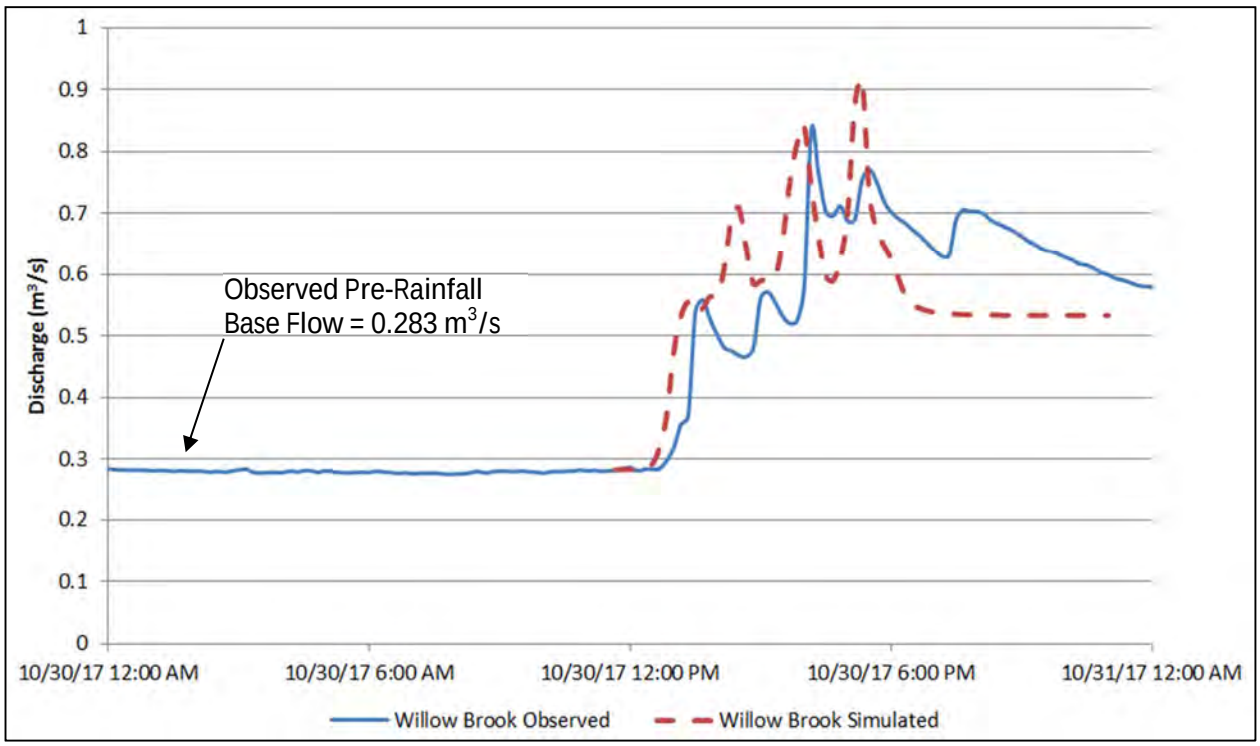


Figure 4-4: Comparison of Willow Brook Simulated and Observed Hydrograph for October 30th, 2017 Event

The simulated peak flow was approximately 0.08 m^3/s (+9.5%) greater than the observed peak value. It is expected that there was a lag between the rainfall recorded in Kentville and that which fell within the Willow Brook gauge watershed. Therefore the beginning of the October 30th rainfall event was delayed

by 1.5 hours to compensate for the distance between Kentville and the study watershed (25 km). This delay allowed for the simulated and observed runoff responses to occur at roughly the same time.

It is important to note that the Halfway River was not used for model calibration. The Halfway River watershed is large (~201 km^2) resulting in significant flows (as shown in Section 3.2.3). The Halfway River conveys approximately 1.1 km^2 of stormwater runoff from within the Community. The stormwater runoff volumes from the Community are expected to have negligible impacts on water levels in the Halfway River. By comparison, the Willow Brook watershed (~3.3 km^2) conveys approximately 0.6 km^2 of stormwater runoff from within the Community. Willow Brook was deemed more suitable for model calibration.

5.0 Simulation Results

The following sections present the simulation results for the Hantsport drainage network under both existing conditions and future development conditions. The drainage network was assessed for six (6) 24-hour rainfall events with return periods ranging from two (2) years to 100 years. For the purposes of summarizing these results, the drainage network has been divided into eight (8) areas based on outlet location (see Figure 5-1).

Tables 5-1 through 5-20 provide the estimated water level elevations for the 5-year and 100-year return period events at areas noted as “drainage challenges” for three (3) different simulation scenarios. It is important to note that values in red indicate that water levels surcharge above the ground surface. The simulation results for all rainfall events are provided in Appendix B. Simulated water level profiles for select areas are presented in Appendix C, with peak flow results summarized in Appendix F.

The maximum ponding depth considered for the PCSWMM simulation was 0.3 m. A review of stormwater management guidelines in other municipalities suggests that 0.3 m is a common maximum for acceptable ponding depth in major drainage networks for the 100-year flood condition (e.g. the cities of Waterloo and Windsor, Ontario). It is noted that any amount of roadway ponding during the 5-year flood condition is generally considered unacceptable. Minimizing roadway ponding is an important consideration for the safety of motorists (e.g. reduced potential for hydroplaning) and increases the longevity of the roadway surface.

Generally, the maximum roadway ponding assumption was not applicable to roadways with curb and gutter, and sufficient grade to convey storm flows within the roadway. Accordingly, the maximum ponding depth of 0.3 m was most relevant to areas where road grades suggest the potential for the accumulation of runoff (e.g. accumulation of runoff in road sags).

5.1 Existing Performance

5.1.1 Downtown – Chittick Avenue, Main Street & School Street

The downtown core of Hantsport is comprised of three main streets which include School Street, Chittick Avenue, and Main Street. Drainage is conveyed through a series of storm sewers and ultimately discharges to Willow Brook at the Main Street bridge crossing.

Simulations of the downtown area suggest that the system conveys runoff for the 5-year rainfall event with only minor ponding in localized areas along Chittick Avenue, School Street, and Main Street. Under more extreme rainfall events (i.e. 100-year), the model shows increasing flooding along School Street and Main Street. Flood levels are most concerning near the Main Street Bridge crossing.

Drainage issues in this area are presumably highly influenced by the water levels in Willow Brook. Estimated peak water levels along Chittick Avenue, Main Street, and School Street are presented in Table 5-1. Simulated water levels profiles along Chittick Avenue and Main Street are provided in Appendix C.

Table 5-1: Summary of Simulated Water Level Elevations for Existing Conditions – Downtown

Location	Existing Development Conditions Peak Water Level (m)	
Return Period Rainfall Event	5 yr	100 yr
Main Street – Civic #25 (CB98)	18.16	18.38[2]
Main Street – Civic #39 (CB93)	18.27	19.38[2]
Main Street Bridge (J46)	14.38	15.75[1]
Chittick Avenue – Civic #22 (J1)	14.57	15.01[2]
Chittick Road - Civic #47 (CB84)	14.87[2]	14.87[2]
School Street – Civic #12 (J26)	16.68[2]	16.68[2]

[1] Overtopping of bridge deck.
[2] Roadway ponding greater than 0.3 m in depth.

5.1.2 Riverview Road, Maple Avenue & Birch Street

The area comprised of Riverview Road, Maple Avenue, and Birch Street, conveys runoff through a series of storm sewers. The system outlets to Willow Brook at the west end of School Street.

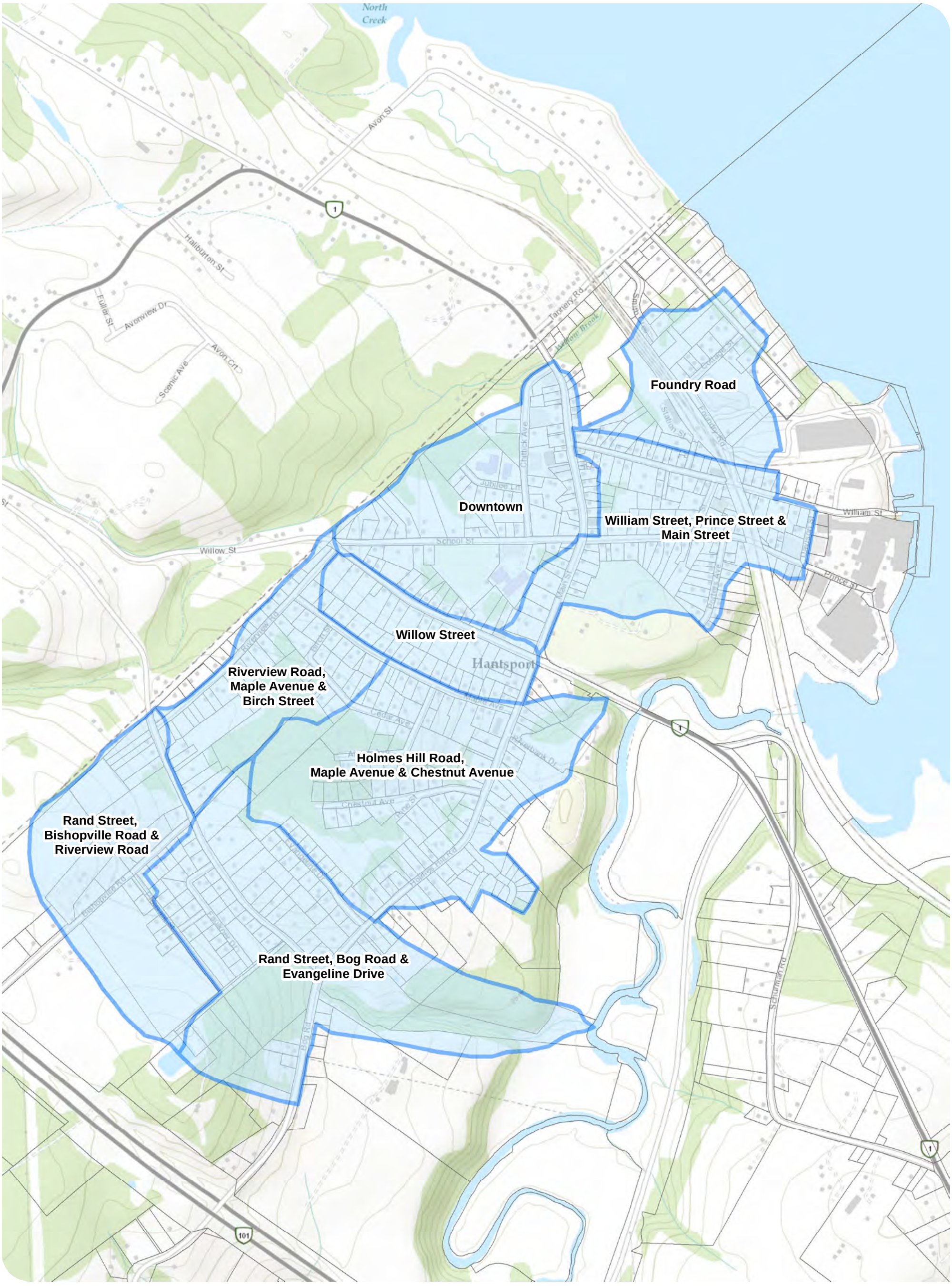
Simulation of the Riverview Road/Maple Avenue area suggests flooding during the 5-year rainfall event along areas of Maple Avenue and Riverview Drive in the vicinity of Civic #23. The flooding along Riverview Drive is presumable a result of the undersized (100 mm) diameter storm sewer lead from CB168. Estimated peak water levels at this location are presented in Table 5-2. Simulated water levels profiles along Riverview Road and Maple Avenue are provided in Appendix C.

Table 5-2: Summary of Simulated Water Level Elevations for Existing Conditions – Riverview Road, Maple Avenue & Birch Street

Location	Existing Development Conditions Peak Water Level (m)	
Return Period Rainfall Event	5 yr	100 yr
Maple Avenue – Civic #24 (J77)	40.71[2]	40.71[2]
Maple Avenue – Civic #30 (MH169)	40.39	40.52[2]
Riverview Road – Civic #8 (CB158)	36.84	37.45
Riverview Road – Civic #23 (CB168)	54.42[2]	54.42[2]

[2]Roadway ponding greater than 0.3 m in depth.

No significant challenges to adequate drainage were noted in this area.



MUNICIPALITY OF THE DISTRICT OF WEST HANTS
HANTSPORT SWM STUDY

SIMULATION RESULTS: CATCHMENT AREAS
FIGURE 5-1

CATCHMENT AREA - SIMULATION RESULTS

LAND PARCEL

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY ESRI & WEST HANTS

MAP CREATED BY: JGC
MAP CHECKED BY: JAM
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\LONDON\LONDON CAD\GIS\VISUAL COMMUNICATIONS DI\MXD TEMPLATES\BEIGE - 11X17 LANDSCAPE - LEGEND BOTTOM.MXD

SCALE 1:8,000
0 50 100 200 Meters

N W E S

PROJECT: 17-6276 STATUS: FINAL DATE: 18/04/27

5.1.3 Foundry Road

Foundry Road conveys stormwater runoff from Cottage Street and Avon Street. The system picks up stormwater runoff from Smith Crescent before discharging to Willow Brook near the Tannery Road bridge crossing.

Simulation of the Foundry Road area suggests that the system does not effectively convey stormwater runoff for the 5-year storm. The model indicates roadway flooding near the soccer field and along Cottage Street. It is also important to note that the 100 mm diameter storm sewer which crosses Foundry Road in front of the Fire Station is undersized for estimated stormwater runoff volumes. The Foundry Road area is noted as an area requiring drainage upgrades to adequately convey stormwater runoff. Table 5-3 presents the estimated peak water level simulated near the soccer field on Foundry Road.

Table 5-3: Summary of Simulated Water Level Elevations for Existing Conditions – Foundry Road

Location	Existing Development Conditions Peak Water Level (m)	
Return Period Rainfall Event	5 yr	100 yr
Soccer Field (J137)	15.40[2]	15.40[2]

[2]Roadway ponding greater than 0.3 m in depth.

5.1.4 William Street, Prince Street & Main Street

The collection system encompassing William Street, Prince Street and Main Street includes primarily combined sewers with some minor storm sewer. The system converges at the intersection of Davidson Street and Prince Street and ultimately discharges to the Avon River.

As discussed in Section 4.4, peak sanitary flows were estimated for the combined sewer systems using the Atlantic Canada Wastewater Guidelines Manual (2006). The combined sewer along William Street, Prince Street, and Main Street was modelled with a peak sanitary flow of 0.004 cms assuming 100 residential dwellings. Simulations suggest that the area experiences flooding for the 5-year rainfall event particularly at the following locations:

- Main Street at the intersection with Prince Street
- Prince Street in the vicinity of Civic #11;
- William Street in the vicinity of Civic #17; and,
- William Street at the intersection with Oak Street.

In general, the locations noted above are low lying areas which will tend to collect stormwater runoff under major rainfall events. These areas are concerning as surcharging of the combined sewer system could potentially result in sanitary waste on the roadway. Table 5-4 presents the estimated peak water levels simulated at these locations.

Table 5-4: Summary of Simulated Water Level Elevations for Existing Conditions – William Street, Prince Street & Main Street

Location	Existing Development Conditions Peak Water Level (m)	
Return Period Rainfall Event	5 yr	100 yr
William Street – Civic #14 (CB57)	16.67[2]	16.67[2]
Prince Street – Civic #11 (CB40)	17.19[2]	17.19[2]
William Street – Intersection with Oak Street (CB47)	15.30	15.43[2]
Prince Street – Intersection with Davidson Road (CB23)	14.09[2]	14.09[2]

[2]Roadway ponding greater than 0.3 m in depth.

5.1.5 Willow Street

The Willow Street stormwater runoff is conveyed through a combined sewer system which outlets to Halfway River upstream of the N.S. Highway 1 bridge crossing.

The combined sewer was modelled with an estimated peak sanitary flow of 1 L/s assuming 30 residential dwellings. Simulations suggest that roadway flooding occurs for the 5-year rainfall event near the intersection with Main Street. Roadway flooding is expected to be minimized due to the existing grade along Willow Street and conveying stormwater runoff along the roadway network to Halfway River.

Table 5-5: Summary of Simulated Water Level Elevations for Existing Conditions – Willow Street

Location	Existing Development Conditions Peak Water Level (m)	
Return Period Rainfall Event	5 yr	100 yr
Willow Street – Intersection with Main Street (CB137)	19.93[2]	19.93[2]

[2]Roadway ponding greater than 0.3 m in depth.

The combined sewer system presents a drainage challenge as surcharging of the system could result in spillage of sanitary flows on the roadway.

5.1.6 Holmes Hill Road, Maple Avenue & Chestnut Avenue

The Holmes Hill Road drainage system conveys stormwater runoff from Maple Avenue, Chestnut Avenue, and Mariner's Drive, through a series of storm sewers. The system discharges to a watercourse on Riverbank Drive and ultimately discharges to Halfway River.

The model results indicate that the Chestnut Avenue storm sewer conveys stormwater flows effectively. Simulations indicate potential flooding along Holmes Hill Road for the 5-year rainfall events; the simulation also suggests minor flooding along Alders Avenue for the 5-year event. Due to the existing

grade along Holmes Hill Road and Alders Avenue it is expected that any buildup of storm water flows overland eventually discharging to the open ditch along Riverbank Drive. Table 5-6 summarizes the estimated peak water levels simulated along Holmes Hill Road and Alders Avenue. Simulated water levels profiles along Alders Avenue are provided in Appendix C.

Table 5-6: Summary of Simulated Water Level Elevations for Existing Conditions – Holmes Hill Road, Maple Avenue & Chestnut Avenue

Location	Existing Development Conditions Peak Water Level (m)	
Return Period Rainfall Event	5 yr	100 yr
Alders Avenue – Intersection with Cedar Avenue (CB177)	41.94	43.57[2]
Holmes Hill Road – Intersection with Riverbank Drive (J130)	20.70[2]	20.70[2]
Mariner's Drive (J53)	33.04	34.01

[2]Roadway ponding greater than 0.3 m in depth.

5.1.7 Rand Street, Bog Road & Evangeline Drive

The drainage network encompassing Rand Street (south), Bog Road, and Evangeline Drive includes a combination of storm sewers and open ditches. The stormwater runoff from this area ultimately discharges to Halfway River.

Simulations of the area suggest that the majority of the system can convey stormwater runoff volumes for the 100-year rainfall event with minimal drainage issues. The model indicates flooding along Faulkner Drive; however, due to the relatively steep grade throughout the catchment area ponding is expected to be minimal. Table 5-6 presents the estimated peak water levels simulated on Faulkner Drive under existing conditions.

Table 5-7: Summary of Simulated Water Level Elevations for Existing Conditions – Rand Street, Bog Road & Evangeline Drive

Location	Existing Development Conditions Peak Water Level (m)	
Return Period Rainfall Event	5 yr	100 yr
Faulkner Drive – Civic #80 (CB225)	64.49[2]	64.49[2]

[2]Roadway ponding greater than 0.3 m in depth.

5.1.8 Rand Street, Bishopville Road & Riverview Road

The area comprised of Rand Street (north), Bishopville Road, and Riverview Road conveys stormwater runoff through a series of open ditches with some minor storm sewer infrastructure. The system discharges to Willow Brook.

Simulations suggest that the system experiences minor flooding for the 5-year rainfall event. The model indicates increased flooding along Pleasant Drive and Riverview Road during more extreme rainfall

events (i.e. 100-year). Table 5-7 presents the estimated peak water levels simulated at these locations under existing conditions. Simulated water levels profiles along Riverview Road are provided in Appendix C.

Table 5-8: Summary of Water Level Elevations for Existing Conditions – Rand Street, Bishopville Road & Riverview Road

Location	Existing Development Conditions Peak Water Level (m)	
Return Period Rainfall Event	5 yr	100 yr
Pleasant Drive (J61)	71.27	71.55[2]
Riverview Road – Ditch Inlet (J40)	55.55	56.19[2]
Rand Street – Intersection with Bishopville Drive (CB227)	61.55	61.71

[2]Roadway ponding greater than 0.3 m in depth.

No significant challenges to adequate drainage were noted in this area.

5.2 Future Performance

Based on discussions with the Municipality of the District of West Hants on November 22nd, 2017, the expected annual projected growth over the next 50 years is an average two (2) new homes per year along with the potential construction of a nursing home. Three potential locations were identified during these discussions for the projected 100 new homes and nursing home. These locations are listed below and presented in Figure 5-2.

- Extension of Faulkner Drive to Bog Road (16 new homes);
- Connection of Chestnut Avenue to Evangeline Drive (15 new homes); and,
- Extension of Mariner Drive (new nursing home).

These three locations may not provide sufficient land to allow for the projected 50 year growth of 100 new homes and a nursing home. Dillon has assumed that all future development will take place in the southwest part of the Community. The following locations were also considered for potential future development during modelling:

- Extension of Alders Avenue to the west (48 new homes); and,
- Extension of McCully Crescent and Mariner's Drive (18 new homes).

Four (4) of the eight (8) drainage systems in the Community are expected to be influenced by future development. The following set of simulation results assesses the future performance of the drainage network with an estimated 97 new homes and a nursing home. A summary of the updated runoff parameters assigned to each sub-catchment are provided in Appendix A.

Figure 5-2 identifies flood vulnerable areas resulting from future development.

5.2.1 Downtown – Chittick Avenue, Main Street & School Street – Future Land Use Conditions

The downtown area is not expected to convey stormwater runoff from new developments over the next 50 years. The simulation results for future land use conditions are the same as existing conditions (see Table 5-1).

5.2.2 Riverview Road, Maple Avenue & Birch Street – Future Land Use Conditions

The Riverview Road drainage system is expected to collect stormwater runoff from future developments along the Alders Avenue extension. Refer to Appendix A for the projected increase in impervious surface parameters to the associated catchment areas.

Under future development conditions, simulations of the Riverview Road drainage area suggest potential flooding issues. Similar to the existing conditions simulations, future flooding is expected for the 5-year rainfall events particularly along Maple Avenue in the vicinity of Civic #30, and along Riverview Road in the vicinity of Civic #23. The existing grade along Riverview Road and Maple Avenue is expected to minimize issues resulting from roadway ponding.

The estimated water levels observed at the locations above are summarized in Table 5-9. Most notably, increased flooding along Maple Avenue is expected for the 5-year rainfall event.

Table 5-9: Summary of Simulated Future Water Level Elevation Impacts for Historical Climate – Riverview Road, Maple Avenue & Birch Street

Location	Existing Development Conditions Peak Water Level (m)		Future Development Conditions Peak Water Level (m)		Water Level Impact (m)	
Return Period Rainfall Event	5 yr	100 yr	5 yr	100 yr	5 yr	100 yr
Maple Avenue – Civic #24 (J77)	40.71[2]	40.71[2]	40.71[2]	40.71[2]	0.00	0.00
Maple Avenue – Civic #30 (MH169)	40.39	40.52[2]	40.52[2]	40.52[2]	+0.13	0.00
Riverview Road – Civic #8 (CB158)	36.84	37.45	36.85	37.72[2]	+0.01	+0.27
Riverview Road – Civic #23 (CB168)	54.42[2]	54.42[2]	54.42[2]	54.42[2]	0.00	0.00

[2]Roadway ponding greater than 0.3 m in depth.

5.2.3 Foundry Lane – Future Land Use Conditions

The Foundry Lane area is not expected to convey stormwater runoff from new developments over the next 50 years. The simulation results for future land use conditions are the same as existing conditions (see Table 5-3).

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FUTURE DEVELOPMENT
FIGURE 5-2

FUTURE DEVELOPMENT AREAS (97 HOMES, 1 NURSING HOME)

LAND PARCEL

MUNICIPAL BOUNDARY

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY ESRI & WEST HANTS

MAP CREATED BY: JGC
MAP CHECKED BY: JAM
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\LONDON\LONDON CAD\GIS\VISUAL COMMUNICATIONS DI\MXD TEMPLATES\BEIGE - 11X17 LANDSCAPE - LEGEND BOTTOM.MXD

SCALE 1:7,500
0 50 100 200 Meters

PROJECT: 17-6276 STATUS: FINAL DATE: 18/04/27

5.2.4 William Street, Prince Street & Main Street – Future Land Use Conditions

The drainage system is not expected to convey stormwater runoff from new developments over the next 50 years. The simulation results for future land use conditions are the same as existing conditions (see Table 5-4).

5.2.5 Willow Street – Future Land Use Conditions

The Willow Street area is not expected to convey stormwater runoff from new developments over the next 50 years. The simulation results for future land use conditions are the same as existing conditions (see Table 5-5).

5.2.6 Holmes Hill Road, Maple Avenue & Chestnut Avenue – Future Land Use Conditions

This area has been considered as a primary location for development over the next 50 years. As noted above, the extension of Chestnut Avenue and Alders Avenue would accommodate approximately 63 new homes. It has been assumed that the majority of stormwater runoff from the new developments will be conveyed through this system.

The model indicates that these developments are not expected to significantly in increase roadway flooding from pre-development. Simulations suggest primary areas of concern include Alders Avenue and Holmes Hill Road.

The estimated water levels observed at these locations above summarized in Table 5-10.

Table 5-10: Summary of Simulated Future Water Level Elevation Impacts for Historical Climate – Holmes Hill Road, Maple Avenue & Chestnut Avenue

Location	Existing Development Conditions Peak Water Level (m)		Future Development Conditions Peak Water Level (m)		Water Level Impact (m)	
Return Period Rainfall Event	5 yr	100 yr	5 yr	100 yr	5 yr	100 yr
Alders Avenue – Intersection with Cedar Avenue (CB177)	41.94	43.57[2]	42.00	43.57[2]	+0.06	0.00
Holmes Hill Road – Intersection with Riverbank Drive (J130)	20.70[2]	20.70[2]	20.70[2]	20.70[2]	0.00	0.00
Mariner's Drive (J53)	33.04	34.01	33.04	34.01	0.00	0.00

[2]Roadway ponding greater than 0.3 m in depth.

Based on the existing grade within this catchment area, any significant buildup of stormwater runoff will presumably flow overland and eventually discharge to the open ditch along Riverbank Drive.

5.2.7 Rand Street, Bog Road & Evangeline Drive – Future Land Use Conditions

The connection of Evangeline Avenue and Chestnut Avenue has been noted as a location for development in the next 50 years. This development is expected to accommodate approximately 15 new homes resulting in additional impervious surface in the Evangeline Drive catchment area.

The simulations suggest that the majority of the existing system is adequate to convey projected stormwater runoff volumes for the 100-year rainfall event. Similar to the existing conditions assessment, an area of concern is Faulkner Drive in the vicinity of Civic #80. Due to the relatively steep grade throughout the catchment area, it is expected that roadway ponding will be minimal.

The estimated water levels observed at the locations above are summarized in Table 5-11.

Table 5-11: Summary of Simulated Future Water Level Elevation Impacts for Historical Climate - Rand Street, Bog Road & Evangeline Drive

Location	Existing Development Conditions Peak Water Level (m)		Future Development Conditions Peak Water Level (m)		Water Level Impact (m)	
Return Period Rainfall Event	5 yr	100 yr	5 yr	100 yr	5 yr	100 yr
Faulkner Drive – Civic #80 (CB225)	64.49[2]	64.49[2]	64.49[2]	64.49[2]	0.00	0.00

[2]Roadway ponding greater than 0.3 m in depth.

5.2.8 Rand Street, Bishopville Road & Riverview Road – Future Land Use Conditions

The extension of Alders Avenue is expected to result in 48 additional homes. A portion of the stormwater runoff from this new development is expected to be conveyed through Riverview Road and Rand Street collection systems. The model indicates a couple of areas of potential concern along Pleasant Street and Riverview Road.

The estimated water levels observed at these locations are summarized in Table 5-12.

Table 5-12: Summary of Simulated Future Water Level Elevation Impacts for Historical Climate – Rand Street, Bishopville Road & Riverview Road

Location	Existing Development Conditions Peak Water Level (m)		Future Development Conditions Peak Water Level (m)		Water Level Impact (m)	
Return Period Rainfall Event	5 yr	100 yr	5 yr	100 yr	5 yr	100 yr
Pleasant Drive (J61)	71.27	71.55[2]	71.27	71.55[2]	0.00	0.00
Riverview Road – Ditch Inlet (J40)	55.55	56.19[2]	55.72	56.19[2]	+0.17	0.00
Rand Street – Intersection with Bishopville Drive (CB227)	61.55	61.71	61.55	61.71	0.00	0.00

[2]Roadway ponding greater than 0.3 m in depth.

5.3 Future Performance with Climate Change Conditions

This set of simulations assesses the performance of the existing system assuming future land use for a range of rainfall events that have been adjusted for climate change. As noted in Section 4.1.2, the climate change adjustments assume a moderate greenhouse gas emissions scenario over the next 50 years (RCP 4.5).

The rainfall distributions used in the model are provided in Appendix D. Figure 6-2 identifies flood vulnerable areas resulting from future development with climate change conditions.

5.3.1 Downtown – Chittick Avenue, Main Street & School Street – Future Land Use Conditions with Climate Change

The future development model indicates potential flooding issues along Chittick Avenue, School Street, and Main Street during the 5-year rainfall event. More extreme precipitation events (i.e. 100-year) result in increased flooding on all three streets. Water levels in Willow Brook are suspected to influence the potential of flooding.

Under future climate conditions, simulations suggest the potential for increased flooding during the 5-year rainfall event along Chittick Avenue and Main Street. The Main Street Bridge crossing is an area of significant concern with respect to flooding. Simulation results indicate flooding in the following additional areas:

- Chittick Avenue in vicinity of Civic #22 and #47;
- School Street in the vicinity of Civic #12; and,
- Main Street in the vicinity of Civic #25 and Civic #39.

The estimated water levels observed at the locations above are summarized in Table 5-13.

Table 5-13: Summary of Simulated Future Water Level Elevation Impacts for Future Development and Climate Change Conditions – Downtown

Location	Historical Climate Conditions Peak Water Level (m)		Climate Change Conditions Peak Water Level (m)		Water Level Impact (m)	
Return Period Rainfall Event	5 yr	100 yr	5 yr	100 yr	5 yr	100 yr
Main Street – Civic #25 (CB98)	18.16	18.38[2]	18.38[2]	18.38[2]	+0.22	0.00
Main Street – Civic #39 (CB93)	18.27	19.38[2]	19.23	19.38[2]	+0.96	0.00
Main Street Bridge (J46)	14.38	15.75[1]	15.38	15.75[1]	+1.00	0.00
Chittick Avenue – Civic #22 (J1)	14.57	15.01[2]	15.01[2]	15.01[2]	+0.44	0.00
Chittick Road - Civic #47 (CB84)	14.87[2]	14.87[2]	14.87[2]	14.87[2]	+0.00	0.00
School Street – Civic #12 (J26)	16.68[2]	16.68[2]	16.68[2]	16.68[2]	0.00	0.00

[1] Overtopping of bridge deck.
[2] Roadway ponding greater than 0.3 m in depth.

5.3.2 Riverview Road, Maple Avenue & Birch Street – Future Land Use Conditions with Climate Change

The future development simulation results suggest potential flooding at the top of Riverview Road and Maple Avenue. The 100-year event indicated increased flooding along Riverview Road and Maple Avenue.

Simulations of the Riverview Road area assuming the effects of climate change suggest increased flooding issues during the 5-year rainfall event. The model shows minor flooding throughout the system particularly along Maple Avenue in the vicinity of Civic #24 and Civic #30, and along Riverview Road in the vicinity of Civic #23. The existing grade along Riverview Road and Maple Avenue is expected to help minimize flooding.

The estimated water levels observed at the locations above are summarized in Table 5-14.

Table 5-14: Summary of Simulated Future Water Level Elevation Impacts for Future Development and Climate Change Conditions – Riverview Road, Maple Avenue & Birch Street

Location	Historical Climate Conditions Peak Water Level (m)		Climate Change Conditions Peak Water Level (m)		Water Level Impact (m)	
Return Period Rainfall Event	5 yr	100 yr	5 yr	100 yr	5 yr	100 yr
Maple Avenue – Civic #24 (J77)	40.71[2]	40.71[2]	40.71[2]	40.71[2]	0.00	0.00
Maple Avenue – Civic #30 (MH169)	40.52[2]	40.52[2]	40.52[2]	40.52[2]	0.00	0.00
Riverview Road – Civic #8 (CB158)	36.85	37.72[2]	36.86	37.72[2]	+0.01	0.00
Riverview Road – Civic #23 (CB168)	54.42[2]	54.42[2]	54.62[2]	54.62[2]	0.00	0.00

[2]Roadway ponding greater than 0.3 m in depth.

5.3.3 Foundry Lane – Future Land Use Conditions with Climate Change

The Foundry Lane area is of significant concern for potential flooding during the historical 5-year return period event. Increased flooding is expected for future climate conditions due to increased rainfall amounts. It is also noteworthy that the simulations indicate an undersized catchbasin lead (100 mm) from CB12 (in front of the Fire Station).

The estimated water levels observed in the vicinity of the Soccer Field are summarized in Table 5-15.

Table 5-15: Summary of Simulated Future Water Level Elevation Impacts for Future Development and Climate Change Conditions – Foundry Lane

Location	Historical Climate Conditions Peak Water Level (m)		Climate Change Conditions Peak Water Level (m)		Water Level Impact (m)	
Return Period Rainfall Event	5 yr	100 yr	5 yr	100 yr	5 yr	100 yr
Soccer Field (J137)	15.40[2]	15.40[2]	15.40[2]	15.40[2]	0.00	0.00

[2]Roadway ponding greater than 0.3 m in depth.

5.3.4 William Street, Prince Street & Main Street – Future Land Use Conditions with Climate Change

Under future development conditions, the William Street, Prince Street, and Main Street combined system is expected to experience drainage issues for the 5-year event. The model indicates localized flooding along William Street and Prince Street. The 100-year rainfall event shows increased flooding along William Street and Prince Street.

Similar to the results indicated during historical rainfall events, minor flooding is expected along Prince Street and William Street for the projected 5-year climate change event with increased flooding during the 100-year event.

The estimated water levels observed at the locations above are summarized in Table 5-16.

Table 5-16: Summary of Simulated Future Water Level Elevation Impacts for Future Development and Climate Change Conditions – William Street, Prince Street & Main Street

Location	Historical Climate Conditions Peak Water Level (m)		Climate Change Conditions Peak Water Level (m)		Water Level Impact (m)	
Return Period Rainfall Event	5 yr	100 yr	5 yr	100 yr	5 yr	100 yr
William Street – Civic #14 (CB57)	16.67[2]	16.67[2]	16.67[2]	16.67[2]	0.00	0.00
Prince Street – Civic #11 (CB40)	17.19[2]	17.19[2]	17.19[2]	17.19[2]	0.00	0.00
William Street – Intersection with Oak Street (CB47)	15.30	15.43[2]	15.35	15.43[2]	+0.05	0.00
Prince Street – Intersection with Davidson Road (CB23)	14.09[2]	14.09[2]	14.09[2]	14.09[2]	+0.00	0.00

[2]Roadway ponding greater than 0.3 m in depth.

The locations identified above are primarily low lying areas which will tend to act as collection points during extreme rainfall events. As discussed in Section 5.1.4, separation of the combined sewer should be considered for this area.

5.3.5 Willow Street – Future Land Use Conditions with Climate Change

Similar to the results of the existing conditions simulations, the model suggests that the system continues to experience flooding at the intersection of Main Street for the 5-year event. As discussed in Section 5.1.5, it is expected that the roadway system minimizes ponding by conveying stormwater runoff along Willow Street and ultimately discharging to Halfway River.

Estimated water levels observed at the intersection of Main Street are summarized in Table 5-17.

Table 5-17: Summary of Simulated Future Water Level Elevation Impacts for Future Development and Climate Change Conditions – Willow Street

Location	Historical Climate Conditions Peak Water Level (m)		Climate Change Conditions Peak Water Level (m)		Water Level Impact (m)	
Return Period Rainfall Event	5 yr	100 yr	5 yr	100 yr	5 yr	100 yr
Willow Street – Intersection with Main Street (CB137)	19.93[2]	19.93[2]	19.93[2]	19.93[2]	0.00	0.00

[2]Roadway ponding greater than 0.3 m in depth.

As discussed in Section 5.1.5, separation of the combined sewer should be considered for Willow Street.

5.3.6 Holmes Hill Road, Maple Avenue & Chestnut Avenue – Future Land Use Conditions with Climate Change

Flooding is a concern at the intersection of Holmes Hill Road with Riverbank Drive during the historical 5-year rainfall event. Increased flooding is expected for the 100-year rainfall event. The effects of climate change indicate that the Alders Avenue system provides less than a 5-year level of service.

The estimated water levels observed at the locations above are summarized in Table 5-18. Notably, Mariner's Drive is expected to experience increased flooding for the future 100-year rainfall event.

Table 5-18: Summary of Simulated Future Water Level Elevation Impacts for Future Development and Climate Change Conditions – Holmes Hill Road, Maple Avenue & Chestnut Avenue

Location	Historical Climate Conditions Peak Water Level (m)		Climate Change Conditions Peak Water Level (m)		Water Level Impact (m)	
Return Period Rainfall Event	5 yr	100 yr	5 yr	100 yr	5 yr	100 yr
Alders Avenue – Intersection with Cedar Avenue (CB177)	42.00	43.57[2]	43.57[2]	43.57[2]	+1.57	0.00
Holmes Hill Road – Intersection with Riverbank Drive (J130)	20.70[2]	20.70[2]	20.70[2]	20.70[2]	0.00	0.00
Mariner's Drive (J53)	33.04	34.01	33.25	34.25[2]	+0.21	+0.24

[2]Roadway ponding greater than 0.3 m in depth.

Based on the existing grade within this catchment area, any significant buildup of stormwater runoff will presumably flow overland and eventually discharge to the open ditch off Riverbank Drive.

5.3.7 Rand Street, Bog Road & Evangeline Drive – Future Land Use Conditions with Climate Change

The Rand Street and Bog Road drainage system is expected to experience minor flooding during the historical 5-year rainfall event. An area of concern is along Faulkner Drive in the vicinity of Civic #80. The combined impact of future development and climate change conditions do not indicate any additional flooding concerns in this area.

The estimated water levels observed at the locations above are summarized in Table 5-19.

Table 5-19: Summary of Simulated Future Water Level Elevation Impacts for Future Development and Climate Change Conditions – Rand Street, Bog Road & Evangeline Drive

Location	Historical Climate Conditions Peak Water Level (m)		Climate Change Conditions Peak Water Level (m)		Water Level Impact (m)	
Return Period Rainfall Event	5 yr	100 yr	5 yr	100 yr	5 yr	100 yr
Faulkner Drive – Civic #80 (CB225)	64.49[2]	64.49[2]	64.49[2]	64.49[2]	0.00	0.00

[2]Roadway ponding greater than 0.3 m in depth.

5.3.8 Rand Street, Bishopville Road & Riverview Road – Future Land Use Conditions with Climate Change

Simulation results indicate the system can adequately convey stormwater runoff from the 5-year rainfall event assuming future development conditions. Localized flooding becomes an issue during more extreme rainfall events (i.e. historical 100-year). The model indicates minor flooding for the projected 5-year climate change rainfall event.

The estimated water levels observed at the locations above are summarized in Table 5-20. It is noteworthy that the intersection of Bishopville Drive with Rand Street is not at risk of flooding during future development alone; however, this area is a potential flood concern for the climate change adjusted 100-year event.

Table 5-20: Summary of Simulated Future Water Level Elevation Impacts for Future Development and Climate Change Conditions – Rand Street, Bishopville Road & Riverview Road

Location	Historical Climate Conditions Peak Water Level (m)		Climate Change Conditions Peak Water Level (m)		Water Level Impact (m)	
Return Period Rainfall Event	5 yr	100 yr	5 yr	100 yr	5 yr	100 yr
Pleasant Drive (J61)	71.27	71.55[2]	71.42	71.55[2]	+0.15	0.00
Riverview Road – Ditch Inlet (J40)	55.72	56.19[2]	56.35	56.19[2]	+0.63	0.00
Rand Street – Intersection with Bishopville Drive (CB227)	61.55	61.71	61.58	63.09[2]	+0.03	+1.38

[2]Roadway ponding greater than 0.3 m in depth.

6.0 Assessment of Future Flood Risk Vulnerability

6.1 Urban Drainage Flood Risk

As previously discussed, the drainage network in the Community of Hantsport is comprised of storm sewer, combined sewer, and open ditching. The simulation results suggest that the majority of the drainage system can adequately convey stormwater runoff under existing conditions. The future development model incorporates an estimated 97 new homes and a nursing home. These developments result in increased impervious surfaces leading to increased runoff. The following three (3) locations are expected to experience drainage issues as a result of future development:

- Holmes Hill Road – The model indicates localized flooding along Holmes Hill Road at the intersection with Riverbank Road. It is expected that flooding is minimized however due to the existing grade in the area which would tend to convey runoff overland to the ditch on Riverbank Drive.
- Riverview Road – The model indicates two areas at risk of potential flooding along Riverview Road. The ditch located at the southern end of the road has an estimated 2-year level of service under future development conditions. The model indicates that the ditch has inadequate capacity to handle projected stormwater flows and the existing 300 mm diameter inlet pipe in undersized. Simulations suggest localized flooding in the vicinity of Civic #8 and #23 due to an undersized storm sewer.
- Maple Avenue – Localized low areas along Maple Avenue have been identified as potential flood risks. Most notably, the model indicates flooding in the vicinity of Civic #24 and #30.

Under future land use conditions with climate change, simulations suggest some inadequate drainage infrastructure. The results indicate six (6) locations of potential flood risk:

- Main Street Bridge Crossing – The Main Street Bridge crossing area has been noted for potential flood risk. Based on the simulation results, it is suspected that this issue is related to the channel capacity of Willow Brook in the area. The limited channel capacity is expected to influence and

further impact flood vulnerability further upstream along Chittick Avenue, Main Street, and School Street.

- Chittick Avenue, Main Street, and School Street – The simulation results suggest that Chittick Avenue, Main Street and School Street are potential flood risks. It is expected that the downstream Main Street Bridge crossing has an influence on flooding at these sites. Further simulations were completed to identify undersized drainage infrastructure along these streets. These streets are at low elevations relative to the surrounding topography.
- Foundry Road – The Foundry Road area presents a significant challenge to provide adequate drainage. The simulation results show that this area experiences flooding during an estimated level of service of 2 years. Detailed investigation of topographical data along Foundry Road indicates that it is a low lying area which acts as a probable collection point of stormwater runoff. Undersized drainage infrastructure is also inadequate to convey the estimated stormwater runoff volumes.
- Prince Street and William Street – Localized low areas along Prince Street and William Street have been identified as potential flood risks. Most notably, the model indicates flooding along William Street in the vicinity of Civic #14, and along Prince Street in the vicinity of Civic #11.
- Willow Street – The model indicates localized flooding at the intersection of Willow Street with Main Street. The Willow Street system is combined therefore flooding could potentially result in sanitary flows on the roadway.
- Faulkner Drive – The simulation results indicate potential flooding along Faulkner Drive due to undersized drainage infrastructure. The catchbasin lead from CB225 (in the vicinity of Civic #80) is undersized for the estimated stormwater runoff volumes.

The Municipality also noted areas of concern during the meetings on August 29th and November 22nd. The additional two (2) areas were not assessed during the modeling exercise due to lack of stormwater infrastructure (Avon Street) and insufficient information (library/playground). These locations are described below:

- Library/Playground (Main Street) – The playground behind the library on Main Street experiences drainage issues annually. A site visit on November 22nd revealed that drainage from the area is collected by a single catchbasin which is full of sediment/debris and a raised cover. These factors limit the inlet capacity of the structure which contributes to the flooding issue. Figure 6-1 provides photos of the catchbasin.
- Avon Street – Avon Street does not have any existing drainage infrastructure and frequently experiences flooding during heavy rainfall events. These flooding events are typically short lived as water quickly infiltrates into the ground.

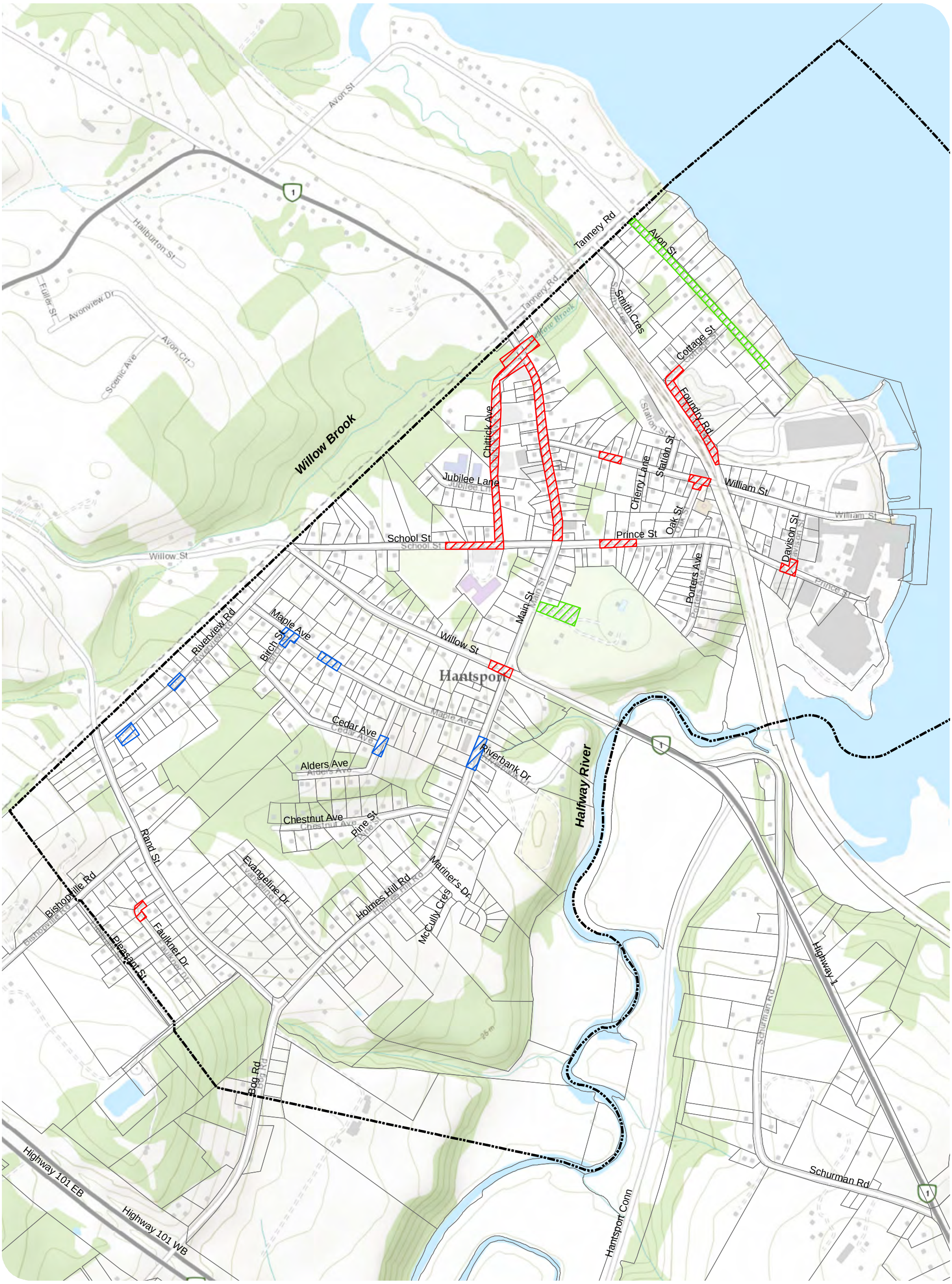


Figure 6-1: Photographs of Catchbasin in Library/Playground Area (taken November 22, 2017)

6.2 Halfway River Flood Risk

As mentioned previously, the aboiteau crossing the existing railway embankment has failed. The hydraulic regime of the lower Halfway River is expected to have changed as a result of this failure. The collapsed aboiteau (see Figure 2-2) is expected to allow migration of extreme tides and storm surge into the lower Halfway River. Similarly, peak flows from the Halfway River watershed are expected to flow reasonably unimpeded into Avon River. Some hydraulic restriction as a result of the collapsed structure is expected, however this restriction would be expected to decrease over time as the collapsed material is exposed to tidal action and high flood flows from the river causing erosion.

There is also a set of four overflow culverts located east of the aboiteau, shown in Figure 6-3. These culverts appear to be operational, though quite deteriorated. The culverts appear to consist of 900 mm corrugated steel pipe (CSP). These culverts act as an overflow mechanism to prevent overtopping of the railway and risk of flooding along Willow Street/Highway 1 in the event of high water levels in the lower Halfway River.



MUNICIPALITY OF THE DISTRICT OF WEST HANTS
HANTSPORT SWM STUDY

FUTURE FLOOD VULNERABLE AREAS
FIGURE 6-2

- FLOOD VULNERABLE AREAS (DUE TO FUTURE LAND USE)
- FLOOD VULNERABLE AREAS (DUE TO FUTURE LAND USE AND CLIMATE CHANGE)
- FLOOD VULNERABLE AREAS (ADDITIONAL IDENTIFIED BY THE MUNICIPALITY)
- LAND PARCEL
- MUNICIPAL BOUNDARY

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY ESRI & WEST HANTS

MAP CREATED BY: JGC
MAP CHECKED BY: JAM
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\LONDON\LONDON CAD\GIS\VISUAL COMMUNICATIONS DI\MXD TEMPLATES\BEIGE - 11X17 LANDSCAPE - LEGEND BOTTOM.MXD

SCALE 1:7,500
0 50 100 200 Meters

PROJECT: 17-6276 STATUS: FINAL DATE: 18/04/27



Figure 6-3: Existing Aboiteau Overflow at Halfway River Railway Crossing

The collapse has created a free outlet to the Avon River. It is expected that the current condition of the aboiteau could potentially increase flood risk associated with storm surge from the Bay. However the free outlet may slightly decrease flood risk associated with high flows in the Halfway River, since discharges to the Avon River are no longer restricted by the capacity of the aboiteau.

The flood risk along Willow Street from the Halfway River is expected to be minimal. A topographical review of the area suggests that the lowest lying residences have an elevation in the order of 16.8 m (Willow Street Civic #1). Notably, the historical 100-year water level in the Bay of Fundy is expected to be in the order of 5.4 m, with projected future (year 2100) 100-year level of roughly 6.5 m with sea level rise.

Based on observations collected along the Halfway River (Section 3.2), the HGL in the lower river are typically 2 m higher than the bay. This suggests the potential future extreme water level in the lower Halfway River in the order of 8.5 m. However, it is noteworthy that extreme flood flows combined with storm surge conditions would also presumably increase the HGL beyond this level.

The estimated freeboard between the extreme water level elevation and the lowest residence adjacent to the river is approximately 8.8 m, therefore the risk of riverine flooding to the residents of Hantsport is expected to be minimal. Flooding is presumably limited to downstream areas outside the limits of the Community.

7.0 Preliminary Drainage Improvement Options

Based on the observations from the site visits (September 2017 – November 2017), as well as the PCSWMM simulation results, a set of conceptual drainage improvement options were prepared and are described in the subsequent sections. It is noteworthy that these upgrades have been developed using the PCSWMM model assuming future build-out conditions and the projected future climate rainfall depths distributed using the Alternating Block rainfall distribution (described in Section 4.2).

A Community wide overview of the recommended preliminary improvements is presented in Table 7-1. A prioritization ranking has been assigned to each drainage challenge based on the extent of the issue and the potential risk to Community infrastructure.

Table 7-1: Summary of Preliminary Drainage Improvement Options

Drainage Improvement Option	Description	Prioritization Rank
Main Street Bridge Crossing	Based on the model results, it is estimated that the channel capacity of Willow Brook near Main Street provides a 2-year level of service. This limited channel capacity results in drainage issues throughout the downtown area (Chittick Avenue, Main Street, and School Street). Based on these findings, it is recommended that hydraulic modelling be completed for Willow Brook. This exercise would involve flood extent mapping along Willow Brook to determine the optimal channel dimensions for stormwater conveyance. Furthermore, this analysis would investigate the potential impact of these changes to the upstream and downstream reaches of Willow Brook. The recommended hydraulic modelling software for this analysis is HEC-RAS.	1
Combined Sewer Separation	Results indicate localized flooding of the combined sewers along William Street, Prince Street, and Main Street. The separation of these combined systems as well as the system along Willow Street should be considered. Based on preliminary model results, the following trunk sewers have been sized to adequately convey the future 5-year event: · William Street – 600 mm · Prince Street – 600 mm · Main Street – 375 mm · Willow Street – 375 mm	2
Foundry Road Improvements	Model simulations indicate significant roadway flooding along Foundry Road area. Further analysis revealed that the trunk sewer is potentially undersized and catchbasin intake capacity is not adequate for the stormwater runoff volumes. Preliminary model results indicate that the trunk sewer along Foundry Lane should be increased to 600 mm (from MH215) and catchbasin leads should be increase to 375mm. Additional catchbasins are also recommend along Foundry Road in the vicinity of Civic #3 for increased inlet capacity to reduce roadway flooding.	3

Drainage Improvement Option	Description	Prioritization Rank
Chittick Avenue, School Street, and, Main Street Improvements	The model indicates flooding along Chittick Avenue, School Street, and Main Street. Based on preliminary model results, the following trunk sewers have been sized to adequately convey the future 5-year event: · Chittick Avenue – 900 mm · School Street – 750 mm (between Civic #27 and Hantsport School) · Main Street – 750 mm	4
Holmes Hill Road	The model suggests flooding along Holmes Hill Road in the vicinity of the Riverbank Road intersection. Based on preliminary model results, the following recommendations have been developed: · Increase storm sewers along Holmes Hill Road to 450 mm (south of Riverbank Drive); · Increase storm sewers on Homes Hill Road to 750 mm (north of Riverbank Drive); · Increase storm sewers along Alders Avenue and Maple Avenue to 375 mm; and, · Additional catchbasins at the intersection of Riverbank Drive to minimize roadway flooding.	5
Library/Playground Area	The existing catchbasin providing stormwater runoff collection for this area is full of sediment/debris with a raised cover. The outlet location of this storm sewer could not be confirmed through field investigation; however, it is assumed to outfall to Halfway River (east). Based on field investigation, the following is recommended: · Reset cover and cleanout the existing catchbasin; · Addition of new catchbasins; and, · Regrade the area to catchbasins. Preliminary calculations indicate that a 250 mm sewer could adequately convey projected future 5-year runoff volumes.	6
Avon Street Improvements	Avon Street currently does not have any existing drainage infrastructure and the area experiences flooding during extreme rainfall events. It is recommended to install a storm sewer system along this road to prevent these flooding events. Preliminary model results indicate that a 375 mm diameter trunk sewer (assuming slope of 2%) will adequately convey the projected future 5-year return period flows.	7

Drainage Improvement Option	Description	Prioritization Rank
Riverview Road Ditch	As previously discussed, the model indicates that the Riverview Road ditch (in the vicinity of Civic #37 is undersized. Based on preliminary model results, the ditch inlet should be replaced with a 450 mm diameter pipe assuming a grade of 1% grade.	8
Faulkner Drive	The model indicates localized flooding along Faulkner Drive in the vicinity of Civic #80. A review of the simulated 5-year return period flows suggests that the existing 200 mm diamter pipe is undersized. Based on preliminary model results, the existing storm sewer on Faulkner should be replaced with a 375 mm diameter storm sewer to adequately convey future 5-year return period flows.	9
Riverview Road	The model indicates localized flooding along Faulkner Drive in the vicinity of Civic #23. A review of the simulated 5-year return period flows suggests that the existing 100 mm diameter pipe is undersized. Based on preliminary model results, the existing storm sewer on Riverview Drive should be replaced with a 250 mm diameter storm sewer to adequately convey future 5-year return period flows.	10

8.0 Conclusion

This report provides a review of the performance of the existing drainage infrastructure in the Community of Hantsport. Hydrologic and hydraulic numerical simulation of the system was completed to investigate the performance of existing drainage works. The system was assessed under existing conditions, future development conditions, and projected future climate change conditions. Rainfall events with return periods ranging from two (2) to 100 years were used to assess the stormwater system. The projected future climate change events were adjusted for climate change assuming a moderate greenhouse gas emissions scenario (RCP 4.5). The future development model incorporated the construction of an estimated 97 new homes and a nursing home. Updated runoff parameters for the future development model are presented in Appendix A.

Based on the simulation, the following 10 areas/systems were identified as concerning with respect to adequate drainage (see Figure 6-2).

- Main Street Bridge Crossing
- Chittick Avenue, Main Street, and School Street
- Foundry Road
- Combined Sewers Systems
- Holmes Hill Road

- Riverview Road
- Maple Avenue
- Faulkner Drive
- Avon Street
- Library/Playground Area (Main Street)

The future development model (with climate change adjustments) was then updated to include the recommended drainage improvements summarized in Table 7-1. The recommended pipe sizes are based on providing adequate conveyance of the future 5-year return period event with climate change adjustment. Additional catchbasins have also been recommended in some cases to minimize roadway flooding during the 100-year event. It is important to note that these recommended improvements are preliminary and a detailed analysis would be required prior to construction.

As noted in the report, the aboiteau in the low Halfway River failed in November 2017. The failure was concerning due to the potential of increased flood risk associated with storm surge from the Bay. Based on review of potential future water levels and surrounding topography, the estimate freeboard between the extreme water level elevation and the lowest residence adjacent to the river is approximately 8.8 m. The risk of riverine flooding to the residents of Hantsport is expected to be minimal.

Appendix A

PCSWMM Catchment Parameters

Table A-1: PCSWMM Catchment Parameters – Existing & Future Conditions

Catchment	Catchment Area (ha)	Effective Catchment Area (ha)	Slope (%)	Imperviousness – Existing (%)	Imperviousness – Future (%)
S1	275.73	275.40	9.0	4.7	4.7
S2	0.12	0.10	1.9	48.9	48.9
S2_1	1.16	1.16	10.1	16.1	16.1
S2_3	2.88	2.88	12.0	24.8	24.8
S2_4	3.40	3.40	7.2	25.9	25.9
S3_1	4.42	4.42	4.0	9.1	19.1
S3_3	7.74	7.74	11.6	7.5	7.5
S3_4	8.65	8.65	7.5	5.9	5.9
S4	4.81	4.81	11.2	20	20
S5_1	3.10	2.97	4.4	70.5	70.5
S5_2	0.95	0.95	3.8	41.9	41.9
S5_3	5.91	5.85	4.1	23.8	23.8
S5_5	0.54	0.47	4.0	93.7	93.7
S6	1.97	1.97	4.3	41	41
S7	37.15	37.06	11.4	1.4	3.8
S8	2.66	2.56	9.3	43	43
S9_1	2.34	2.34	2.5	29.3	29.3
S9_2	1.28	1.28	3.5	3.6	3.6
S9_3	3.20	2.95	2.7	21.4	21.4
S9_4	1.32	1.32	3.5	12.2	12.2
S9_5	6.08	5.90	2.9	22.4	22.4
S9_7	0.60	0.60	2.9	13.8	13.8
S9_8	3.70	2.80	3.8	19.7	19.7
S10	2.83	2.83	7.9	23	23
S11	4.27	4.27	9.9	7.8	7.8
S12	2.55	2.55	10.8	23	38.6
S13_1	1.68	1.68	15.3	30.5	30.5
S13_3	2.09	2.09	11.6	15.1	20.7
S13_4	3.62	3.62	6.8	5	40.3
S14_1	1.07	1.07	12.3	27.5	27.5

Catchment	Catchment Area (ha)	Effective Catchment Area (ha)	Slope (%)	Imperviousness – Existing (%)	Imperviousness – Future (%)
S14_2	0.81	0.81	10.0	44.5	44.5
S15	0.21	0.21	6.4	55	55
S16_2	3.33	3.33	11.4	7.4	7.4
S16_3	3.14	3.12	11.2	16	16
S16_4	2.05	2.05	9.2	39.3	39.3
S17	2.58	2.58	8.3	25	25
S18_1	3.17	3.17	10.9	20.8	23.3
S18_2	1.59	1.59	11.3	20.1	32.1
S19_2	0.22	0.22	8.9	22.6	22.6
S19_3	1.27	1.25	7.3	30.5	30.5
S19_4	1.45	1.45	9.9	18.7	18.7
S22_1	3.24	2.99	5.2	29.8	29.8
S22_2	0.50	0.50	3.7	39.6	39.6
S22_4	1.43	1.39	3.8	32.6	32.6
S22_5	4.65	4.41	4.2	22.2	22.2
S23_1	3.54	3.51	3.8	45.2	45.2
S23_2	0.27	0.27	3.2	54.9	54.9
S23_4	0.42	0.40	3.3	45.2	45.2
S23_5	1.55	1.55	2.9	37.5	37.5
S24	2.11	2.11	7.4	26	31.3
S25_1	6.31	6.25	16.9	3.1	10.6
S25_2	0.45	0.45	6.6	22.2	22.2
S25_4	1.66	1.65	13.4	30.2	30.2
S25_5	4.36	4.36	10.3	14.5	19.9
S25_6	0.47	0.47	5.8	38.2	38.2
S26	9.92	9.92	18.4	1.3	1.3

Note: - Imperviousness values in red indicate changes under future development conditions.

Appendix B

Additional Simulation Results

Table B-2: Summary of Simulated Future Water Level Elevations for Historical Climate - Downtown

Location		Return Period Rainfall Event					
		2	5	10	25	50	100
Main Street – Civic #25 (CB98)	Existing Development Conditions Peak Water Level (m)	17.57	18.16	18.38[2]	18.38[2]	18.38[2]	18.38[2]
	Future Development Conditions Peak Water Level (m)	N/A	N/A	N/A	N/A	N/A	N/A
Main Street – Civic #39 (CB93)	Existing Development Conditions Peak Water Level (m)	17.17	18.27	19.26	19.38[2]	19.38[2]	19.38[2]
	Future Development Conditions Peak Water Level (m)	N/A	N/A	N/A	N/A	N/A	N/A
Main Street Bridge (J46)	Existing Development Conditions Peak Water Level (m)	14.06	14.38	15.35	15.75[1]	15.75[1]	15.75[1]
	Future Development Conditions Peak Water Level (m)	N/A	N/A	N/A	N/A	N/A	N/A
Chittick Avenue – Civic #22 (J1)	Existing Development Conditions Peak Water Level (m)	14.34	14.57	15.01[2]	15.01[2]	15.01[2]	15.01[2]
	Future Development Conditions Peak Water Level (m)	N/A	N/A	N/A	N/A	N/A	N/A
Chittick Road - Civic #47 (CB84)	Existing Development Conditions Peak Water Level (m)	14.87[2]	14.87[2]	14.87[2]	14.87[2]	14.87[2]	14.87[2]
	Future Development Conditions Peak Water Level (m)	N/A	N/A	N/A	N/A	N/A	N/A
School Street – Civic #12 (J26)	Existing Development Conditions Peak Water Level (m)	16.68[2]	16.68[2]	16.68[2]	16.68[2]	16.68[2]	16.68[2]
	Future Development Conditions Peak Water Level (m)	N/A	N/A	N/A	N/A	N/A	N/A

[1] Overtopping of bridge deck.
[2] Roadway ponding greater than 0.3 m in depth.

Table B-3: Summary of Simulated Future Water Level Elevations for Future Development – Downtown

Location		Return Period Rainfall Event					
		2	5	10	25	50	100
Main Street – Civic #25 (CB98)	Historical Climate Conditions Peak Water Level (m)	17.57	18.16	18.38[2]	18.38[2]	18.38[2]	18.38[2]
	Climate Change Conditions Peak Water Level (m)	18.38[2]	18.38[2]	18.38[2]	18.38[2]	18.38[2]	18.38[2]
Main Street – Civic #39 (CB93)	Historical Climate Conditions Peak Water Level (m)	17.17	18.27	19.26	19.38[2]	19.38[2]	19.38[2]
	Climate Change Conditions Peak Water Level (m)	17.87	19.23	19.38[2]	19.38[2]	19.38[2]	19.38[2]
Main Street Bridge (J46)	Historical Climate Conditions Peak Water Level (m)	14.06	14.38	15.35	15.75[1]	15.75[1]	15.75[1]
	Climate Change Conditions Peak Water Level (m)	14.29	15.38	15.75[1]	15.75[1]	15.75[1]	15.75[1]
Chittick Avenue – Civic #22 (J1)	Historical Climate Conditions Peak Water Level (m)	14.34	14.57	15.01[2]	15.01[2]	15.01[2]	15.01[2]
	Climate Change Conditions Peak Water Level (m)	14.62	15.01[2]	15.01[2]	15.01[2]	15.01[2]	15.01[2]
Chittick Road - Civic #47 (CB84)	Historical Climate Conditions Peak Water Level (m)	14.87[2]	14.87[2]	14.87[2]	14.87[2]	14.87[2]	14.87[2]
	Climate Change Conditions Peak Water Level (m)	14.87[2]	14.87[2]	14.87[2]	14.87[2]	14.87[2]	14.87[2]
School Street – Civic #12 (J26)	Historical Climate Conditions Peak Water Level (m)	16.68[2]	16.68[2]	16.68[2]	16.68[2]	16.68[2]	16.68[2]
	Climate Change Conditions Peak Water Level (m)	16.68[2]	16.68[2]	16.68[2]	16.68[2]	16.68[2]	16.68[2]

[1] Overtopping of bridge deck.
[2] Roadway ponding greater than 0.3 m in depth.

Table B-4: Summary of Simulated Future Water Level Elevations for Historical Climate – Riverview Road, Maple Avenue & Birch Street

Location		Return Period Rainfall Event					
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Maple Avenue – Civic #24 (J77)	Existing Development Conditions Peak Water Level (m)	40.31	40.71[2]	40.71[2]	40.71[2]	40.71[2]	40.71[2]
	Future Development Conditions Peak Water Level (m)	40.65	40.71[2]	40.71[2]	40.71[2]	40.71[2]	40.71[2]
Maple Avenue – Civic #30 (MH169)	Existing Development Conditions Peak Water Level (m)	39.66	40.39	40.52[2]	40.52[2]	40.52[2]	40.52[2]
	Future Development Conditions Peak Water Level (m)	39.71	40.52[2]	40.52[2]	40.52[2]	40.52[2]	40.52[2]
Riverview Road – Civic #8 (CB158)	Existing Development Conditions Peak Water Level (m)	36.80	36.84	36.88	36.89	36.89	37.45
	Future Development Conditions Peak Water Level (m)	36.82	36.85	36.88	36.89	36.90	37.72[2]
Riverview Road – Civic #23 (CB168)	Existing Development Conditions Peak Water Level (m)	53.37	54.42[2]	54.42[2]	54.42[2]	54.42[2]	54.42[2]
	Future Development Conditions Peak Water Level (m)	54.12	54.42[2]	54.42[2]	54.42[2]	54.42[2]	54.42[2]

[1] Overtopping of bridge deck.
[2] Roadway ponding greater than 0.3 m in depth.

Table B-5: Summary of Simulated Future Water Elevations for Future Development – Riverview Road, Maple Avenue & Birch Street

Location		Return Period Rainfall Event					
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Maple Avenue – Civic #24 (J77)	Historical Climate Conditions Peak Water Level (m)	40.65	40.71[2]	40.71[2]	40.71[2]	40.71[2]	40.71[2]
	Climate Change Conditions Peak Water Level (m)	40.65	40.71[2]	40.71[2]	40.71[2]	40.71[2]	40.71[2]
Maple Avenue – Civic #30 (MH169)	Historical Climate Conditions Peak Water Level (m)	39.71	40.52[2]	40.52[2]	40.52[2]	40.52[2]	40.52[2]
	Climate Change Conditions Peak Water Level (m)	40.52[2]	40.52[2]	40.52[2]	40.52[2]	40.52[2]	40.52[2]
Riverview Road – Civic #8 (CB158)	Historical Climate Conditions Peak Water Level (m)	36.82	36.85	36.88	36.89	36.90	37.72[2]
	Climate Change Conditions Peak Water Level (m)	36.83	36.86	36.91	37.59	37.72[2]	37.72[2]
Riverview Road – Civic #23 (CB168)	Historical Climate Conditions Peak Water Level (m)	54.12	54.42[2]	54.42[2]	54.42[2]	54.42[2]	54.42[2]
	Climate Change Conditions Peak Water Level (m)	54.12	54.42[2]	54.42[2]	54.42[2]	54.42[2]	54.42[2]

[1] Overtopping of bridge deck.
[2] Roadway ponding greater than 0.3 m in depth.

Table B-6: Summary of Simulated Future Water Level Elevations for Historical Climate – Foundry Road

Location	Return Period Rainfall Event						
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Soccer Field (J137)	Existing Development Conditions Peak Water Level (m)	15.40[2]	15.40[2]	15.40[2]	15.40[2]	15.40[2]	15.40[2]
	Future Development Conditions Peak Water Level (m)	N/A	N/A	N/A	N/A	N/A	N/A

[1] Overtopping of bridge deck.
[2]Roadway ponding greater than 0.3 m in depth.

Table B-7: Summary of Simulated Future Water Level Elevations for Future Development – Foundry Road

Location	Return Period Rainfall Event						
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Soccer Field (J137)	Historical Climate Conditions Peak Water Level (m)	15.40[2]	15.40[2]	15.40[2]	15.40[2]	15.40[2]	15.40[2]
	Climate Change Conditions Peak Water Level (m)	15.40[2]	15.40[2]	15.40[2]	15.40[2]	15.40[2]	15.40[2]

[1] Overtopping of bridge deck.
[2]Roadway ponding greater than 0.3 m in depth.

Table B-8: Summary of Simulated Future Water Levels for Historical Climate – William Street, Prince Street & Main Street

Location	Return Period Rainfall Event						
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
William Street – Civic #14 (CB57)	Existing Development Conditions Peak Water Level (m)	16.67[2]	16.67[2]	16.67[2]	16.67[2]	16.67[2]	16.67[2]
	Future Development Conditions Peak Water Level (m)	N/A	N/A	N/A	N/A	N/A	N/A
Prince Street – Civic #11 (CB40)	Existing Development Conditions Peak Water Level (m)	17.19[2]	17.19[2]	17.19[2]	17.19[2]	17.19[2]	17.19[2]
	Future Development Conditions Peak Water Level (m)	N/A	N/A	N/A	N/A	N/A	N/A
William Street – Intersection with Oak Street (CB47)	Existing Development Conditions Peak Water Level (m)	15.27	15.30	15.35	15.43[2]	15.43[2]	15.43[2]
	Future Development Conditions Peak Water Level (m)	N/A	N/A	N/A	N/A	N/A	N/A
Prince Street – Intersection with Davidson Road (CB23)	Existing Development Conditions Peak Water Level (m)	14.02	14.09[2]	14.09[2]	14.09[2]	14.09[2]	14.09[2]
	Future Development Conditions Peak Water Level (m)	N/A	N/A	N/A	N/A	N/A	N/A

[1] Overtopping of bridge deck.
[2]Roadway ponding greater than 0.3 m in depth.

Table B-9: Summary of Simulated Future Water Level Elevations for Future Development – William Street, Prince Street & Main Street

Location		Return Period Rainfall Event					
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
William Street – Civic #14 (CB57)	Historical Climate Conditions Peak Water Level (m)	16.67[2]	16.67[2]	16.67[2]	16.67[2]	16.67[2]	16.67[2]
	Climate Change Conditions Peak Water Level (m)	16.67[2]	16.67[2]	16.67[2]	16.67[2]	16.67[2]	16.67[2]
Prince Street – Civic #11 (CB40)	Historical Climate Conditions Peak Water Level (m)	17.19[2]	17.19[2]	17.19[2]	17.19[2]	17.19[2]	17.19[2]
	Climate Change Conditions Peak Water Level (m)	17.19[2]	17.19[2]	17.19[2]	17.19[2]	17.19[2]	17.19[2]
William Street – Intersection with Oak Street (CB47)	Historical Climate Conditions Peak Water Level (m)	15.27	15.30	15.35	15.43[2]	15.43[2]	15.43[2]
	Climate Change Conditions Peak Water Level (m)	15.28	15.35	15.43[2]	15.43[2]	15.43[2]	15.43[2]
Prince Street – Intersection with Davidson Road (CB23)	Historical Climate Conditions Peak Water Level (m)	14.02	14.09[2]	14.09[2]	14.09[2]	14.09[2]	14.09[2]
	Climate Change Conditions Peak Water Level (m)	14.05	14.09[2]	14.09[2]	14.09[2]	14.09[2]	14.09[2]

[1] Overtopping of bridge deck.
[2]Roadway ponding greater than 0.3 m in depth.

Table B-10: Summary of Simulated Future Water Levels for Historical Climate – Willow Street

Location		Return Period Rainfall Event					
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Willow Street – Intersection with Main Street (CB137)	Existing Development Conditions Peak Water Level (m)	19.93[2]	19.93[2]	19.93[2]	19.93[2]	19.93[2]	19.93[2]
	Future Development Conditions Peak Water Level (m)	N/A	N/A	N/A	N/A	N/A	N/A

[1] Overtopping of bridge deck.
[2]Roadway ponding greater than 0.3 m in depth.

Table B-11: Summary of Simulated Future Water Level Elevations for Future Development – Willow Street

Location		Return Period Rainfall Event					
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Willow Street – Intersection with Main Street (CB137)	Historical Climate Conditions Peak Water Level (m)	19.93[2]	19.93[2]	19.93[2]	19.93[2]	19.93[2]	19.93[2]
	Climate Change Conditions Peak Water Level (m)	19.93[2]	19.93[2]	19.93[2]	19.93[2]	19.93[2]	19.93[2]

[1] Overtopping of bridge deck.
[2]Roadway ponding greater than 0.3 m in depth.

Table B-12: Summary of Simulated Future Water Levels for Historical Climate – Holmes Hill Road, Maple Avenue & Chestnut Avenue

Location		Return Period Rainfall Event					
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Alders Avenue – Intersection with Cedar Avenue (CB177)	Existing Development Conditions Peak Water Level (m)	41.90	41.94	41.97	43.57[2]	43.57[2]	43.57[2]
	Future Development Conditions Peak Water Level (m)	41.93	42.00	43.57[2]	43.57[2]	43.57[2]	43.57[2]
Holmes Hill Road – Intersection with Riverbank Drive (J130)	Existing Development Conditions Peak Water Level (m)	20.70[2]	20.70[2]	20.70[2]	20.70[2]	20.70[2]	20.70[2]
	Future Development Conditions Peak Water Level (m)	20.70[2]	20.70[2]	20.70[2]	20.70[2]	20.70[2]	20.70[2]
Mariner's Drive (J53)	Existing Development Conditions Peak Water Level (m)	32.97	33.04	33.25	33.53	33.75	34.01
	Future Development Conditions Peak Water Level (m)	32.97	33.04	33.25	33.53	33.75	34.01

[1] Overtopping of bridge deck.
[2]Roadway ponding greater than 0.3 m in depth.

Table B-13: Summary of Simulated Future Water Level Elevations for Future Development – Holmes Hill Road, Maple Avenue & Chestnut Avenue

Location		Return Period Rainfall Event					
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Alders Avenue – Intersection with Cedar Avenue (CB177)	Historical Climate Conditions Peak Water Level (m)	41.93	42.00	43.57[2]	43.57[2]	43.57[2]	43.57[2]
	Climate Change Conditions Peak Water Level (m)	41.94	43.57[2]	43.57[2]	43.57[2]	43.57[2]	43.57[2]
Holmes Hill Road – Intersection with Riverbank Drive (J130)	Historical Climate Conditions Peak Water Level (m)	20.70[2]	20.70[2]	20.70[2]	20.70[2]	20.70[2]	20.70[2]
	Climate Change Conditions Peak Water Level (m)	20.70[2]	20.70[2]	20.70[2]	20.70[2]	20.70[2]	20.70[2]
Mariner's Drive (J53)	Historical Climate Conditions Peak Water Level (m)	32.97	33.04	33.25	33.53	33.75	34.01
	Climate Change Conditions Peak Water Level (m)	32.99	33.25	33.56	34.25[2]	34.25[2]	34.25[2]

[1] Overtopping of bridge deck.
[2]Roadway ponding greater than 0.3 m in depth.

Table B-14: Summary of Simulated Future Water Levels for Historical Climate – Rand Street, Bog Street & Evangeline Drive

Location		Return Period Rainfall Event					
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Faulkner Drive – Civic #80	Existing Development Conditions Peak Water Level (m)	64.49[2]	64.49[2]	64.49[2]	64.49[2]	64.49[2]	64.49[2]
	Future Development Conditions Peak Water Level (m)	64.49[2]	64.49[2]	64.49[2]	64.49[2]	64.49[2]	64.49[2]

[1] Overtopping of bridge deck.
[2]Roadway ponding greater than 0.3 m in depth.

Table B-15: Summary of Simulated Future Water Level Elevations for Future Development – Holmes Hill Road, Maple Avenue & Chestnut Avenue

Location		Return Period Rainfall Event					
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Faulkner Drive – Civic #80	Historical Climate Conditions Peak Water Level (m)	64.49[2]	64.49[2]	64.49[2]	64.49[2]	64.49[2]	64.49[2]
	Climate Change Conditions Peak Water Level (m)	64.49[2]	64.49[2]	64.49[2]	64.49[2]	64.49[2]	64.49[2]

[1] Overtopping of bridge deck.
[2]Roadway ponding greater than 0.3 m in depth.

Table B-16: Summary of Simulated Future Water Level Elevations for Historical Climate – Rand Street, Bishopville Street & Riverview Road

Location		Return Period Rainfall Event					
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Pleasant Drive (J61)	Existing Development Conditions Peak Water Level (m)	71.08	71.27	71.42	71.55[2]	71.55[2]	71.55[2]
	Future Development Conditions Peak Water Level (m)	71.08	71.27	71.42	71.55[2]	71.55[2]	71.55[2]
Riverview Road – Ditch Inlet (J40)	Existing Development Conditions Peak Water Level (m)	55.42	55.55	55.82	56.19[2]	56.19[2]	56.19[2]
	Future Development Conditions Peak Water Level (m)	55.45	55.72	56.19[2]	56.19[2]	56.19[2]	56.19[2]
Rand Street – Intersection with Bishopville Drive (CB227)	Existing Development Conditions Peak Water Level (m)	61.49	61.55	61.58	61.63	61.67	61.71
	Future Development Conditions Peak Water Level (m)	61.49	61.55	61.58	61.63	61.67	61.71

[1] Overtopping of bridge deck.
[2]Roadway ponding greater than 0.3 m in depth.

Table B-17: Summary of Simulated Future Water Level Elevations for Future Development – Rand Street, Bishopville Street & Riverview Road

Location		Return Period Rainfall Event					
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Pleasant Drive (J61)	Historical Climate Conditions Peak Water Level (m)	71.08	71.27	71.42	71.55[2]	71.55[2]	71.55[2]
	Climate Change Conditions Peak Water Level (m)	71.12	71.42	71.55[2]	71.55[2]	71.55[2]	71.55[2]
Riverview Road – Ditch Inlet (J40)	Historical Climate Conditions Peak Water Level (m)	55.45	55.72	56.19[2]	56.19[2]	56.19[2]	56.19[2]
	Climate Change Conditions Peak Water Level (m)	55.49	56.19[2]	56.19[2]	56.19[2]	56.19[2]	56.19[2]
Rand Street – Intersection with Bishopville Drive (CB227)	Historical Climate Conditions Peak Water Level (m)	61.49	61.55	61.58	61.63	61.67	61.71
	Climate Change Conditions Peak Water Level (m)	61.51	61.58	61.64	61.72	62.11	63.09[2]

[1] Overtopping of bridge deck.
[2]Roadway ponding greater than 0.3 m in depth.

Appendix C

PCSWMM Profiles

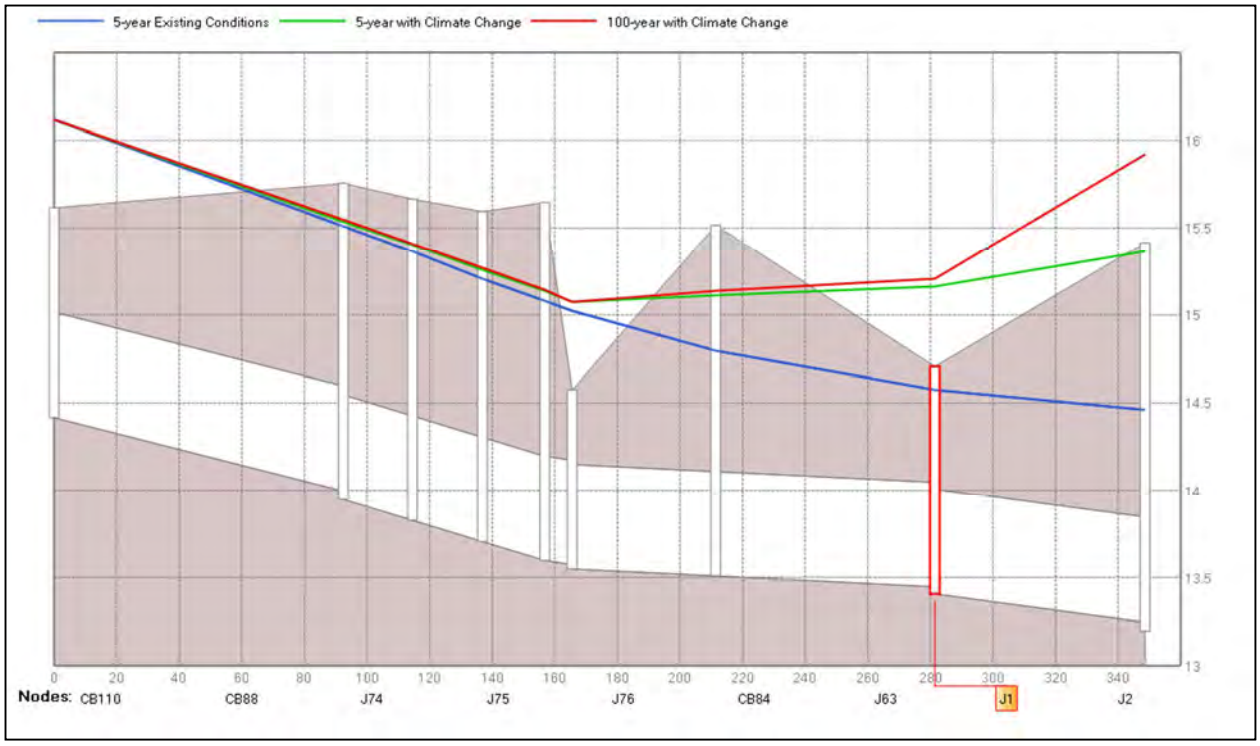


Figure C-1: Comparison of Simulated Water Level Elevations on Chittick Avenue – 5-year Existing Conditions, 5-year with Climate Change & 100-year with Climate Change

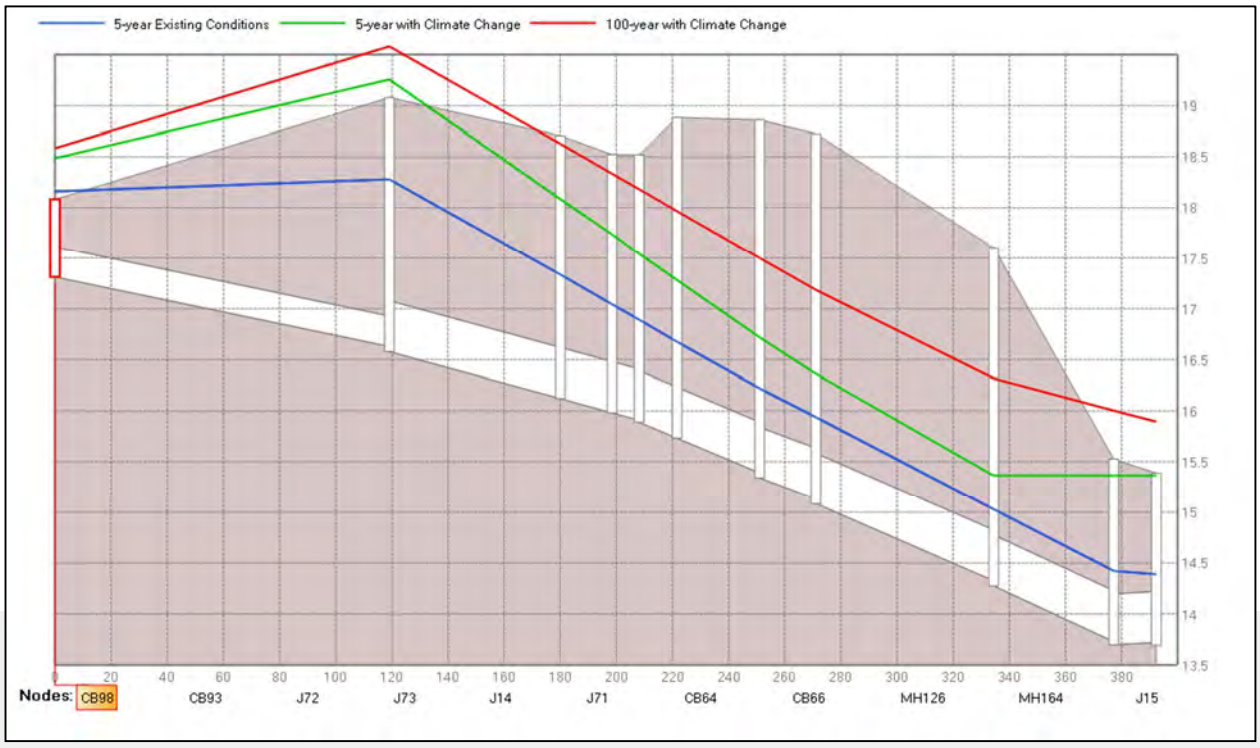


Figure C-2: Simulated Water Level Elevations on Main Street Avenue – 5-year Existing Conditions, 5-year with Climate Change & 100-year with Climate Change



Figure C-3: Simulated Water Level Elevations at Main Street Bridge Crossing – 5-year Existing Conditions, 5-year with Climate Change & 100-year with Climate Change

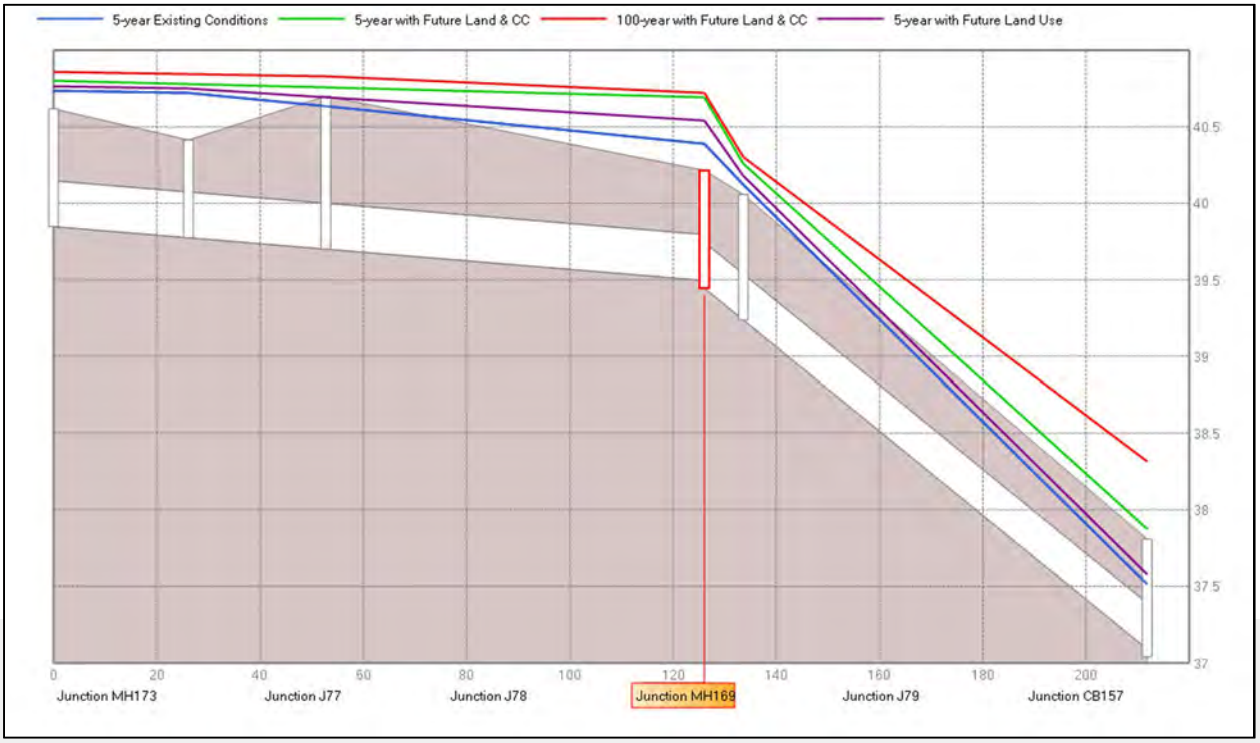


Figure C-4: Simulated Water Level Elevations on Maple Avenue – 5-year Existing Conditions, 5-year with Future Land Use, 5-year with Future Land Use (CC) & 100-year with Future Land Use (CC)

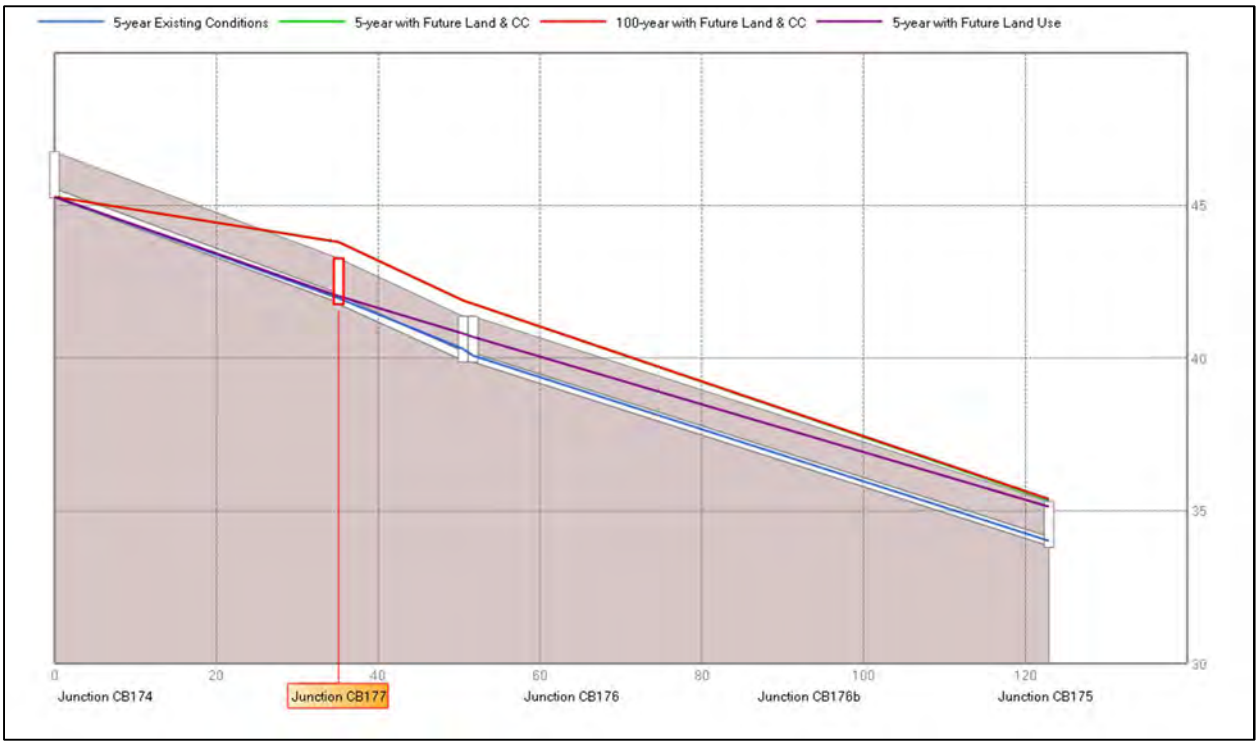


Figure C-5: Simulated Water Level Elevations on Alders Avenue – 5-year Existing Conditions, 5-year with Future Land Use, 5-year with Future Land Use (CC) & 100-year with Future Land Use (CC)

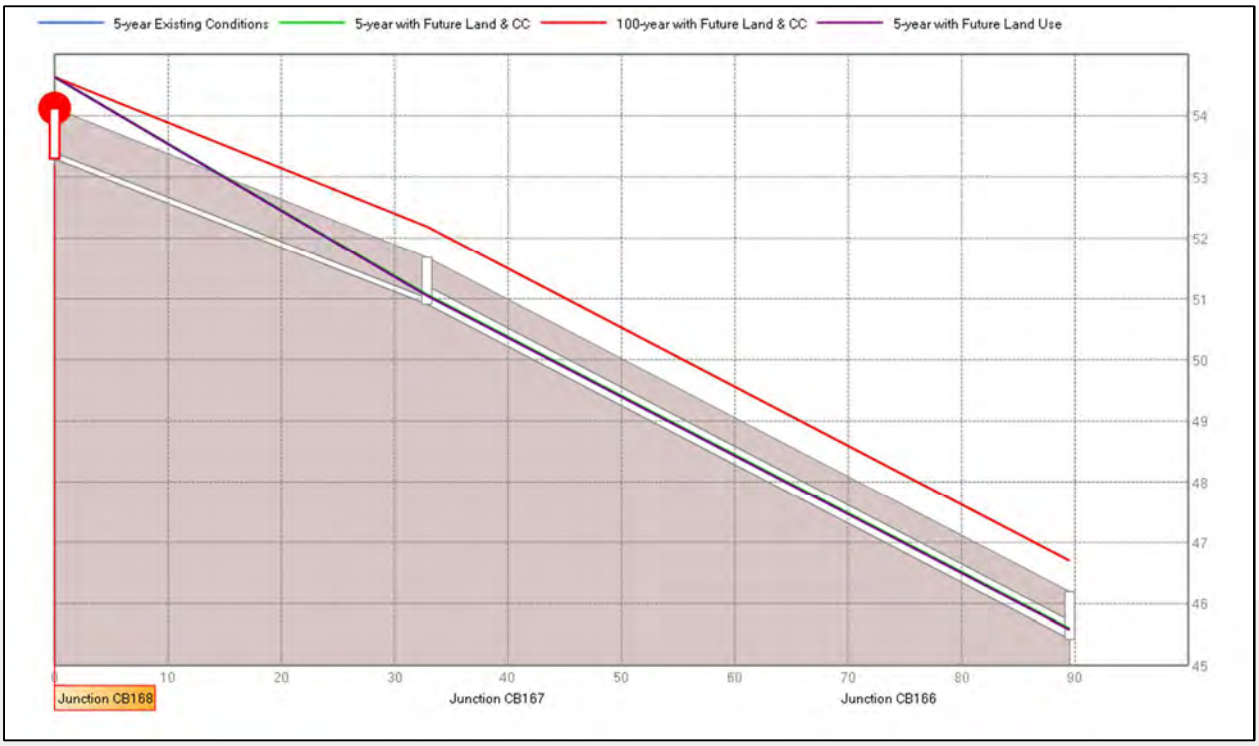


Figure C-6: Simulated Water Level Elevations at Riverview Road – 5-year Existing Conditions, 5-year with Future Land Use, 5-year with Future Land Use (CC) & 100-year with Future Land Use (CC)

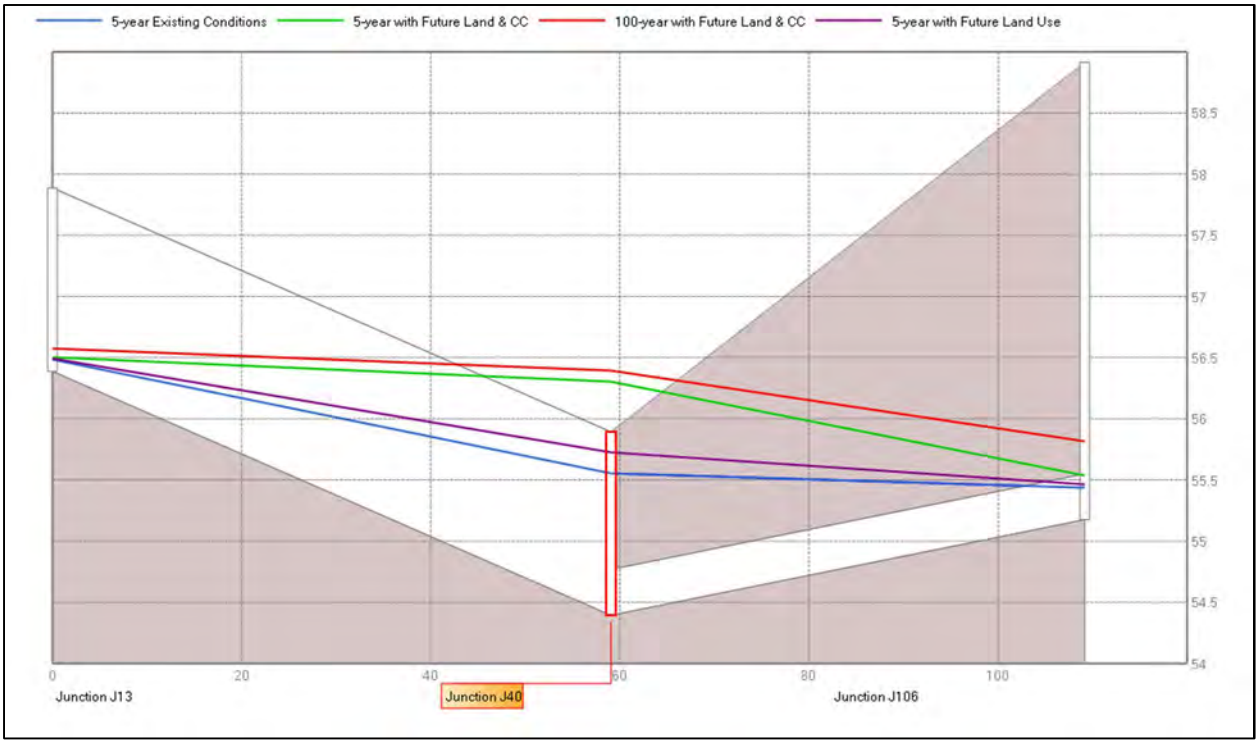


Figure C-7: Simulated Water Level Elevations at Riverview Road Ditch – 5-year Existing Conditions, 5-year with Future Land Use, 5-year with Future Land Use (CC) & 100-year with Future Land Use (CC)

Appendix D

Rainfall Distributions

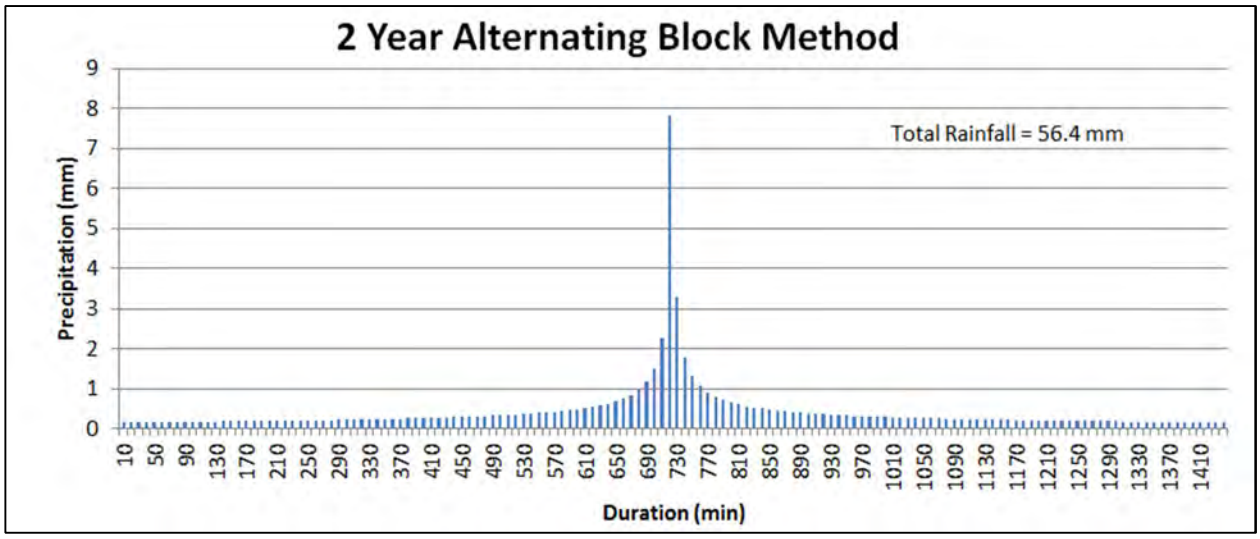


Figure D - 1: 24-Hour Alternating Block Method Distribution for 2-year Historical Event

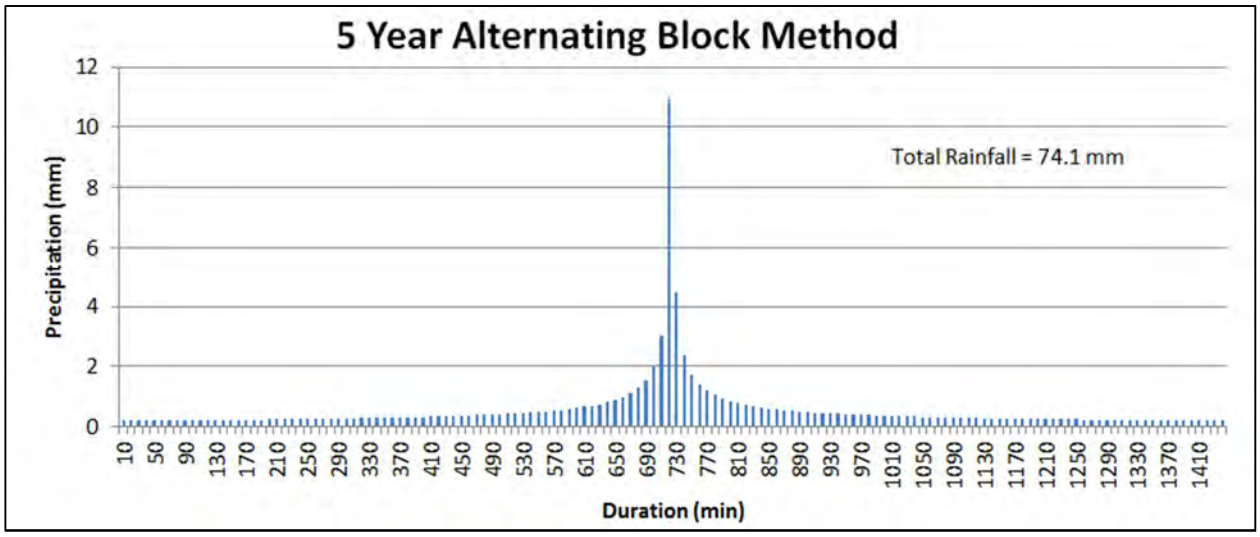


Figure D - 2: 24-Hour Alternating Block Method Distribution for 5-year Historical Event

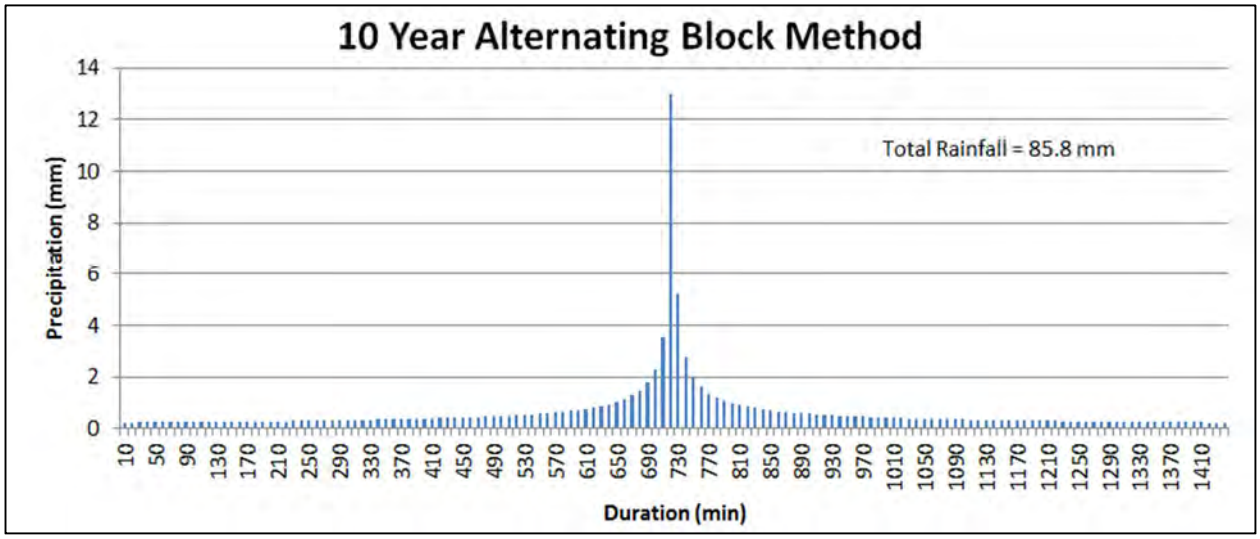


Figure D - 3: 24-Hour Alternating Block Method Distribution for 10-year Historical Event

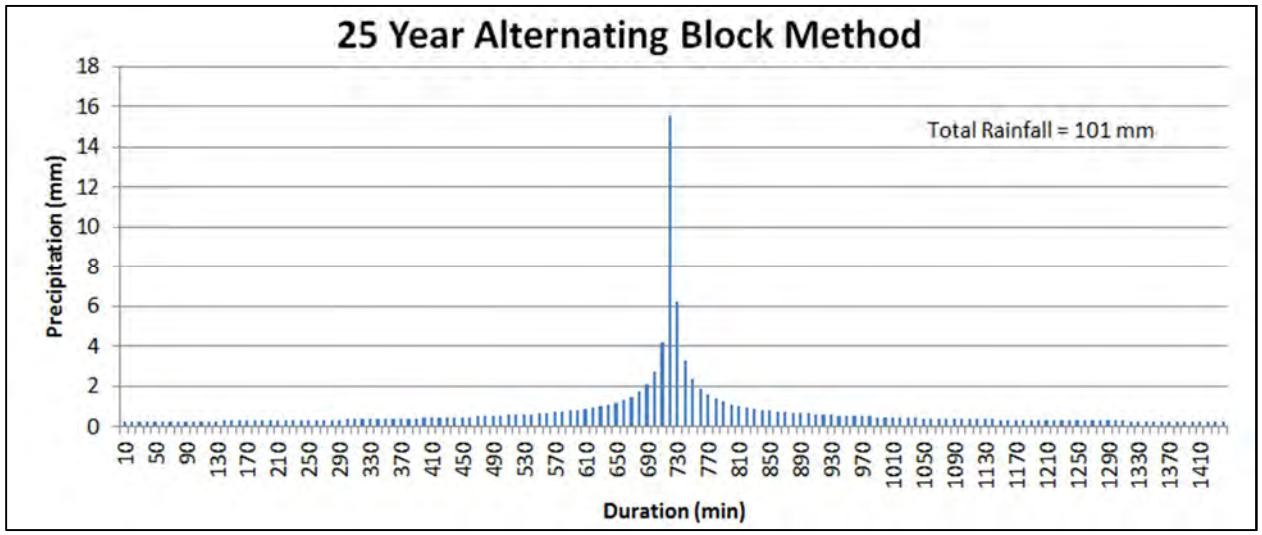


Figure D - 4: 24-Hour Alternating Block Method Distribution for 25-year Historical Event

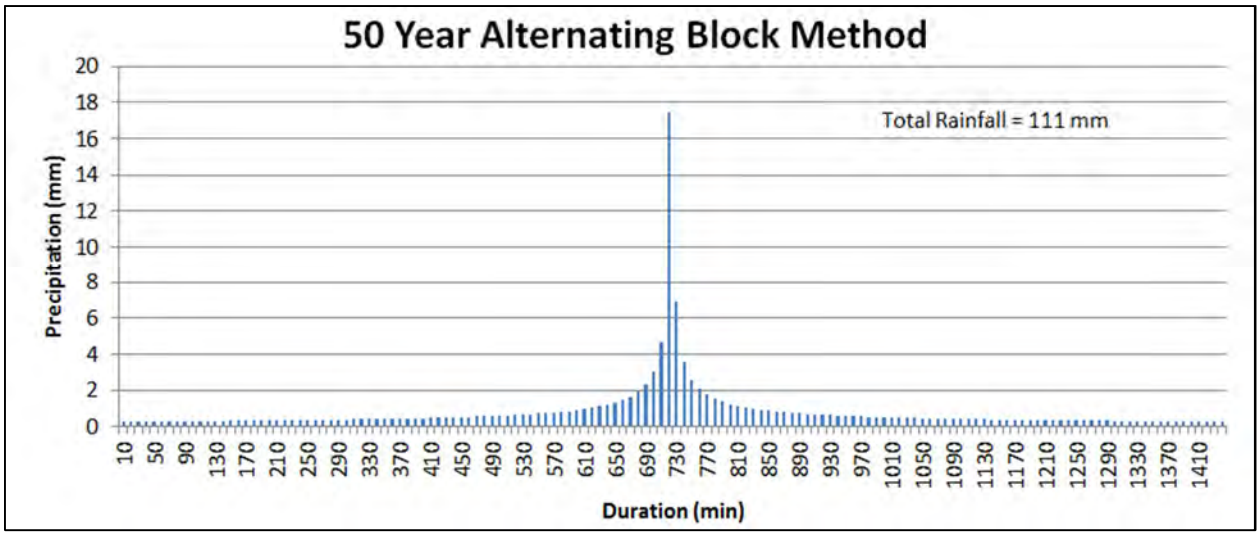


Figure D - 5: 24-Hour Alternating Block Method Distribution for 50-year Historical Event

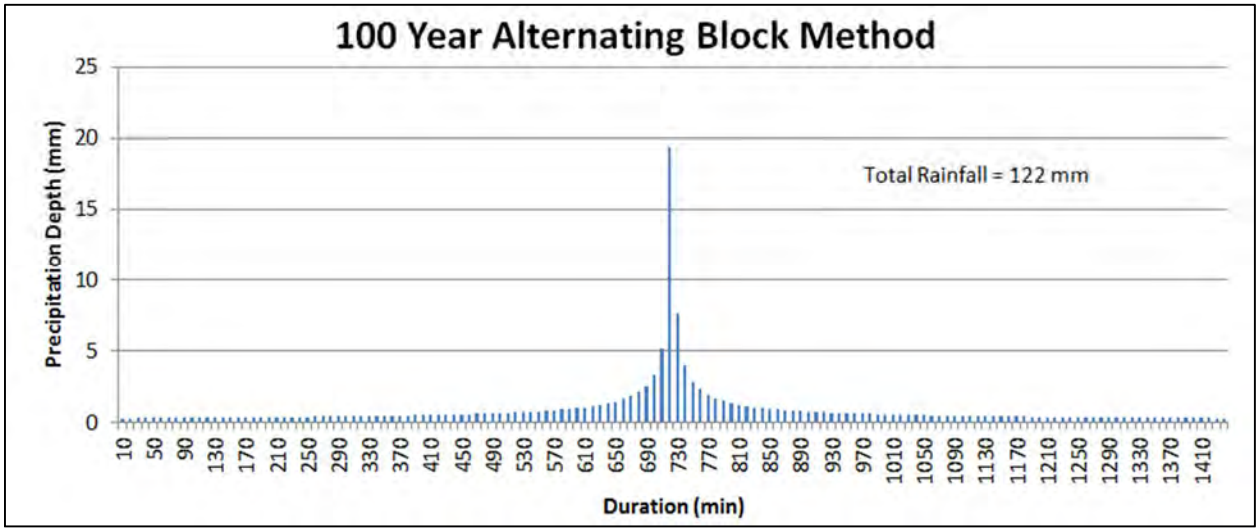


Figure D - 6: 24-Hour Alternating Block Method Distribution for 100-year Historical Event

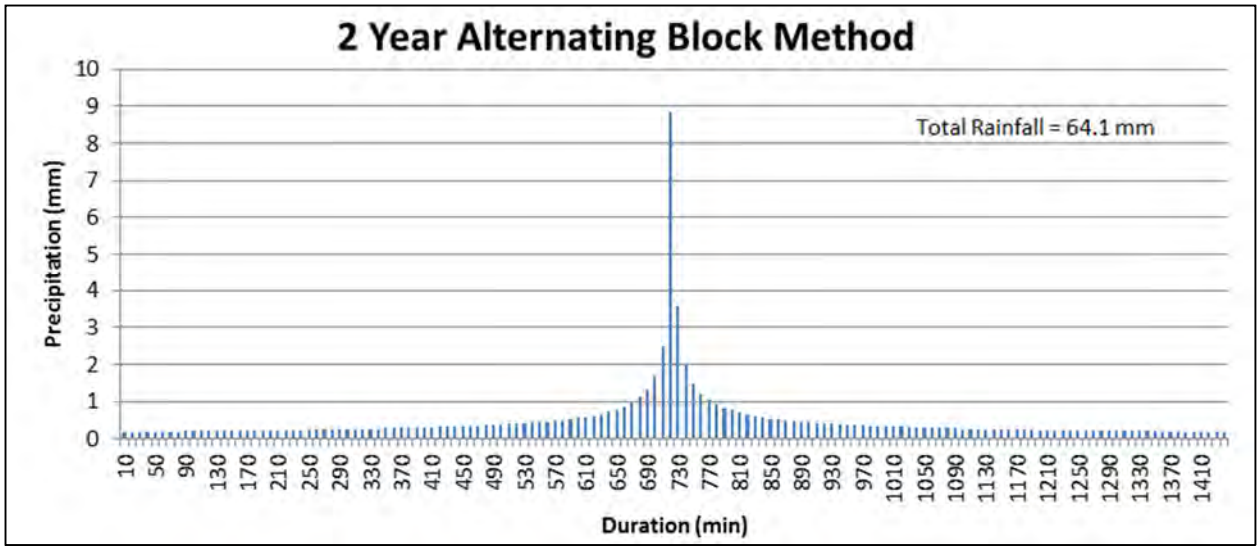


Figure D - 7: 24-Hour Alternating Block Method Distribution for 2-year Climate Change (Future) Event

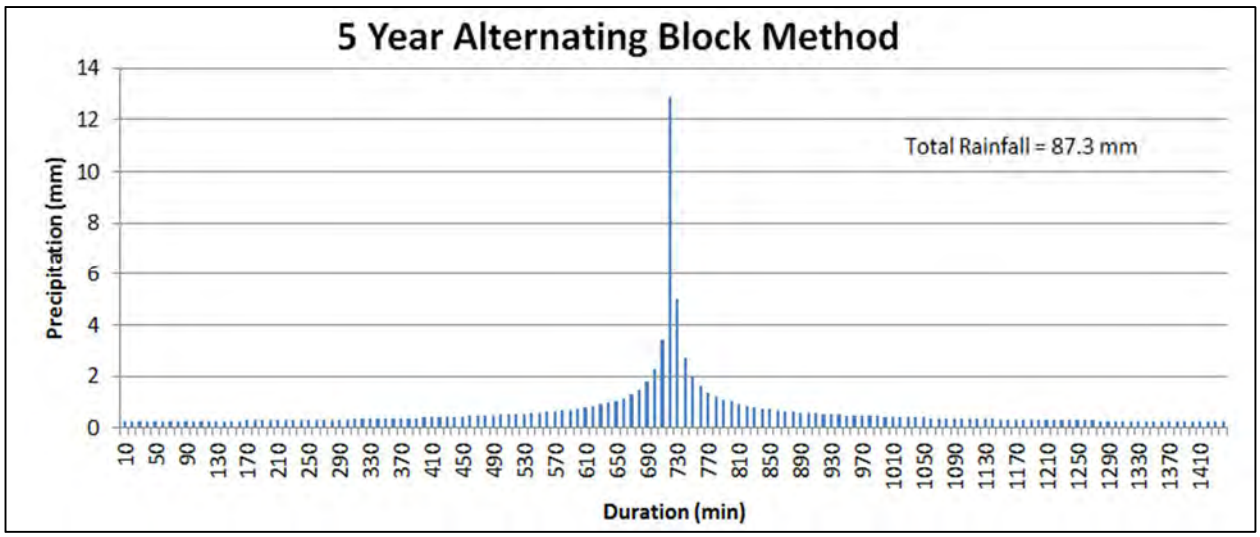


Figure D - 8: 24-Hour Alternating Block Method Distribution for 5-year Climate Change (Future) Event

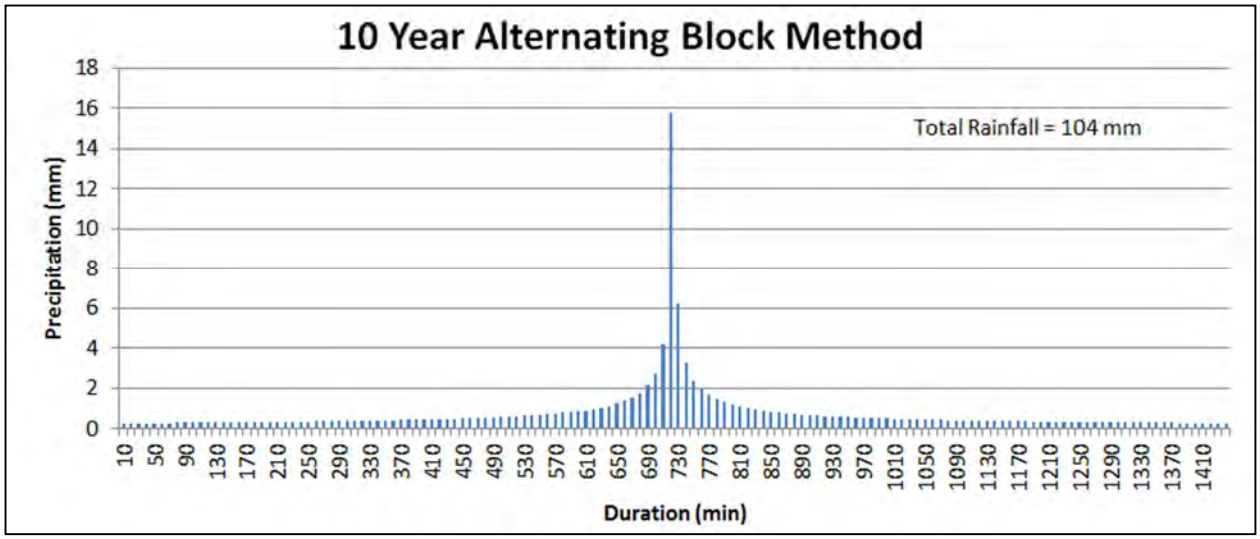


Figure D - 9: 24-Hour Alternating Block Method Distribution for 10-year Climate Change (Future) Event

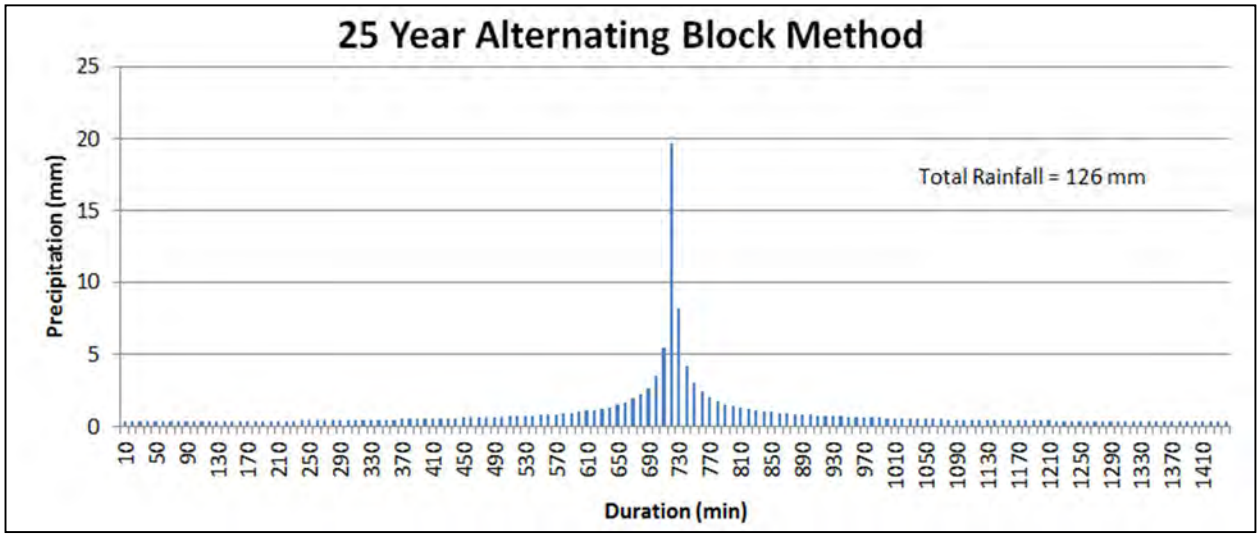


Figure D - 10: 24-Hour Alternating Block Method Distribution for 25-year Climate Change (Future) Event

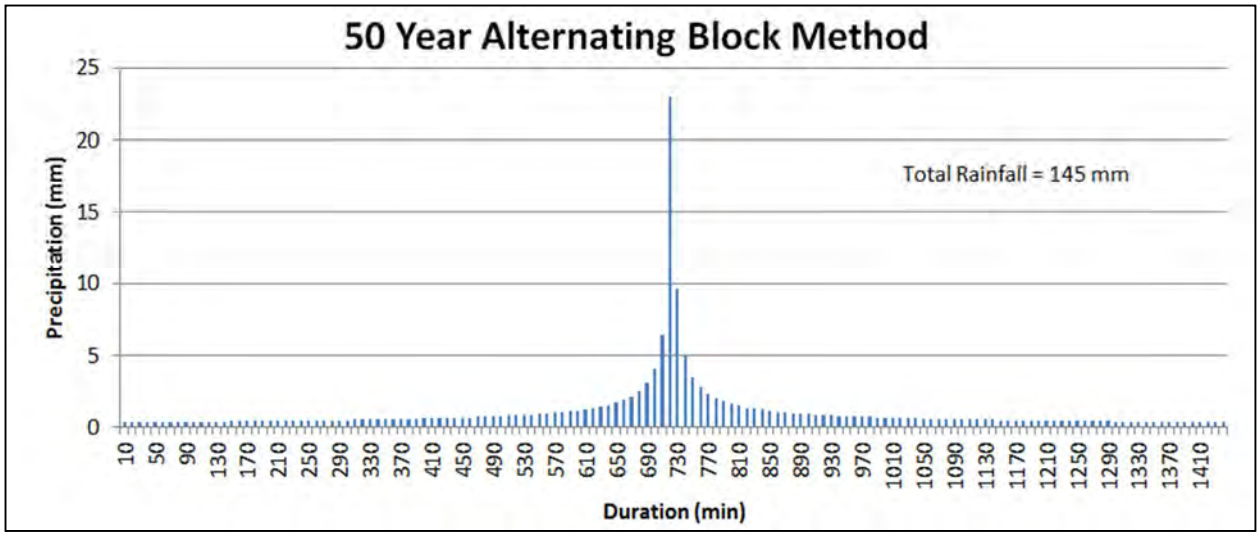


Figure D - 11: 24-Hour Alternating Block Method Distribution for 50-year Climate Change (Future) Event

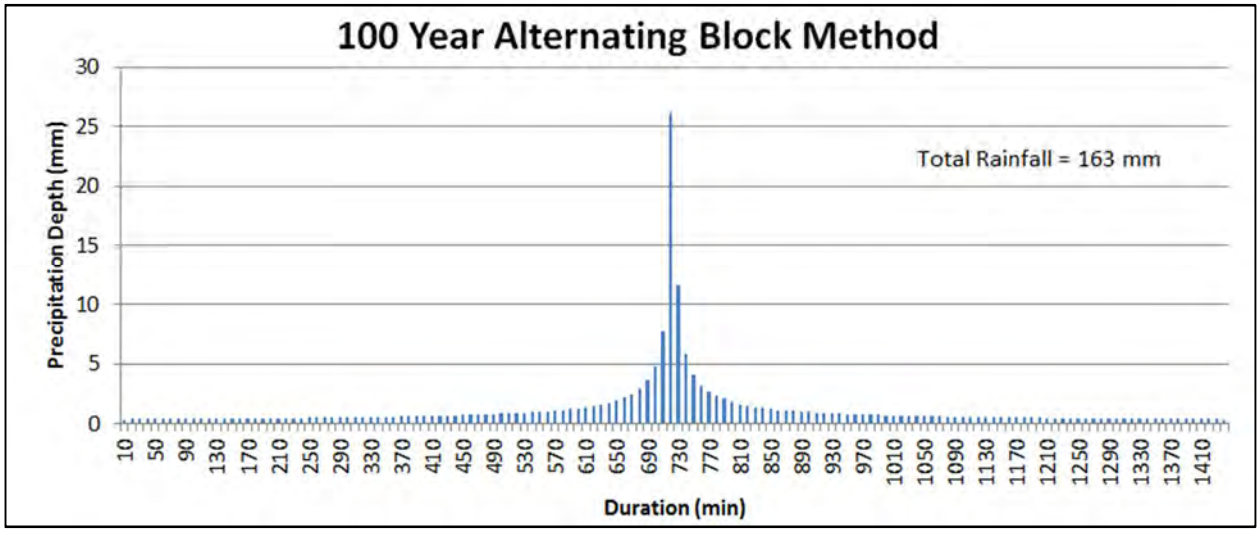


Figure D - 12: 24-Hour Alternating Block Method Distribution for 100-year Climate Change (Future) Event

Appendix E

Meeting Minutes

MEETING MINUTES

Subject:	Start-up Meeting, Hantsport Stormwater Management Study
Date and Time:	Tuesday, August 29, 2017, 9:00 am
Location:	Hantsport Office, Municipality of the District of West Hants
Our File:	17-6276-1000

Attendees

Brad Carrigan	Director Public Works, West Hants
Karrie Ritchie	Public Works Admin, West Hants
Peter Johnston	Public Works Superintendent, West Hants
Martin Kehoe	Water Plant Operator, West Hants
Saira Shah	Planner, West Hants
Sarah Deveraux	Project Manager, Dillon
Annamarie Burgess	Water Resources Engineer and Planner, Dillon

Notes

Item	Discussion	Action By
1.	Introduction & Review of scope of work	
1.1.	Scope of work of the assignment was reviewed and confirmed as consistent with Dillon's proposal.	
1.2.	West Hants confirmed their priority for the study is to: • Develop Best Management Practices to guide future development • Identify/confirm infrastructure priorities and approaches to achieve best life cycle with future infrastructure works • Work towards a 'future scenario' of final segments of combined sewer and stormwater pipes being separated	
1.3.	West Hants confirmed Brad Carrigan to be main point of contact for the study	
1.4.	West Hants identified that they have also planned to conduct a full documentation of existing stormwater infrastructure and modeling of the existing and proposed system. West Hants to consider adding this to Dillon's scope of work, recognizing that there will be inherent efficiency in tying the two projects together.	
2.	Description of Existing/Historical Areas of Concern	

2.1. West Hants provided an overview of areas of concern inside the community of Hantsport that frequently experience flooding, as well as additional commentary about the existing infrastructure in the area. Areas discussed include:

- Riverview Road has water on sidewalks and across the road every spring, and after heavy rains
- Avon Street has no SWM infrastructure. It floods after heavy rains but the water quickly infiltrates and a few hours after a rain evet there is no longer any standing water.
- Maple Drive has French drains
- The sluice gate at the old rail tracks has failed and has not been repaired
- Older houses are tied into the stormwater sewer, though newer houses are not
- Roads as they are rebuilt are constructed with separated sanitary and storm sewers, however, the system is incomplete and all separated system re-converge

3. Available Information & Field Review

3.1. West Hants to provide available information:

- infrastructure sizes
- LiDAR coverage of Hantsport
- Gauge data of the Avonmore River collected by CBCL in Falmouth study

3.2. Dillon will install stream gauge as soon as possible. *Post Meeting Note: Dillon Staff were installing the stream gauge September 5, 2017 on Halfway River.*

3.3. Dillon will complete a field review of the study area and gather supplemental survey as required.

4. Proposal Debrief

4.1. Dillon requested any feedback West Hants could provide on the proposal submission in order to improve future submissions. West Hants identified strengths in having strong representative projects (relevant size and scope), and clearly written and easy to follow approach.

Errors and/or Omissions

These minutes were prepared by Annamarie Burgess who should be notified of any errors and/or omissions.

Appendix F

Capacity of Undersized Pipes

Table F-1 through F-3 provide an indication of the percentage of capacity of undersized pipes for existing conditions, future land use conditions, and future land use with climate change conditions. A percentage of capacity over 100% is a pipe that is undersized by that relative amount. For example a pipe at 167% capacity has a flow that exceeds its capacity by 67%. The pipes identified in these tables are limited to those that have resulted in roadway flooding for the 5-year return period rainfall event. The purpose of this information is to assist the Municipality in prioritizing improvements and upgrades.

The theoretical pipe capacities were calculated assuming pipes flowing full (e.g. the flow depth of a 300 mm diameter pipe is 300 mm) for the 5-year return period rainfall event. It is noteworthy that the stormwater network was modeled as a system with surcharging resulting from inflows, downstream water levels, or a combination thereof.

Table F-1 presents the estimated percentage of capacity of the undersized infrastructure for existing conditions.

Table F-1: Summary of Undersized Pipe Infrastructure for Existing Conditions

Location	Pipe Diameter (mm)	Theoretical Capacity (m^3/s)	Simulated Inflow (m^3/s)	Percentage of Capacity(%)[1]
Main Street – Civic #25 (CB98)	300	0.063	0.105	167%
Main Street – Civic #39 (CB93)	500	0.283	0.445	157%
Main Street Bridge (J46)	NA			
Chittick Avenue – Civic #22 (J1)	600	0.261	0.383	147%
Chittick Road - Civic #47 (CB84)	600	0.160	0.596	373%
Maple Avenue – Civic #24 (MH171)	300	0.044	0.074	168%
Maple Avenue – Civic #30 (MH169)	300	0.139	0.172	124%
Riverview Road – Civic #8 (CB158)	300	0.230	0.175	76%
Riverview Road – Civic #23 (CB168)	100	0.012	0.018	150%
Soccer Field (J137)	200	0.037	0.048	130%
William Street – Civic #14 (CB57)	450	0.150	0.133	89%
Prince Street – Civic #11 (CB40)	300	0.057	0.195	342%
William Street – Intersection with Oak Street (CB47)	450	0.166	0.233	140%
Prince Street – Intersection with Davidson Road (CB23)	CB INTAKE CAPACITY INSUFFICIENT			
Willow Street – Intersection with Main Street (CB137)	CB INTAKE CAPACITY INSUFFICIENT			

Alders Avenue – Intersection with Cedar Avenue (CB177)	300	0.290	0.188	65%
Holmes Hill Road – Intersection with Riverbank Drive (J130)	CB INTAKE CAPACITY INSUFFICIENT			
Mariner's Drive (J53)	2 x 250	0.442	0.198	45%
Faulkner Drive – Civic #80 (CB225)	200	0.032	0.137	428%
Pleasant Drive (J61)	300	0.155	0.266	172%
Riverview Road – Ditch Inlet (J40)	375	0.021	0.179	852%
Rand Street – Intersection with Bishopville Drive (CB227)	600	1.257	0.469	37%

[1]These values are based on the simulated system capacity and would be expected to vary in response to upstream/downstream upgrades. It is recommended that the impact on overall system performance be evaluated for the preferred upgrade scenarios.

Table F-2 shows the estimated percentage under capacity of pipes for future land use conditions. These results assume the construction of approximately 97 new homes and a nursing home over the 50 year horizon.

Table F-2: Summary of Undersized Pipe Infrastructure for Future Development

Location	Pipe Diameter (mm)	Theoretical Capacity (m^3/s)	Simulated Inflow (m^3/s)	Percentage of Capacity (%)[1]
Maple Avenue – Civic #24 (MH171)	300	0.044	0.074	168%
Maple Avenue – Civic #30 (MH169)	300	0.139	0.187	135%
Riverview Road – Civic #8 (CB158)	300	0.230	0.18	78%
Riverview Road – Civic #23 (CB168)	100	0.012	0.018	150%
Alders Avenue – Intersection with Cedar Avenue (CB177)	300	0.290	0.249	86%
Holmes Hill Road – Intersection with Riverbank Drive (J130)	CB INTAKE CAPACITY INSUFFICIENT			
Mariner's Drive (J53)	2 x 250	0.442	0.198	45%
Faulkner Drive – Civic #80 (CB225)	200	0.032	0.137	428%
Pleasant Drive (J61)	300	0.155	0.266	172%
Riverview Road – Ditch Inlet (J40)	375	0.021	0.254	1210%
Rand Street – Intersection with Bishopville Drive (CB227)	600	1.257	0.469	37%

[1]These values are based on the simulated system capacity and would be expected to vary in response to upstream/downstream upgrades. It is recommended that the impact on overall system performance be evaluated for the preferred upgrade scenarios.

Table F-3 summarizes the estimated percentage under capacity of pipes identified for future land use conditions with climate change.

Table F-3: Summary of Undersized Pipe Infrastructure for Future Development with Climate Change

Location	Pipe Diameter (mm)	Theoretical Capacity (m^3/s)	Simulated Inflow (m^3/s)	Percentage of Capacity (%)[1]
Main Street – Civic #25 (CB98)	300	0.063	0.164	260%
Main Street – Civic #39 (CB93)	500	0.283	0.522	184%
Main Street Bridge (J46)	NA			
Chittick Avenue – Civic #22 (J1)	600	0.261	0.385	148%
Chittick Road - Civic #47 (CB84)	600	0.160	0.627	392%
School Street – Civic #12 (J26)	375	0.178	0.266	149%
Maple Avenue – Civic #24 (MH171)	300	0.044	0.074	168%
Maple Avenue – Civic #30 (MH169)	300	0.139	0.205	147%
Riverview Road – Civic #8 (CB158)	300	0.230	0.222	97%
Riverview Road – Civic #23 (CB168)	100	0.012	0.023	192%
Soccer Field (J137)	200	0.037	0.073	197%
William Street – Civic #14 (CB57)	450	0.150	0.165	110%
Prince Street – Civic #11 (CB40)	300	0.057	0.216	379%
William Street – Intersection with Oak Street (CB47)	450	0.166	0.286	172%
Prince Street – Intersection with Davidson Road (CB23)	CB INTAKE CAPACITY INSUFFICIENT			
Willow Street – Intersection with Main Street (CB137)	CB INTAKE CAPACITY INSUFFICIENT			
Alders Avenue – Intersection with Cedar Avenue (CB177)	300	0.290	0.310	107%
Holmes Hill Road – Intersection with Riverbank Drive (J130)	CB INTAKE CAPACITY INSUFFICIENT			
Mariner's Drive (J53)	2 x 250	0.442	0.254	57%
Faulkner Drive – Civic #80 (CB225)	200	0.032	0.173	541%
Pleasant Drive (J61)	300	0.155	0.362	234%
Riverview Road – Ditch Inlet (J40)	375	0.021	0.327	1557%
Rand Street – Intersection with Bishopville Drive (CB227)	600	1.257	0.578	46%

[1]These values are based on the simulated system capacity and would be expected to vary in response to upstream/downstream upgrades. It is recommended that the impact on overall system performance be evaluated for the preferred upgrade scenarios.

The Region of Windsor and West Hants Municipality

Regional Fire Services Review



November, 2019

DISCLAIMER

This Report is prepared by Goudreault Associates on behalf of The Region of Windsor and West Hants Municipality (The Client). The report along with its findings and conclusions contained herein, is intended for the sole use to assist in the fire protection planning needs of the municipality. Judgements about the conclusions drawn and opinions presented in this report should only be made after considering the report in its entirety. This report is confidential and is intended for the exclusive use of the Client.

The Report is not intended to and should not be used or relied upon by anyone else. Goudreault Associates does not accept any duty of care, to any other person or entity other than The Client. The Report has been prepared for the purpose set out in the Goudreault Associates Proposal dated June 21, 2019.

Goudreault Associates reports are prepared incompliance with commonly accepted fire service and insurance industry standards at the time services were rendered. While Goudreault Associates have made every attempt to ensure that the information contained in this report is accurate, it was the responsibility of The Client and its departments to provide accurate data as requested by Goudreault Associates. Goudreault Associates is not responsible for any errors or omissions, or for the results obtained from the use of this information.

Cost contained within this report are estimates only, based upon current data and are not intended to be relied upon by any person for accuracy. The Client should obtain written bids from qualified businesses and or contractors in order to determine the actual costs.

Information contained in the Report is current as at the date of the Report, and may not reflect any event or circumstances which occur after the date of the Report.

Goudreault Associates will not be responsible to the Client for any losses or damages, whether consequential or other, however caused, incurred or suffered as a result of services provided.

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INTRODUCTION

The following report and recommendations are a result of extensive review and research. This was made possible due to the efforts and guidance of numerous municipal staff, and the fire service personnel and supportive agencies.

Goudreault Associates would like to recognize and thank the following persons for their assistance.

- Mark Phillips, CAO, Region of Windsor and West Hants Municipality
- Martin Laycock, CAO Municipality of West Hants
- Louis Coutinho, former CAO Town of Windsor
- Todd Richard, Acting CAO, Town of Windsor
- The Region's Fire Chiefs and Deputy Chiefs
- Region's Firefighters

The information and data requested was extensive and onerous on all, and we greatly appreciated the effort. If it were not for the effort of those all involved the resulting report and recommendations would not have been possible.

The RFP requested a Regional Fire Services Review of the current Fire Services and, based upon those findings, create a plan for a new Regional Fire Services for the New Regional Municipality

The following report is an accumulation of local information measured against current legislation, regulations, recognized standards and guidelines.

The report and its recommendations will achieve the overall objective of a standardized delivery of service for the new Regional Municipality.

EXECUTIVE SUMMARY

On April 1, 2020 the consolidation of the Town of Windsor and the Municipality of the District of West Hants will occur. Goudreault Associates (GA) was retained to conduct this Fire Services Review; with an intent to propose a plan for a more regionalized approach to fire and rescue services in the new municipality.

There are currently six fire departments providing fire and rescue services in Windsor/West Hants (W/WH). These include the four W/WH departments (Windsor, Hantsport, Brooklyn and Summerville). Hantsport administers a second station in Vaughan (called South West) and Brooklyn manages a second station in Garlands Crossing (called Three Mile Plains).

Two East Hants Regional Municipality departments also provide services in bordering areas of West Hants; the Walton Shore Volunteer Fire Department and the Uniacke and District Volunteer Fire Department.

Hantsport/South West are currently municipal services, while the remainder operate as corporate bodies under the NS Societies Act. The Windsor department has been for quite a few years a quasi-municipal department, with a full-time fire chief (an employee of the Town) up until fairly recently. Several casual employees work in the fire stations with all but one being compensated (directly or indirectly) by the municipalities. Almost all the departments do fund raising.

For the W/WH departments, the municipalities own most of the major fire equipment and fire apparatus and have largely or completely financed new fire stations and annually contribute to station upkeep, and many other expenses. Financial contribution to Walton/Uniacke is proportionally provided also. Collectively the W/WH municipal governments have annually granted in each of the past three years about $2.75m towards operational and capital costs, representing approximately 13% of the municipalities' annual combined budgets.

Municipal concerns appear to center around a few issues; accountability and transparency for the use of municipal funds, adherence to municipal purchasing and spending practices, unnecessary duplication of resources, fiscal economy, region-wide cooperation to improve effectiveness and

efficiency, response districts, and the inconsistencies arising from the various and different service agreements.

The concept of a regional fire service means the collective efforts of Registered Service Providers working in a collaborative environment for the planning/preparing for responding to fires and other emergencies. All that, done in an efficient and effective manner while collectively pursuing opportunities for improving services, bettering the health and safety of volunteer firefighters, and maintaining a local community volunteer fire services identity.

The concept of regionalization in the fire service has been around for a number of years, but more recently the drive towards higher municipal efficiency, even survival, has accelerated regionalization efforts. The W/WH consolidation is seen by the provincial government as a test case with future consolidations on the horizon. Regionalization can yield some strong end results for those that navigate the process successfully.

With regionalization of services, the main goals are cost efficiencies, elimination of duplication of services, better utilization of resources, better cooperation in service delivery, consistency of equipment and procedures, enhanced firefighter safety and benefits, uniform training and performance standards, and adequate qualifications and staffing levels.

The goal of the fire service should be to safely provide the maximum amount of service to the population served while maintaining operational effectiveness and cost efficiencies and with due regard for the safety and wellbeing of the responders.

This review encompassed three major areas of study;

Emergency Response Program

The review goal was to develop a service delivery excellence program for the regional communities.

Governance and Organizational Structure

The first objective of this Part was to recommend an appropriate Governance model for the fire service, to ensure that the goals and objectives identified in the project's recommendations are achieved.

The second objective was to recommend an appropriate organizational structure and areas of responsibility within the organization; i.e., Operations (emergency response), Fire Prevention, Training, Health and Safety, and Administration.

The third objective was to determine appropriate service delivery expectations.

Administration and Program Implementation

The first objective was to review and identify any deterrents that may impede the overall success of the initiative to move forward with a more Regional fire service and to develop appropriate programs to ensure its success.

The second objective was to determine costs over a ten-year period for the provision of fire/rescue services.

The third objective was to develop an implementation plan that achieved the overall goals identified in the other parts of the Review.

METHODOLOGY

The Review included several approaches to obtaining a picture of the current service. These included;

- stakeholder meetings and interviews,
- the completion by fire chiefs of survey forms/charts,
- the completion of data worksheets,
- reviews of previous reports,
- the study of provincial acts and regulations,
- a review of current municipal and fire department policies, procedures,
- identification of applicable organizational/governance standards,
- identification of applicable standards, guidelines and related best practices.

During the Review, data validity was a concern, and fact checking was a major component of ensuring that conclusions and recommendations were based on correct information. Most of the data used was provided by the client (as required under the terms of the contract) and through the stakeholder process, and solicited through the data queries. It was apparent that not all requested data existed or was available. Conclusions were reached that acknowledged some gaps in understanding.

A general finding from the Review of the current fire services is that there are substantial silos between the six fire departments that provide fire emergency response in W/WH. There is no standardization of major or minor equipment purchases, including personal protective equipment, fire apparatus, tools, or supplies. Standards and service levels are not the same, the organizational structures differ, policies and procedures are substantially different. Each fire department, even the municipal ones, operates at arm's length and substantially independently from each other and from the municipal governments. For many, the only interaction occurs at budget time.

Some efforts have been made between fire departments over the past couple of years to improve cooperation in the areas of training and emergency responses. The training effort has been virtually unsuccessful, although there is a past history of cooperation being achieved in this area.

Emergency response issues currently exist where the fire districts are not established with the concept of a region-wide closest appropriate resource allocation to an incident. The current district map was redrawn in late October 2015 after the Windsor fire department withdrew fire protection services for proximate areas of West Hants, a contract that had been in place for approximately 65 years. More mutual-aid is now being utilized between the W/WH fire departments (than was immediately after the Windsor issue) as the fire chiefs have recognized the need.

There is currently substantial variability in benefits and honourariums for the volunteer firefighters. Although W/WH municipalities provide funding to the societies for this purpose, there is no mandate that minimum or uniform levels of insurance, WCB, EAP, or stipend be paid. There is no apparent effort this way either. This fact is well known amongst the volunteer

firefighters as a whole, and has precipitated distortions of fact, exacerbating for some feelings of unfairness around the issue.

GA has identified three organizational options; the status quo, a regional municipal service, and the recommended hybrid regional service.

GA recommends the hybrid model because it is the best compromise in providing regional coordination and efficiencies yet maintains the local volunteer character of the fire department.

GA recommends providing centralized administration support, management and leadership. A full-time Director of Public Safety Services – Regional Fire Chief, and a full time Assistant Fire Chief with primary responsibilities for fire prevention are recommended. A part-time Divisional Chief is also recommended to take responsibility for developing and coordinating of firefighter qualifications and training.

GA recommends a District Fire Chief management committee as a key recommendation, to bring together all the local fire district management personnel; so that plans and decisions on common issues of concern and service delivery can be made.

GA recommends better accountability and standardization of policies, procedures, major equipment, training and qualification standards, and levels of service. Accompanying this is revised response districts that minimize travel times to all portions of W/WH. To help ensure maximum efficiency and effectiveness of resource utilization, recommendation are made to develop response scenarios where all resources are available to respond as needed and are not bounded by fire department district silos.

GA recommends the benchmark annual operating budget as a starting point going forward.

GA recommends the proposed 20-year capitalization plan, primarily for fire apparatus replacements, using a standardized approach to specification and group purchasing.

GA recommends that all purchasing of significant-cost items be coordinated.

GA recommends minimum standards for training and qualifications of firefighters; in order to achieve a consistent service level throughout the new municipality that meets public

expectations. Also recommended is a benefits package for the volunteer firefighters that recognizes the long term physical and mental health risks that fire/rescue first-responders are exposed to. Recommendations include a fair and uniform honourarium system.

GA recommends that all fire prevention activities, including fire-inspection, fire-investigation, and fire-safety education be brought inhouse. These are mandated services and require coordination, proper execution, and prioritizing in order to meet legislative mandates. For this purpose,

GA recommends that the current 1.5 FTE fire-inspectors in Planning and Development be reassigned to the regional fire service.

GA recommends that four on-call fire-investigators be trained and equipped to investigate all fires and to gather necessary information on origin, cause and circumstances, and to liaise with the office of the Fire Marshal and RCMP in securing evidence as necessary.

GA recommends that better coordination and support of local fire department efforts in fire-safety education be provided, including the possible involvement of non-firefighting personnel from the community in this activity.

There are many more detailed recommendations in the accompanying report. Collectively, implementation of all recommendations will likely take several years. The outcome should be a much more robust fire service that provides improved fire and rescue services, that meets municipal mandates for accountability and transparency, that meets legislative service mandates, that provides better protections for volunteer firefighters, and that maintains that essential local flavour of the volunteer fire department.

Costs for most recommendations are included in the benchmark budget estimates.

DEFINITIONS

Aerial Device – Ladder	A mobile truck with a mounted hydraulically operated ladder
Aerial Device – Platform	A mobile truck with a mounted hydraulically operated boom or ladder with an enclosed bucket platform device.
ALI	Automatic Location Identification is part of the E-911 technology which is provided by telephone service providers to determine the location of the caller. If the caller is using a landline it will provide the street address. If the call is by cellular technology, it will provide the location of the closest cellular tower.
ANI	Automatic Number Identification is part of the E-911 technology which is provided by telephone service providers to which determines the telephone number of the caller, landline or cellular.
APCO	Association of Public Safety Communication Officials.
Automatic Aid	Is apparatus from another department that always responds by written SOP on first alarm structure fires.
Fire Apparatus	As per NFPA1901 Standard for Automotive Fire Apparatus 2016 - A vehicle designed to be used under emergency conditions to transport personnel and equipment or to support the suppression of fires or mitigation of other hazardous situations.
First Due Assignment	The number of and types of fire apparatus required to respond on the initial alarm of fire.
Front Line Apparatus	Fire vehicles those are ready to respond to any emergency either as First Due assignment or subsequent assignments. Opposite of Reserve Apparatus

FUS	Fire Underwriters Surveys.
GPM	Water flow rate measured in American gallons per minute.
Heavy Rescue	Is a type of specialty firefighting apparatus. They are primarily designed to provide the specialized equipment necessary for technical rescue situations such as traffic collisions requiring vehicle extrication, building collapses, confined space rescue, rope rescues and swift water rescues. They carry an array of special equipment such as the Jaws of life, wooden cribbing, generators, winches, hi-lift jacks, cutting torches, circular saws and other forms of heavy equipment unavailable on standard trucks.
Igpm	Water flow rate measured in imperial gallons per minute.
Initial Attack Apparatus	Aka (Quick Attack) Fire apparatus with a fire pump of at least 250 gpm (1000 L/min) capacity, water tank, and hose body whose primary purpose is to initiate a fire suppression attack on structural, vehicular, or vegetation fires, and to support associated fire department operations.
Midi Pumper	Similar to a pumper with a smaller pump and smaller water tank but with a bigger pump and larger water tank than a mini pumper.
Midi Rescue	Is similar to a heavy rescue other than it typically carries less similar equipment, but more task specific. The vehicle is smaller than the heavier rescue.
MFR	Medical First Responder program sponsored by the Province of Nova Scotia's Emergency Health Services, provided by trained local fire fighters.

Mutual-aid	Fire Underwriters define Mutual-aid as anything requested after a unit arrives on scene needed during the fire or and is not part of the first alarm assignment, or outside aid. NFPA-1201 Standard for Providing Fire and Emergency Services to the Public, 2015 Edition defines mutual-aid as a reciprocal assistance by emergency services under a prearranged plan.
NFPA	National Fire Prevention Association
Quint	Fire apparatus with a permanently mounted fire pump, a water tank, a hose storage area, an aerial ladder or elevating platform with a permanently mounted waterway, and a complement of ground ladders.
Pumper	Is a vehicle that is primarily designed to carry hose, a small water tank, some cases a foam tank, a fire pump, foam pump, miscellaneous tools and manpower, for the purpose of pumping water onto a fire
Pumper Tanker	Is similar to a pumper other than the water tank capacity is larger than 800 imperial gallons of water.
Rehab	NFPA-1500 Fire Fighter Safety, requires on-scene rehabilitation which shall include at least rest, hydration, active cooling where required, basic life support care, food where required, and protection from extreme elements.
Relay	The method of moving fire water over long distances employing fire pumpers and large diameter hose.
RFF	The amount of water flow required measured in imperial gallons per minute to control and mitigate a fire.

Reserve Apparatus	A fire apparatus retained as a backup apparatus and used to replace a primary (front line) apparatus when the primary (Front Line) apparatus is out of service.
Shuttle	A method of transporting water to a fire scene from a water source, employing pumps and mobile water tankers.
SOC	Span of Control, this is the number of persons ideally that a supervisor can effectively manage in the work environment. In the fire service the general guideline, depending upon job function is one (1) supervisor to every five (5) direct reports.
Special Services Vehicles	A multipurpose vehicle that primarily provides support services at emergency scenes. These services could be rescue, command, hazardous material containment, air supply, electrical generation and floodlighting, or transportation of support equipment and personnel.
TMR	Is a digital (P25) two-way radio system that uses a digital control channel to automatically share frequencies/channels with groups of users. The Trunked Mobile Radio System (aka TMR2 in Nova Scotia) is used by multiple Public Agencies across the Maritime provinces. The system is shared between NS/PEI/NB. The TMR2 system operates in the 700 MHz range of frequencies. TMR and VHF radios are discrete and cannot share systems.
ULC	Underwriters Laboratory of Canada
VHF	A radio frequency range used by certain emergency responders and private companies. Very-high frequency (VHF) is the designation for radio frequencies in the range between 30 megahertz (MHz) and 300 megahertz, with wavelengths ranging from ten meters to one meter. Fire Departments generally use radios in frequency

ranges between 138 and 158 MHz. VHF marine radio is 156-158 MHz. TMR and VHF radios are discrete and cannot share systems.

STAKEHOLDERS & CONSULTATIONS

STAKEHOLDERS AND CONSULTATIONS

The early focus for this study was to speak to stakeholders. Eighty-four stakeholders were interviewed, as follows:

- Firefighters from all West Hants and Windsor stations,
- Chief Fire Officers from all West Hants and Windsor stations, as well as Uniacke and Walton Shore FDs,
- The former West Hants REMO/Fire Service Coordinator,
- Municipal CAOs,
- West Hants Chief Building Official,
- EHS (as a coordinating service provider),
- RCMP (as a coordinating service provider),
- Valley Communications (who in addition to providing paging services, is one of four provincial Public Safety Answering Points for 9-1-1. In addition, Valley Comms provides Emergency dispatching services for 86 fire departments including all the West Hants departments and the Windsor fire department.),
- A member of the NS Critical Incident Stress Debriefing (CISD),
- The DNR Chief Fire Technician for the area (as a coordinating service provider), and the
- Municipality of East Hants, (to review methodology for their mutual-aid agreements and contracting of fire services with the Brooklyn Volunteer Fire Department)

All the stakeholders and reference sources were open with their thoughts and opinions and were appreciative of the fact that they had an opportunity to meet with us. They all understood the value of contributing to the process.

WHAT WAS HEARD

For the Windsor/West Hants (W/WH) firefighters, there is a common concern over the possible outcome of this study, especially as it relates to whether Council will accept the recommendations. In particular, there is concern over the place of the fire services in the new municipality, especially with regards to support by Council for the budgetary needs of the fire services and support from municipal administration.

In general, there are some positive themes. Many firefighters and chief officers have expressed that there is a need for change. This is encouraging as it means there appears to be a strong basis

for closer cooperation in the future. These themes are in addition to the aforementioned budgetary concerns and include ideas that have the potential to improve the relationship with the municipality and should improve the delivery of services to the communities.

On the whole the firefighters appear to be open to change and agree on the need to work more cooperatively with each other. They do have some fears, but those are generally in line with not being in control of an evolving process of municipal consolidation.

Although there is an expressed desire for improvement, that is not to say that everything will be completely smooth moving forward. There are signs that there is the need for some strong central direction and support, and there is the also the need to ensure that past service level gains are not lost. There is also the need for effective and sensitive handling of stakeholder concerns. concerns.

THE PROCESS

In order to solicit feedback from the fire chiefs, a user-friendly Responsible-Accountable-Communicate-Inform (RACI) questionnaire was distributed. This questionnaire included most if not all areas that accompany managing and operating a fire/rescue service. The objective was to obtain an initial snapshot of what the chief officers perceived as their responsibilities, and what they were actually doing in terms of best practices from a management perspective.

At the same time a Strengths-Weaknesses-Opportunities-Threats (SWOT) exercise was initiated with the fire chefs. This was an opportunity for them to express their vision for a future fire service in the consolidated municipality.

All four W/WH fire departments were issued a workbook to collect various critical data related to this study. The requested information covered a number of service delivery areas.

CHALLENGES

A review of existing and future fire services, such as this study, is very heavily dependent upon data. Data is required to analyze, as well as report, key elements of an organization's performance, challenges, and successes as well as the community's risks and demands for

services. Data quality is essential for a "complete picture" and helps to ensure the accuracy of conclusions. The timely availability of data is also important, as study timelines are finite.

Expert analysis of data can lead to insights and recommendations that have the potential to improve service delivery, efficiency, and firefighter safety. It can also contribute, (for the benefit of the municipality, Council and the public) to improved transparency and accountability. Data analysis can identify service gaps and over-servicing; if and where they occur.

In this study, (as with many similar ones); data completeness, the relevance of what has been collected, and even the existence of needed data, has all been challenges. As a result, there will need to be more reliance on best-practices and our professional insights to fill in data deficiencies.

The timeliness for obtaining the existing data was challenging. There are several reasons for this, not the least of which is likely the stresses of managing organizations through these times of change. We cannot thank enough the assistance we have received from municipal staff.

CONSULTATIONS

Consultations with a number of reference sources for best practices in the areas of volunteer recruitment, retention, training, governance and communications, to name some of the areas, as well as in pursuit of verifying matters and interpretive intent relating to legislation were conducted.

Some of the organizations and Agencies consulted were;

- Kennebecasis Valley Regional Fire Department, Kennebecasis Valley, NB
- Town of Sussex, NB Volunteer Fire Service.
- Charlottetown, PEI, Regional Fire Service
- HRM Fire & Emergency Services, Senior Staff
- Town of Wolfville Volunteer Fire Department
- Enfield volunteer Fire Department
- DNR, NS Windsor Office
- Fire Services Association of Nova Scotia Committee Chair, Fire Service Communications and Dispatch.

- NS Emergency Health Services
- NS Fire Service Critical Incident Stress Committee Member
- Office of the Provincial Fire Marshal
- Department of Municipal Affairs Policy Group
- Municipality of East Hants
- Various Regional Fire Services Coordinators from across the province
- Insurance Bureau of Canada, Atlantic
- Workers Compensation Board, Office of Policy
- Volunteer Fireman's Fund Insurance Services
- NS Department of OH&S
- NS E-911 Assistant Manager

All municipal personnel, Windsor//West Hants fire personnel and persons of the above government departments, agencies, volunteer organizations and businesses have in one way or another contributed to this Regional Fire Services Review.

LIABILITY, REGISTRATIONS, SERVICE AGREEMENTS & POLICIES

LIABILITY

A big question for any municipality/fire department/firefighter is their exposure to liability claims. The MGA does provide some protection from litigation related to mutual-aid in §302, and more generally in §300 and §301.

However, the MGA also allows that claims are possible against both the fire department and or the municipality in cases of gross negligence or through vicarious liability (actions of employees/agents/members).

Litigation against municipalities for the actions or omissions of their fire departments and emergency personnel is a real concern. Liability concerns can arise from virtually every aspect of the fire service. Fire service delivery actions that present opportunities for liability risk are those surrounding fire-inspections, fire-investigations, emergency response (e.g. rescue), and all fire suppression activities.

The majority of claims surround the failure on the part of the municipality/fire department to implement appropriate policies, procedures, guidelines, training; and usually start with the failure to act or the alleged actions of firefighters/officers in the execution of their duties. Allegations could include negligence, gross negligence, breach of duty, and generally not meeting the standard of care.

Defending against such law suits requires proving that actions and preparations met the standard of care; i.e. of a similarly situated fire department/municipality/firefighter in a similar situation.

Some Canadian cases demonstrate that liability concerns are real, and appear to be occurring more frequently. Note that not all are emergency response related.

LITIGATION REGARDING FIRE SERVICES

Year	Case	Alleged	Situation
1984	Riverscourt Farms Ltd v. Niagara-on-the-Lake	Negligence, inadequate water supply, failure to attack fire, failure to secure additional water supply in timely manner	Fire at farm, hydrants/water system were not able to provide adequate flows for fire protection, hazards in building
1988	Halabura v. Fraserwood Fire Dept.	Negligence; failure to extinguish previous days wildland fire	Wildland rekindle next day, loss of building
1989	Ennis-Paikin Steel v. City of Hamilton	Negligence; Failure to establish fire watch from previous incident led to later fire	Large Fire after 5-6 hours earlier overheated fan incident
1991	Smith v. Jacklin (Parry Sound)	Breach of duty, failure to enforce Fire Code and By-law; violations directly led leading to injuries to resident when fire occurred	Fire in tenement, enforcement action not taken against owner who was given grace period
1993	Bayus v. Coquitlam	Breach of Duty, outdated maps lead to delayed response	Fire in tenement, firefighters could not find dead-end street
1999	Schouten v. Rideau Township	Negligence (acts and omissions); failure to establish proper size-up and tactics	Feedlot fire, loss of barn and storage silos with feed
2009	Healy et al v. Halifax Regional Municipality et al	negligence, gross negligence; failure to mop-up and establish fire-watch caused rekindle	Large wildland fire, multiple homes lost
2009	Ontario (Ministry of Labour) v. Town of Meaford	Failure to take reasonable measure to ensure safety of firefighters, firefighter injured	Restaurant fire, firefighter became lost, ran out of air
2010	Univar Canada v. City of Kelowna	Negligence and breach of duty, failure to stop the fire from entering building and failure to pre-plan, failure to inspect	Strip mall fire with internal exposures that spread to chemical storage causing environmental cleanup
2011	Schulz v. City of Mississauga	Negligence, breach of duty, bad faith	Fire truck collision, killed driver of car
2013	Promutuel Insurance et al v. Ie-Verte	Negligence; slow to arrive, no pre/emergency plan, improperly equipped, slow to call for assistance	Multi-fatality (32) care-home fire
2016	Stringer v. Town of Oakville	Negligence; fire in roof not extinguished completely	Rekindled house fire,
2017	Robertson et al v. Town of the Pas	Breach of duty and negligence; fire not completely extinguished first time	Rekindle hotel fire, large loss

One aspect of standard of care is the level of service delivery. This involves several aspects, including qualifications of personnel and benchmarks and/or best practices in service delivery. An often referred to set of such standards for both service delivery and qualifications is the National Fire Protection Association's set of consensus standards. The following will help understand the place for these standards in Nova Scotia's fire departments.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

References to NFPA standards will made numerous times in this report. There are no requirements for the general adoption of NFPA firefighting standards in Nova Scotia or indeed in Canada. However, NFPA qualification standards are referenced by the Nova Scotia Fire Marshal's office (NSFMO) and in firefighter standards setting organizations in NS that are supported by the NSFMO.

Numerous NFPA standards are the basis for requirements under several NS regulations, a few examples of which follow, (restricted to references that pertain to fire services);

Required by Legislation	Section	NFPA Std	Reference
NS Reg 52/2013; Workplace Health and Safety	§23.13(2)(a)	NFPA-1901	Aerial apparatus
NS Reg 52/2013; Workplace Health and Safety	§23.13(2)(b)	NFPA-1911	Aerial apparatus
NS Reg 44/99; Occupational Safety General Regulations	§191	NFPA-1971	Firefighter helmets
NS Reg 44/99; Occupational Safety General Regulations	§192	NFPA-1971	Firefighter boots
NS Reg 44/99; Occupational Safety General Regulations	§193	NFPA-1971	Firefighter gloves
NS Reg 44/99; Occupational Safety General Regulations	§194	NFPA-1971	Firefighter protective coat and trousers
NS Reg 44/99; Occupational Safety General Regulations	§195(1)	NFPA-1981	Firefighter SCBA (respiratory protective equipment
NS Reg 44/99; Occupational Safety General Regulations	§195(1)	NFPA-1981	Firefighter hood (balaclava)
NS Reg 44/99; Occupational Safety General Regulations	§195(2)	NFPA-1981	Firefighter buddy system
NS Reg 44/99; Occupational Safety General Regulations	§195(3)	NFPA-1982	Firefighter PASS (man-down alarm)
NS Reg 44/99; Occupational Safety General Regulations	§198	NFPA-1983	Firefighter body harness, ropes, hardware
NS Reg 44/99; Occupational Safety General Regulations	§200	NFPA-1931	Ground ladder purchasing
NS Reg 44/99; Occupational Safety General Regulations	§200	NFPA-1932	Ground ladder maintenance and inspection
NS Reg 44/99; Occupational Safety General Regulations	§201	NFPA-1914	Testing of aerial ladder devices
NS Reg 38/97; Nova Scotia Building Code	Numerous	Numerous	Apply to fire safety systems
NS Reg 160/96; Automatic Sprinkler System Maintenance	§4	NFPA-25	Inspection testing and maintenance of water-based sprinkler system
National Fire Code (adopted by the Fire Safety Act)	Numerous	Numerous	Apply to fire safety systems

The NFPA is a USA based organization[1] that has been involved with fire safety for a long time. It has international participation in establishing its standards. According to its webpage; [2]

> "The National Fire Protection Association (NFPA) is a global self-funded nonprofit {sic} organization, established in 1896, devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards.

[1] The National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts, USA 02169-7471.

[2] https://www.nfpa.org/overview

> NFPA delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, outreach and advocacy; and by partnering with others who share an interest in furthering our mission. Our mission is to help save lives and reduce loss with information, knowledge and passion."

NFPA develops consensus[3] standards and codes[4] in the field of fire safety, which includes most notably building and occupant fire safety codes that are widely adopted in the USA. In Canada, NFPA fire protection standards are also widely adopted for fire prevention and firefighter equipment purposes, often incorporated into building codes and fire codes, and into provincial regulation.

NFPA also develops standards on qualifications and processes for the provision of municipal firefighting services. In Nova Scotia, NFPA standards relating to municipal firefighting are sometimes recognized as guidelines (not necessarily as standards) and only for specific and generally narrow purposes. This is typical for all of Canada.

The Nova Scotia Fire Services Professional Qualifications Board (NSFSPQB) produces voluntary certification standards, and some of the NFPA standards are specified as part of an individual's voluntary certification process. This usage of the NFPA standards is not an adoption per se of the standards, but more properly falls under the adage of "why reinvent the wheel" and a further recognition of a consensus process of the standard's development; i.e. a best practice.

[3] "Important Notices and Disclaimers Concerning NFPA Documents…" colophon page of NFPA-1001, 2013 edition, "NFPA® codes, standards, … are developed through a consensus standards development process approved by the American National Standards Institute. This process brings together volunteers representing varied viewpoints and interests to achieve consensus on fire and other safety issues. While the NFPA administers the process and establishes rules to promote fairness in the development of consensus, it does not independently test, evaluate, or verify the accuracy of any information or the soundness of any judgments contained in NFPA Documents."

Note: To See more on the *NFPA* process; https://www.nfpa.org/Codes-and-Standards/Standards-development-process/How-the-process-works

[4] List of available *NFPA* codes and standards; https://www.nfpa.org/Codes-and-Standards/All-Codes-and-Standards/List-of-Codes-and-Standards

SOCIETY REGISTRATIONS

As reviewed in the **Appendix IV; Provincial Legislation**, the *Municipal Government Act* (MGA) Part X contains the provisions for "*Fire and Emergency Services.*" §293 allows the Municipality to:

> "Maintain and provide fire and emergency services by providing the service, **assisting others to provide the service**, working with others to provide the service or a combination of means, *1998, c, 18, s. 293"* {emphasis added}

The MGA provides for a corporate body (society fire department) to register as a fire department under the provisions of §294. Essentially, the municipality does not have the right to refuse registration, provided the fire department meets the municipality's conditions.

In consultation with the Provincial Department of Municipal Affairs, Policy Office and the Office of the Fire Marshal, it is highly recommended that in addition to the registration of the corporate body, that a service agreement between the corporate body and the municipality be established to clarify and agree to expectations of service provision.

Currently, all of the corporate bodies (fire departments) that provide fire and emergency services in West Hants are registered with the municipality. This includes the Brooklyn Volunteer Fire Department (two stations), the Summerville and District Volunteer Fire Department, the Uniacke and District Volunteer Fire Department, and the Walton Shore (volunteer) Fire Department.

Hantsport is a fully municipal service (two stations) and is not registered with West Hants. The Windsor Fire Department is not a registered Fire Department with West Hants or with Windsor.

GA recommends that when the new regional municipality officially comes into being April 1, 2020, that all the fire departments, municipal[5] or otherwise, providing fire and rescue services

[5] The MGA §294(3) says "(3) A fire department, including a fire department of a municipality, village or fire protection district, shall register in each municipality in which it provides emergency services."

This is echoed in the MGA Fire and Emergency Services Guide (1999) which says "Every fire department must register in every municipality in which it provides emergency services on a regular basis. This provision covers all volunteer fire departments as well as fire departments of municipalities, villages and fire commissions such as rural fire districts." {emphasis added}

within the region, including those that are contracted by the municipality, register with the new municipality on an annual basis.

GA recommends that the municipality include a multi-lateral automatic aid provision in their service agreement with each of the society fire departments. This provision will simplify utilizing the closest, appropriate, and adequate resources to incidents in all of the geographic area of the Region, irrespective of registered protection area (aka fire districts). This will accomplish a number of things;

- Permit the development of Region-wide Run-Cards designating pre-planned resource deployment for identified risks,
- Recognition that the services provided are not just within their first response districts,
- Authority to provide appropriate resources wherever needed in accordance with the mantra of the closest appropriate resources,
- Reinforce and facilitate the principal of resource dispatching and not just station dispatching,
- Generate closer working ties between departments,
- Help ensure that standardized guidelines and operating procedures prevail in the Region,
- Assist with better statistics in that multiple resource allocations are not mutual-aid and can be coded for their actual nature.

GA recommends that a review of the current registration form used by the Municipality of West Hants be used as the base registration document, and that it be amended to reflect the new regional municipality and its needs.

Attached as **Appendix 1** to this report is a Model Fire Service Registration Policy Document, provided by the NS Joint Municipal Fire Services Committee. This document may aid in the development of a new registration policy and format.

FIRE SERVICE AGREEMENTS

Municipality of the County of Kings and the Municipality of West Hants

Currently, the Municipality of West Hants, provides fire services to the Hantsborder, Bishopville, Lockhartville, West Brooklyn, Avonport, and Black River Lake communities and to the Glooscap First Nations reserve located within the boundaries of the Municipality of the County of Kings. The signed fire service agreement between the Municipality of the County of Kings expires March 31, 2020

Concerns with Municipality of the County of Kings Fire Services Agreement

In the Municipality of the County of Kings and the Municipality of West Hants Fire Services agreement, Section 3 outlines a number of obligations on West Hants/Hantsport Fire Department. There are two specific clauses and one fire district that are of particular concern.

> *"3.c. Conduct and sponsor research into the cause of fires and methods of preventing fire losses;"*

There is no clarifying editorial explaining the intent or the meaning of this clause. On face value this is a very huge undertaking complete with a very heavy financial burden especially for any fire service not alone a small volunteer fire service.

Multimillion-dollar organizations, like the National Research Council of Canada, Factory Mutual and Warnock Hersey are primary fire research organizations that provide the type of research indicated in clause 3c of the agreement.

GA recommends the Kings County registration, clause 3.c. be edited for clarity. If the intention here is simply to require fires to be investigated then that should be stated clearly.

The next clause of concern is as follows;

> *"3.d. Endeavor to educate and instruct the citizens in methods of fire prevention and fire 'suppression';"*

GA recommends that in the Kings County registration; either a) replace the term "*fire suppression*" with "*fire extinguisher training*" or b) delete the reference to "*fire suppression.*" Again, without clarity it is challenging to understand the meaning or intent of the term "*fire suppression*".

One must ask why would any fire service educate non-fire service citizens in fire suppression. If the intent is to teach citizens how to use a fire extinguisher, then that is typically part of fire prevention (fire-safety education) activities.

Another clause that should be reviewed and edited is;

> *"7 c. Review and amend, as required to make consistent with this agreement, the Hantsport Fire Department's by-laws and regulations."*

GA recommends in the Kings County registration, one of two options; a) delete cause 7.c. or b) reword the clause to reflect the following;

"The municipality and the Hantsport fire station will endeavour to amend its operating procedures and guidelines to meet the objectives of the Regional Municipality of Windsor -West Hants and Municipality of the County of Kings Fire service agreement"

Whereas the Hantsport fire department is now a municipal department of the Municipality of West Hants and no longer a society, one must ask what the probative value is of this clause.

Also in the agreement, there is a definitions section that defines "Fire District"

> *"f. "Fire District" means the area which the Fire and Emergency Services will be provided, consistent with the Hantsport Fire Department Registrations with Kings and West Hants pursuant to Section 294 (4) of the Act;"*

There is an area within Kings County (Duck Pond Road/Black River Lake) that originally was serviced by the Greenwich Volunteer Fire Department. However, this area is not accessible by road from Kings County, so the Duck Pond Road area which consists of dirt, likely seasonal, roads and cottage like development is currently the responsibility of the Hantsport fire department.

In reviewing the Hantsport Fire Department Fire Services Registration with the County of Kings, the Duck Pond Road/Black River Lake area is not referenced in their Registration, however, Kings County does show this area as Hantsport fire department protected on their county road map.

GA recommends that Duck Pond Road area of Kings County, as indicated on the map noted as Schedule 'A' of the Kings County agreement, be serviced by Southwest Hants. The Southwest Hants fire station is the closest station and the Duck Pond Road will fall within their recommended fire response district.

Glooscap First Nations

Glooscap First Nations provides an annual fee for fire service delivery in the amount of $7,065 (2019). This service fee has only increased by $1.00 over the past four years. Unfortunately, no fire service agreement was provided for review. Whereas it is apparent that there is a contractual arrangement, probably unwritten.

GA recommends that the arrangement with Glooscap FN be formalized through a service agreement between the two entities to establish the fire service programs and service levels that will be provided by W/WH.

The Municipality of East Hants Contracted Fire Services

To provide coverage for the extreme boundary areas of the municipality, West Hants receives fire services in its north-westerly boundary area from Walton Shores (volunteer) Fire Department and in the east from the Uniacke and District Volunteer Fire Department. There are currently no fire service agreements in place for either coverage area. The provision for the contract services are solely reliant on the required annual fire department registrations as outlined in Chapter X section 294 of the MGA.

GA recommends that a formal service agreement be established with the Walton Shore Volunteer Fire Department that specifies the services and service levels and other expectations that the Regional municipality has. As noted in the section on ***Fire District Revisions*** starting on

page **191**, the continued receipt of services from Uniacke and District Volunteer Fire Department is not recommended.

Municipality of East Hants and the Brooklyn Volunteer Fire Dept.

The Brooklyn Fire Department Society is a registered body with the Municipality of East Hants for the provisions of Fire and Emergency Services to the South Rawdon area of the Municipality of East Hants. There is no additional Fire Service agreement between the two parties. The service is provided solely based upon the fact that Brooklyn is a party to the Mutual-aid agreement between the Municipality of East Hants and the East Hants Fire Services Association. The last fully executed mutual-aid agreement that was provided for inclusion in this Review was dated 2012.

The Brooklyn Fire Department receives funding for those services from the Municipality of East Hants for the designated response area of East Hants, based upon an area assessment and area fire rate. For the three years between 2017 and 2019 East Hants paid $143,768 for these services.

Beneficial Ownership Agreement

The Municipality of West Hants signed with the Summerville and District Volunteer Fire Department a Beneficial Ownership Agreement dated April 30, 2019 outlining apparatus ownership in the event Summerville and District volunteer fire department ceases to provide fire and/or other emergency services, or on the sale of assets that the municipality has contributed funds for.

MUTUAL-AID AGREEMENTS

The Municipal Government Act §302 provides the municipality the authority to enter into Mutual-aid Agreements.

Mutual-aid agreements are important because they set out the expectations of each party to the agreement, and also provides some liability protection. See **The Municipal Government Act** section starting on page **328** in **Appendix IV**.

These expectations should include the type and standard of service that will be exchanged, or any limitations thereto. The agreement should set out who has the authority to request or to provide the aid. It should set out any cost recovery expectations. It should set out any conditions under which the aid may be reasonably refused. It may also set out certain rules related to chain of command and responsibility at the incident, personnel safety, and other stipulations similar to operating guidelines, and so forth.

Although the MGA is not explicit in requiring a mutual-aid agreement, the gist of this section of the MGA is the protections that come with a mutual-aid agreement. Specifically the protections from liability.

Municipality of West Hants.

The current Mutual-aid Agreement in effect with the Municipality of West Hants includes the following West Hants departments; Summerville, Brooklyn and its substation station located in Garlands Crossing, Hantsport and its substation located in Vaughan. In addition, the two East Hants departments that provide service to the municipality of West Hants, Walton Shores and Mount Uniacke and District volunteer fire department are signatories to the agreement and the Town of Windsor fire department signed onto the mutual-aid agreement, February 28, 2019.

The mutual-aid agreement is a standard mutual-aid agreement used throughout the Annapolis valley.

One section of the West Hants mutual-aid agreement, or any mutual-aid agreement the municipality is a signatory to, that should be reviewed is exemplified by §6 *"Mutual Assistance Reciprocal"* of the agreement. Which is dated 28 February 2019. This clause states

> *"All Fire Departments hereto agree that mutual assistance at emergency scene is reciprocal and that no demand will be made by any Fire Department for monetary reward".*

This clause is fairly clear that a mutual-aid department cannot levy against the department receiving the aid any charges that would be interpreted as monetary reward.

What is missing in this agreement is a reciprocal clause that affords a participating Fire Department the ability to charge for reasonable consumables. It is not uncommon for mutual-aid agreements to have a clause that reimbursing assisting fire departments for fuel consumed at scene, any consumables (e.g. firefighting foam used), and if required sustenance and accommodation for fire personnel at scene.

GA recommends that a consumables cost recovery clause be developed and considered for inclusion in any mutual-aid agreement.

Impact of Consolidation on current West Hants Mutual-Aid agreement.

If Council selects the integrated municipal fire department (i.e. Model 2), there will not be a requirement for mutual-aid or auto-aid agreements between the six regional fire stations or with the municipality. The reason for this is that the fire services under that model will operate as a single fire department within the region.

GA recommends that any model the Council chooses that maintains the existence of individual incorporated fire departments (i.e. Status Quo model-1 or Hybrid model-3) should have a multi-lateral mutual-aid agreement in place between the municipality and each fire department, as well as with all other municipalities that the fire department might provide assistance to if they are to enjoy all the protections provided under §302 of the MGA. This would likely include Kings County, The Municipal District of East Hants, the District of Chester (Lunenburg County), and Halifax Regional Municipality.

GA recommends that the East Hants fire departments of Walton Shores and Uniacke should execute a Mutual-aid Agreement with the Regional Municipality. By virtue of being a Regional Municipality and employing a Regional fire service model if so chosen, the municipality will be signing mutual-aid agreements with other parties on behalf of all of the Regional fire stations.

East Hants Fire Services Association and Brooklyn Volunteer Fire Department

The Brooklyn Volunteer Fire department is party to the Mutual-aid Agreement between the Municipality of East Hants and the East Hants Fire Services Association. There were several Agreements provided. However, none of the agreements provided had complete sign off by all parties named in the agreement other than the 2012 agreement.

Hantsport and Kings County

The Hantsport Fire Department is a signatory to the Municipality of the County of Kings mutual-aid agreement. The agreement is a standard mutual-aid agreement and basically mirrors other agreements mentioned in this report.

GA recommends that the Kings County mutual-aid agreement should be reviewed and updated with any required amendments since the last update for this agreement is from 2001, and include execution by W/WH.

Southwest and Lunenburg County

GA recommends that the new Regional municipality enter into a mutual-aid agreement with the Municipality of the District of Chester (MDC) in Lunenburg County and the New Ross and Chester Volunteer Fire Departments. MDC shares a border with the Region and with the fire districts of the New Ross Fire Department and the Chester Fire Department.

Mutual-aid Summary

GA recommends that all mutual-aid agreements be signed by the municipalities involved, not only by the individual fire departments. The mutual-aid agreements currently in force are standard across the region. The main difference is who are the signatories to the agreements.

Whereas the municipality has ownership of the majority of the capital investment of the regional fire services then the municipality has significant responsibility in providing mutual-aid services. Whereas there will be a new regional municipality commencing April 2020 all the mutual-aid agreements will require amending to reflect the new regional municipality.

FIRE DEPARTMENT OPERATING POLICES AND PROCEDURES

The Review requested a review of policies and guidelines of the municipalities and the various fire departments to identify any gaps in relation to legislative requirements, and inconsistencies between the fire departments.

As a result of a lack of information provided by some departments, a complete and thorough review of policies and operating guidelines including all departments was not possible.

However, the review that was conducted, and did reveal non standardized practices in the selection of volunteers, promotion processes, rank structure and qualifications, membership classifications and policies in dealing with honorariums across the region.

The limited review on operational procedures and policies is augmented by comments made by stakeholders during the many stakeholder meetings. Comments made during those sessions strongly confirm our understanding of inconsistencies in some operating procedures and guidelines amongst the various fire departments. Review of promotional procedures and recruitment practices as well as areas of operations and human resource management are varied across the region's fire stations.

GA recommends that regardless of the organizational model chosen by council, that a review and standardization of all policies, procedures, and guidelines of all types, that apply to the fire departments is undertaken quickly. The goal should be to produce consistency and fairness, and to meet the best practices of a collaborative fire and emergency service delivery program for the Region.

West Hants Policy COGE-007.00

The above refenced policy was approved by Municipal Council October 09, 2018. The policy (COGE007) is a well thought out document and attempts consistency in service delivery across the region by the individual service providers.

There are a couple of areas that require review and amending, one in particular, may pose a risk to not only the department providing the service but the municipality itself.

Schedule 4 of COGE007, addresses the duties and responsibilities of the "*Custodial Fire Support Position*" under role expectations. Sentence 4 states;

> *"Respond to emergency calls by being qualified to drive and operate equipment and apparatus and acting as Incident Commander at emergency sites until a senior officer relieves them of duty."*

Sentence 6 states;

> *"Willing to work with all members of the Fire Department including training with and providing assistance to training staff."*

Individual fire departments have policies that determine qualifications for individuals, particularly officers, in order for them to be able to perform in an incident command role. The reasons for requiring such qualifications are sound and necessary. The role of the incident commander carries much responsibility and liability.

Policy COGE007 provides for an individual who does not even have to be a firefighter to perform in an Incident Command role. Further, there is no mandatory requirement for the individual in this position to participate in firefighter training. The policy suggests they "*be willing to train with*" but there are no stipulated requirements on what subjects or skills to be trained in. This equates to having a passerby run the emergency scene until such time a senior officer arrives on scene.

In the policy, there is no definition for "*Senior Officer*." The senior officer term in many organizations refers to only those that have the word "chief" in their rank title, others define it as an officer position higher than an individual's current rank within the organization. However, it must be assumed that the term in this clause refers to anyone who is a firefighter.

It is understood that in one station the custodian is a volunteer Deputy Chief of that station, so at that location the issue does not exist. However, in another station, the custodian is not even a firefighter, yet under this policy they could be the Incident Commander.

GA recommends that policy COGE007 be amended to more appropriately place responsibilities on station custodial staff. Sentence 4 of the policy has the potential to place a number of people and organizations at risk, not to mention the responders themselves.

Fire Related Bylaws

A review of the following Municipal Fire related bylaws was conducted.

Town of Windsor:

Bylaw 18, March 05, 1997, Prevention of Fire Bylaw (This is basically a bylaw requiring a permit to burn)

Bylaw 39, December 03, 2010, Outdoor Fires Bylaw.

GA's recommendation of these by-laws are in the next sub-section.

Municipality of West Hants:

False Alarm Bylaw, March 16, 2011, (This Bylaw permits fining property owners who experience multiple false alarms).

Fire Protection Bylaw, September 22, 2004. (This Bylaw is basically an out of doors burning bylaw).

GA recommends that the Windsor and West Hants false alarm, fire protection, burn permit and outdoor fires by-laws be reviewed and harmonized. The Bylaws relating to out of doors burning may need to address differing needs by area due to the rural nature of the Municipality of West Hants vs the very urban nature of Windsor.

West Hants' False Alarm Bylaw is an admirable bylaw in an effort to reduce unnecessary fire responses, especially to those occupancies who have ongoing issues with their fire alarm systems or occupancies whose operating conditions or maintenance lapses manifest into accidental alarms and owners fail to take appropriate measures to address issues causing the unnecessary

alarms and unneeded fire department responses. GA understands that the bylaw has not been enforced.

Unless the Bylaw is enforced there are two scenarios that could lead to negative consequences and possible civil action against the municipality. The first challenge to those occupancies in which fire alarms are not uncommon, responders become complacent and do not respond as per standing operating procedures, and the noncompliant typical standard response causes either a delay in response or a lack of resources responding and upon arrival there is a working structure fire. This could possibly result in a litigation against the fire department and the municipality.

The second scenario is where occupants fail to evacuate the building as they should when the alarm sounds, since they have become acclimatized to alarms sounding as an annoying but otherwise nonconsequential event. In a real fire scenario these residents could be in jeopardy for their lives and the expectations on the fire department will be to rescue them, which may not be feasible and/or could result in injury and death to firefighter and residents.

GA recommends that if the false fire-alarm by-law is not enforced, that the by-law should be repealed.

HUMAN RESOURCES

RECRUITMENT AND RETENTION

Traditional volunteer firefighter recruit sources have changed. The old model of neighbors helping neighbors is all but gone in most places, as many people don't have strong ties to or even know their neighbors anymore. We have always relied on multigenerational families passing down the tradition of joining the local fire department, but that is also becoming a thing of the past. As with many other industries, as the baby boomers retire en masse on the back end, they need to be replaced with young people on the front end.

In sheer number, there aren't enough millennials and iGens to replace the baby boomers, and worse for us, those two younger generations aren't trending toward the fire service. With many young people needing two jobs to survive, plus other obligations, the free time necessary to be part of the emergency sector is a luxury few can afford. In addition, the number of non-profit organizations recruiting the same volunteers is at an all-time high, and frankly, our fire service, as it exists with its current culture, is not an attractive option for younger generations who value flexibility, creativity, and inclusivity.

The ability to attract/recruit and retain volunteer firefighters is in part a demographic challenge. Prospective volunteers must be fit enough and available. Generally, fit means a healthy adult who is not too young nor too old. The aging population means there are fewer younger persons in the community, and current volunteers eventually get too old to withstand the rigours of being a firefighter.

A secondary demographic problem is local employment. Volunteer firefighters with jobs that are distant from their fire station are less likely to remain volunteer firefighters. They are not able to effectively respond to incidents while at work; and they spend more time commuting and therefore have less time available for volunteer firefighting. A volunteer firefighter should expect to contribute between 100 and 300 hours per year in scheduled activities; training, equipment maintenance, fund-raising, meetings, and in going to incidents.

Management of fire departments need to be skilled, understand, and have effective strategies for dealing with the challenges.

Recruitment

There is an inextricable link between recruitment and retention. Often non-profit volunteer managers have a tendency to focus their time and attention on recruitment only to be stuck in a holding pattern of perpetual recruitment in part due to increasing competition among non-profits and everyday life. High turnover rates within a volunteer organization, creates an urgent and ongoing need for new bodies to fill the positions. The time, effort and costs for recruitment can severely impact negatively on service delivery, especially for the volunteer fire service and burnout for those involved with the recruitment process.

Volunteer energy is a natural resource which is a "human-made, renewable/recyclable resource that can be grown." In their conceptualization, if organizations use the volunteer energy responsibly and positively then it will be sustainable but if it is used inappropriately then the volunteer energy risks exhaustion and depletion. When an organization exploits this resource through overuse or neglect there is a high risk of drop-out or burn-out, which not only leads to being in perpetual recruitment mode but also contributes to the depletion of the total pool of volunteer energy.

When people think of volunteer work, they tend to evaluate it in terms of sacrifice and reward. The sacrifice part is easier to understand. Volunteers are using their time, energy and, at times, knowledge for the benefit of the organization and for the most part with little or no monetary compensation.

Understanding why a particular volunteer has chosen to serve can help the volunteer manager use appropriate rewards to encourage the volunteer which will raise their satisfaction level and lead to higher rates of retention.

The sacrifice and rewards involved in a particular volunteer relationship are part of a larger concept central to volunteer management, the contract. The contract is an individual's beliefs regarding the terms and conditions of a reciprocal exchange agreement between the volunteer and the organization. When a volunteer signs on to work with an organization they bring their own individual perspective on what promises, conditions and agreements have been made. Each

party has their own idea and expectation of their reciprocal obligations based on their own intention, interpretation and perception of implicit and explicit messages.

In the context of volunteer relationships, when there are perceived breaches in the contract (which can occur at any stage in the relationship) there can be consequences such as dissatisfaction, lowered level of participation in the organization, or actual withdrawal from the organization. Fulfillment of the contract can occur through organizational efforts to express recognition of the volunteer and show that they value the relationship and care about the well-being of the volunteer.

In one study conducted by Farmer and Fedor (1999),[6] Volunteers who reported their expectations were met, and they perceived organizational support and care was there; they were shown to have increased attendance and intentions to remain. This study found that organizations were perceived to be better at meeting expectations of ongoing support than they are at matching expectations that volunteers had upon entry. However, the study also showed that when volunteers sense the organization cares about their general *well-being,* they are more willing to overlook particular unmet expectations.

How to achieve and meet expectations/needs of both the volunteer and the organization is a time-consuming challenge to any organization. Volunteers bring their own expectations to the organization based upon perceived knowledge, information passed on by current volunteers, who may over sell the position or organization, and in today's world, on social media.

Retention all Starts with Recruitment!

Recruitment should start with a needs assessment of the organization. Each community's demographics are different, especially in rural and smaller urban communities where the population is aging, local manufacturing is closing, and the younger citizens are moving to more urban settings. There is often competition amongst volunteer organizations.

[6] Farmer, S. M., & Fedor, D. B. (1999). Volunteer Participation and Withdrawal: A Psychological Contract Perspective on the Role of Expectations and Organizational Support. Non-profit Management & Leadership, 9 (4), 349-367.

A review of the fire service needs may reveal that there are positions that do not require young, physically fit, gung-ho individuals. Positions such as in public fire-safety education, administration, radio operators, traffic control persons, occupational health and safety opportunities, truck drivers. There may be seniors or retired firefighters who are looking to keep active and are willing to provide some time, a skill set, and experience that can fill a void within the organization.

In today's volunteer services there are two groups of functions that are needed in the delivery of fire and emergency services, line and staff. Line is the most labour intensive and on the front-line of the service delivery. Staff positions are the folks that support the front-line responders.

Traditionally, the majority of volunteer fire services required any and all members of their respective departments to be firefighters. They were then trained in all services offered by the department. This has caused some issues, as not all members wanted to respond to, for examples: medicals incidents, or high angle rope rescue, or possibly water rescue, and etc. Some volunteer firefighters just wanted to fight fires.

The challenges facing the recruitment of volunteers firefighters today requires a change in recruitment practices and a reconsideration of the past the standard requirement of being a firefighter first.

This begs the question, *"Do all volunteer fire department members have to be fire trained"?* The answer is no.

Volunteer fire departments do need the majority of their membership to be fire trained so as to be able to deliver the department's core services; i.e. responding to and rescuing people from danger and extinguishing fires.

Positions for Non-Firefighter Members

What types of functions/positions are required at the scene of a structure fire that are required to be firefighter qualified?

- Firefighters
- Fire Officers

- Fire Incident Safety officer
- Accountability Officer

What are some of the functions/positions that are required at the scene of a structure fire that ***do not*** require being a trained firefighter?

- Apparatus driver/operator
- Air/SCBA support person
- Command Post - radio communicator/scribe
- Firefighter rehabilitation support personnel
- EMS
- Traffic Safety Control
- Logistics

What are some of the other types of emergency services do some fire departments provide that ***do no***t require volunteer members to be firefighter trained?

- Water rescue, (Boat enthusiasts, SCUBA Drivers)
- Ice Rescue
- High angle rescue service
- Medical First Responders (MFR)

Additional non-emergency Staff functions in which volunteers do not need to be firefighter trained but could be most beneficial to the fire department.

- Administration, Mgt of Records (data) and reports, budget, inter-government relations)
- Fire Prevention (fire-inspection)
- Fire Prevention (fire-safety educator)
- Fire Prevention (fire-investigator)
- Maintenance of equipment
- Communications
- Research & Planning
- Community Relations/Public Information
- Financial Management
- Personnel Management

Regardless of the function/role of the volunteer, all volunteers will require specific subject/service training, skills, maintenance of skills, and fire department orientation.

The use of non-trained firefighters in non-active firefighter roles will lessen the burden on the firefighting volunteers and help prevent early burnout and the potential of member loss to the organization.

Review Needs

GA recommends that the new fire department administration conduct a human resource needs assessment of the fire service in the Region. The recommendations on active front-line firefighter numbers is contained in **Recommended Front-Line Staffing and** Equipment starting on page **210** of this report, but there are numerous support (staff) positions not identified there.

GA recommends a review of the current recruitment and selection process, including currency with best practices, modifications required to meet the real needs of the organization, compliance with current Human Rights requirements, and alignment with corporate human resource policies.

GA recommends a review of fire department job descriptions, ensuring there is a job description for every position, volunteer or otherwise. Job descriptions should be complete with expectations and rewards. They outline necessary qualifications, time commitments (frequency and length), responsibilities and activities involved, the organization's accountability structure, and the performance evaluation methods.

It is important to match volunteer interests and talents with organizational needs, not only for recruitment purposes but also for long term retention.

Caution in selecting volunteer applicants.

It may be tempting for the fire service to accept any help that is offered; after all the fire service is resource dependent and volunteers could be viewed as free labour. Though seemingly correct, this logic is based on false assumptions and understandings. A volunteer firefighter is not the equivalent of free labour. If the recruitment and retention of volunteer firefighters is to be

effective it will require some expenditure in the areas of orientation, training, promotion, and materials.

At the front end the fire service must pour a lot into the volunteer firefighter candidate in order to bring them to a point where they will be capable and effective. Cost-effectiveness is achieved when a volunteer can exemplify the established level and quality of services offered to the public. When this occurs then the volunteer firefighter acts as an expansion of resources, i.e. is no longer a burden. In order to get to that point, the fire service must first devote time, energy and resources in growing the volunteer firefighter.

Therefore, it will serve the organization well to be selective in choosing volunteers who have the skills and abilities necessary to fulfill the role requirements. The organization must conduct proper vetting in advance in order to uncover any conflicts or contradictions. Valuable resources will be wasted unnecessarily if the organization indiscriminately signs on volunteers and pours resources into them only to find out later that the volunteers are unable or unwilling to fulfill their role. This is a real danger because people experience a euphoric feeling about signing on to do good but at this juncture that feeling is based on a romantic idealism of how things will be and coupled with both a low commitment and sense of loyalty to the service.

In a volunteer service, volunteer firefighters are required in each of its fire districts/communities. Some districts are in need of volunteers more than others. Some of the reasons are demographics. There is a current practice of volunteers living in one fire district and yet belonging to a different fire district, thus depleting a potential resource to the district in which they reside. Anecdotally, there are reports of some volunteers that respond from their home in one district, through other fire districts, so as to attend an incident in the fire station district that they have chosen (and been accepted) to be a member of.

GA recommends that membership in a fire department be restricted to those volunteer firefighters who actual reside in the fire district. Moving forward, the current practice of selectively choosing the fire department you prefer should no longer be permitted. As this practice robs the community of which a volunteer resides of a valuable resource. It also increases

the risk of an accident as the volunteer rushes longer than necessary distances to attend the fire station when the pager goes off.

With a properly constructed recruitment policy in place and followed, the end result will be a contract between the volunteer and the fire service that meets the needs of both.

Recruitment Process.

GA recommends that volunteer firefighter recruitment be a region-wide program for the regional fire service and that successful applicants be assigned to a regional station, based upon the closest station (i.e. fire district) to their residence.

GA recommends that the recruitment process commence with a properly designed marketing program throughout the region. This coordinated approach to recruiting will help to ensure standards are met and will ease the burden on individual stations. Turnover in volunteer fire departments is typically as much as 20% annually, but GA does not have the actual figures for WWH. It is likely that there is a need for an annual recruitment process, managed regionally with direct input and assistance from each of the stations.

See Appendix V, **; Model; Volunteer Recruitment and Selection** Process starting on page **346** of this report.

Retention

Retention is a difficult management task, with challenges requiring a continuous effort on behalf of management. Officers and managers in each station must have the requisite human resource and soft skills, leadership training, and acumen (emotional intelligence) to be able to manage and address the complex nature of not only the current volunteers but newer younger volunteers who reside and live within a world environment that may be foreign to the individual officers and the organization as a whole. Station leadership is crucial in managing retention.

Retention is the maintenance phase of the volunteer/organization relationship. This phase focuses on communication, individualized feedback, and the need to provide recognition and appreciation for volunteer efforts. A simple coffee card or a department t-shirt for performance

little above and beyond expectations can go a long way. As the old saying goes, “little hinges swing big doors”.

People often volunteer for differing reasons. Some believe that they possess certain skills and traits that the organization can take value from. For others it’s the desire to help others, and for others it is simply a desire to have an affiliation with a social entity.

Volunteers often tend to stay because of the rewards experienced such as opportunities for socializing and enjoyment of the tasks with which they are assigned. In other words, for personal reasons.

If the station’s District Fire Chief or other officer recognizes a volunteer’s lack of engagement there are a couple of paths to assist in the retention of the volunteer who is a valuable asset to the organization. It is vital that the reasons for the loss of engagement is diagnosed, if it is possibly medical or related to family or work stresses, then the appropriate course of action is to seek appropriate care.

Sometimes it is necessary to, if possible, redefine their role or provide opportunities that meet their motivational change and still meet the needs of the organization. Sometimes it’s to permit a restorative break, (leave of absence), so that the volunteer can deal with his/her issues.

It is important during the restorative break; the manager should stay in contact and check-in on them during their away time. This will allow for easier re-entry and will send the message that the organization cares about the volunteer as a person and not just because of what they do for the organization. This is an important distinction in being able to protect volunteer energy and keep it as a renewable, sustainable resource. This should be done even if there is no guarantee that the volunteer will return.

The Critical Role of the volunteer Fire Chief

Potential volunteers have many choices as to where to spend their time. Time is valuable and limited, and how fire chief uses a volunteer’s time in the fire department is key to retaining active volunteers.

Capable volunteer fire chiefs know how to focus volunteer firefighters' time and energy on activities that have the greatest impact on the department's mission, its service to the community, and the life safety of its members and citizens. Much of this comes down to understanding the volunteer chiefs' role and how they can use their skills to support their members.

The Volunteer Fire Chief's Responsibilities

Today's volunteer fire chief has one foot in the organization and one foot in the community. Chiefs must work to expand the quality and quantity of services to the citizens by integrating the community with fire department staff. Chiefs initiate projects and ideas with the support of volunteers, but must realize their ideas are likely to succeed only when the volunteers actually buy in. Volunteer chiefs have several additional responsibilities:

- Clarify volunteer-related issues in order to reduce confusion and resolve conflict.
- Document the various ways the volunteers impact the quality of life in their community, telling their stories when necessary.
- Think about new ways to do the things that the fire service does and why they do what they do.
- Coach volunteers by providing training, guiding and counseling.

A volunteer fire chief's general role and responsibilities have more to do with people skills than with emergency response roles. The chief must serve as a leader, manager, coordinator, enabler, change agent, capacity-builder, role model, human resource manager, facilitator, volunteer advocate, visionary and planner. A District Fire Chief who is an excellent emergency leader may be a poor choice as a personnel manager. Personnel management is the key role that will make or break the retention of volunteer firefighters.

Increasingly, advanced skills will be required of fire chiefs, whether paid or not. Chiefs should create a professional development plan and make the time to develop their own leadership and management skills.

GA recommends that the Regional Municipality invest in developing the leadership and management skills in the officers of all fire departments in the Region, as appropriate to their respective roles.

Valuing Volunteers

The most significant asset in any volunteer fire department organization, is the volunteers themselves. Stations, equipment and apparatus are indeed valuable, but really serve no purpose without competent staff to operate them.

Fire chiefs who manage volunteers must ensure that a motivational climate within the fire department creates a friendly and healthy environment. General praise is critical to team success. Chiefs must realize that they are a cheerleader for the department and the volunteers by maintaining their own enthusiasm for the efforts of volunteers.

Further, chiefs should look for additional talent and skills that volunteer members bring to the department that can help build a successful organization, as well as deliver quality services that meet expectations.

Contributing, satisfied, and well-managed volunteer firefighters will remain active longer. A successful fire chief will allow more people to be engaged in managing the organization. Volunteers will want to make contributions if leadership will allow it. A good organization has leaders at all levels in the organization.

Reasons most often heard why volunteers quit: It's not fun, I'm not appreciated, it's a waste of time, there were unrealistic expectations, there was too much organizational drama, people were resistant to my ideas, and I do not feel important. These are more than likely the symptoms of a larger problem within the department related to a lack of leadership.

Everyone has value. There are different levels of value based upon personality, attitude and activity level. Effective leaders make volunteers feel that they are high-priority, valued members, and show respect for their individuality.

Never take volunteers for granted. Managing volunteers is a REAL job. It is not about being compensated; it is about the personal determination to accept the duties and responsibilities – and do the job. Compensation (or lack of) is not an excuse for success or failure.

Volunteer retention studies and information received from GA's station tours and meetings with the regional volunteers highlight a number of key expectations of the volunteer. All stated financial gain was not the reason for becoming a volunteer. However, in a regional setting they all expect the region to provide the following.

- Their wellbeing looked after
- Inclusiveness
- Open two-way communications, they too have things to contribute
- Fair and equitable treatment across the Region
- Recognize and value the volunteer's knowledge, skills and time

Points to Consider in volunteer valuation

- Most firefighters said a simple "thank you" from superiors would motivate them.
- Celebrate department successes.
- Recognition can be as small as a social media post.
- Officers need improved people skills.
- Research and implement recognition and benefit practices that are personalized to your department and are scalable.
- Evaluate the effectiveness of the practices you implement.
- Include your members' families in recognitions.
- Focus on both tangible and intangible benefits.
- Recognize administrative members for their contributions, not just firefighters.
- Make sure recognition not only comes from the top but also from peers.

Recruiting and Retention Summary

The objectives of volunteer recruitment and retention are inextricably linked. A volunteer manager must consider the reciprocal impact of the one on the other in order to successfully build and maintain a volunteer work force. Volunteers have a complex and an innumerable assortment of motivations and expectations that can cause difficulties in facilitating long term commitments. The most important activity a volunteer manager can attend to in attempting to retain volunteers is building relationships. The relationships built should be between the

volunteer and the volunteer manager as well as between the volunteer and the volunteer community. An individual who feels genuinely cared for and has a strong sense of belonging is willing to overlook other unmet expectations and will demonstrate higher levels of commitment and loyalty.

Current Retention Program

Currently, across the Region there are differences amongst the various stations as to how they recruit, and provide for the wellbeing and recognition of their volunteers. In some cases we were told, areas of difference were dependent upon the financial resources of the individual station. Volunteers compare, and are aware of differences, which was expressed as dissatisfaction. In one case another station was disparaged for spending money on annual banquets, and a few minutes later it was asked why they themselves don't have the funds to do it. The risk here is that unequal treatment can lead to the perception that some are less appreciated by the organization.

Currently there are some stations covered by worker's compensation benefits (WCB), while others are not. Those stations that are not covered by WCB pay for accident and sickness insurance coverage for their personnel. WCB can cover the volunteer firefighter when their fire department responds to an emergency incident either within their community or on mutual-aid as a result of a request by another department.

Mutual aid causes issues when one department has WCB coverage and another does not. It is possible to have covered and non-covered volunteer firefighters working side by side; one firefighter with protection and one without. The practice of firefighters belonging to more than one station, so called "mutual-aid firefighters," gets complicated when one of the stations they belong to has coverage and the other does not.

However, in mid-October, 2019, the Nova Scotia Provincial Government announced changes were forthcoming to legislation that will require all municipalities in the province to register their volunteer firefighters with WCB and pay for the coverage. This will eliminate the issue previously reported. However, the regulations are not expected to come in force until late 2020.

GA recommends that the Regional municipality register their volunteer firefighters with WCB before the eventual requirement for such registration occurs. Such registration will address the issues of concern mentioned above sooner.

All of the fire departments currently subscribe to some level of coverage by VFIS[7] insurance, with the lowest coverage of $50,000 and the highest at $250,000 principal amount. The Windsor and Hantsport/South West firefighters are currently covered under WCB and have access to EAP. All others do not.

With municipal WCB coverage, the volunteers are covered by the provincial Presumptive Cancer regulations[8]. However, those stations that do not have WCB coverage do not have access to the benefits of this coverage.

Individual departments provide their membership with an annual Banquets and awards program. Some are individual station and some are combined station banquets.

Typically, volunteers are issued some form of a uniform at no cost and are exempt from paying provincial vehicle registration for their personal vehicle.

Each station provides for annual Honorariums. Again, there is no uniformity across the region. This particular issue causes organizational stressors. Some stations issues T4s as required by federal CRA rules with others pay honorariums by cash and do not issue the required T4s. This last method of payment does not provide for transparency, is in violation of CRA rules and prevents the volunteer from accessing tax credits both federally and provincially. During GA's stakeholder interviews it was discovered that many of the volunteer firefighters were not well informed on CRA exemptions and reporting limits and deductions.

Retention Program Recommendations

As with any organization, it is often a challenge to develop a program that will meet the need and desires of all participants. However, if there is a standard program paid for by the municipality

[7] See **Appendix VI**, starting on page **351** for details of all recommended VFIS coverage plans.

[8] Firefighters' Compensation Regulations, N.S. Reg. 140/2003

and is seen as being fair and equitable across the region it will go a long way to minimize any negativity and will enhance the relationship between the various stations across the region.

GA recommends the following recruitment and retention initiatives be implemented as part of a Region-wide program aimed at volunteer firefighter retention and in recognition of the special needs of volunteer firefighters;

- The Regional Municipality Fire Service develop a volunteer retention policy and program, that includes providing managers and officers with the appropriate skills to lead and manage the volunteer firefighters. There are resources[9] available to assist with developing such a program.
- The Regional Municipality provide the following wellbeing coverages for all fire department members;
    - WCB coverage at the maximum coverage rate
    - VFIS[10] programs; on-duty Accident and Sickness (AD&D) at $200,000 principal amount and $300/$700 weekly payment; off-duty AD&D coverage for the member and family as a co-pay program; Member and Family Assistance Program (MFAP),
    - Group life insurance coverage at the principal amount of $100,000
    - Liability insurance for errors and omissions associated with on-duty activities
- The Regional Municipality provide for an annual awards banquets
- The Regional Municipality manage and administer a Regional Fire Service Honorarium program
- All Honourariums be issued by Municipal cheques addressed to each recipient
- All Honourarium recipients be issued CRA T4s as required by legislation and CRA policy.

Recruitment and Retention Conclusion

Recruitment and retention are a business the fire service needs to corner the market on volunteer availability. The business needs to promote programs that will invigorate and inspire community minded citizens to not only become a part of, but feel needed and appreciated. Programs of recognition and programs that enhance individual self-satisfaction are important to assist in the retention of volunteers. Recruitment and retention are continuous year-long endeavors.

[9] Consider; Recruitment and Retention Guide released in 2009, by the Office of the Fire Marshal and the Fire Service Association of Nova Scotia; Recruitment and Retention Toolkit by the Office of the Fire Marshal, NWT, 2014.

[10] Reference details of these program coverages at **Appendix VI** starting on page **351** of this report.

HONOURARIUM

Intent of the Volunteer Honoraria

The client's request for proposal required the consultant to review the current honourarium program in place across the Region. This required; reviewing Canada Revenue Agency's regulations pertaining to Volunteer Renumeration/Honourarium, Provincial Regulations as to the definition of a volunteer firefighter and the many Society related bylaws and departmental programs and procedures as well as other jurisdictions that offer renumeration programs for their volunteers.

One of the issues in reviewing the current situation was the availability of information as to what actually was paid out in previous years. One department did actually provide this information. The combined municipal budget estimate in fiscal year 2019/20 for pay-out to the fire departments for honourariums was $200,100.

A high-level review of the available information for the current situation reveals the following (not all inclusive):

- The rules governing the payments of the departments honourarium are contained within their operational procedures or guidelines.
- Lack of standardization across the region either in funding the program, the eligibility requirements to receive an Honourarium, and who actually qualifies to receive renumeration.
- The review indicated that one department is paying Honourarium bonuses for certain department positions with a rate difference of 56% when compared to another department.
- Over the course of the review, it was learned that one department would pay a bonus based upon the type of fire department vehicle one drives. This included any vehicle from a half ton truck to an aerial apparatus, while others do not.
- Some departments provide non-firefighting volunteers that assist with fund raising for the department an honourarium, although these are minimal amounts.
- Base honourarium rates for a department Fire Chief range from $900 per annum to $5,000 per annum.
- One department pays in cash, with no T4s issued.

Honourarium Expectations

Honorarium is a component of the volunteer firefighters' satisfaction. When speaking with volunteers at the several meetings during this Review, many volunteer firefighters spoke to the fact that "*it is not the money why they volunteer.*" However, they are very aware of the differing honourarium programs between the fire departments across the region. This is a stressor relating to the topic; the volunteers expect the honourarium will recognize value and be fair and equitable region-wide. One of the reported issues is that each station has a different ability to fund the honoraria. Seeing as the majority[11] of honourarium comes from the municipal budget, equity and fairness should be achievable.

Honourarium Definition and Intent.

What actually is the definition of Honourarium? An honourarium is a voluntary payment that is given to a person for services for which fees are not legally or traditionally required. Honoraria are under CRA and provincial rules, and are intended to assist in covering expenses incurred by the individual volunteers during their volunteer activity. Some often refer to it as renumeration.

Renumeration is defined as compensation for work done and includes honourarium, wages, salary and other payments. In other words, not much difference between the term renumeration and honourarium.

The initial intent and objective of honoraria in the volunteer fire service for the volunteer was to cover out of pocket expenses for those individuals who actively participate in an emergency role; i.e. firefighting, rescue, medical, environmental, or in an incident support role. However, over the years it has become a tool to assist with recruitment and retention as well as recognition for the volunteer's time and dedication to the community and is expected as renumeration for individuals volunteering their time.

[11] West Hants policy COGE-007.00 states the following in this regard: "The Municipality shall establish and fund annual honorarium budgets for each Registered Service Provider. The method of distribution of a Registered Service Provider's annual honorarium allotment shall be established by the Registered Service Provider, who may, based on funds from sources other than the Municipality being available to fund it, award an honorarium greater than the total value of the amount awarded by Council.

The *Volunteer Fire and Ground Search and Rescue Services Act* of Nova Scotia, §3(d) defines a volunteer fire fighter as;

> ""volunteer firefighter" means an individual performing services for a volunteer fire department who does not receive in respect of those services
>
> (i)compensation, other than reasonable reimbursement or allowance for expenses actually incurred, or
>
> (ii)money or other thing of value in lieu of compensation in excess of five hundred dollars per year or such other amount as prescribed by the regulations."

Honourariums are for compensating volunteers who meet minimum criteria for out of pocket expenses, nothing more, nothing less. GA's review of the various department's procedures and protocols to determine how much an individual will be entitled to receive for any given fiscal year, some of those policies and procedures do not necessarily comply with the intent of or definition of honourarium as defined by provincial and federal regulations.

Examples:

- A fire department has a travel and meal policy in addition an honourarium policy
- Bonus payment based upon size and type of vehicle being operated by a volunteer.
- Active firefighters in one department can earn extra credits (points) depending on how long the incident is in duration and they remain on scene. The points turn into a dollar value.
- Honourarium bonuses for attendance at certain types of department functions other than those outlined in the regulations.
- Honourariums plus position pay based upon rank

Honourarium Complexities

Given the many differences in roles, positions, duties and responsibilities as well as expectations across the many fire stations, creates many challenges. There are a number of factors that need to be considered in defining and developing a fair and equitable Regional Volunteer Fire Service Honourarium Program that complies with the intent of the CRA and Provincial regulations such as:

- Position Role and Responsibilities
- On Call periods

- In House Training
- Out of Municipality Training
- Fire Department Related Communication meetings (i.e. not Society related)
- Public Events
- Fund Raising
- Committee service
- Use of Personal Vehicle for Emergency response and station activities.
- Part time department employees who also serve as volunteers
- Manageability of the program
- Municipal Affordability.
- Provincial rules
- Federal CRA rules

Municipality of West Hants Honourarium Policy

West Hants Fire and Emergency Services Policy COGE-007-00 establishes the funding of an Honourarium Program for Registered providers. The above policy was approved by Municipal Council October 2018.

Section 19, page 14/15 of the policy address Honourariums and states:

> "An honorarium is a voluntary payment that is given to an Active Volunteer for **services** for which fees are not legally required". (Note: Honourariums for volunteer firefighters by definition and regulations **cannot** be paid for services).
>
> a) The Municipality shall establish and fund annual honorarium budgets for each Registered Service Provider. The method of distribution of a Registered Service Provider's annual honorarium allotment shall be established by the Registered Service Provider, who may, based on funds from sources other than the Municipality being available to fund it, award an honorarium greater than the total value of the amount awarded by Council.
> b) Registered Service Providers agree to comply with all applicable income tax requirements in the distribution of the honorarium to individual personnel."

The policy attempts to recognize fire and emergency services responders for their contribution of time and expenses towards protecting the municipality by establishing a fund and requiring the registered providers to comply with Canadian Revenue Agency requirements for the issuing of T4s.

The policy although admirable, has some short comings. The policy has actually established a means for affluent registered providers to provide a higher honourarium payout then other providers across the municipality. The policy does not establish criteria for honourarium payments, permitting variances in volunteer honourarium payment across the municipality for the same level of commitment.

The policy does not provide direction as to the method of payment nor any procedures for tracking and accounting for monies received and paid out by the registered provider.

Issues pertaining to Honourariums were aired during some of the meetings held with the firefighters across the region as a contentious item.

The Municipality's policy requires an amendment as to the purpose of the honourarium as Honourariums by federal and provincial regulations are for expenses incurred not for services.

Nova Scotia Volunteer Firefighter Tax Credit

The Nova Scotia Department of Finance and Treasury Board provides a five-hundred-dollar provincial Tax credit for eligible volunteer firefighters. To be eligible the individual had to serve a minimum of six months within the taxation year, attended 20% each of all training, emergency calls and meetings. And have **not received** any payments (salary, wages, compensation or anything in lieu of salary) outside of reasonable reimbursements or allowances for expenses, in respect of firefighting or ground search and rescue services.

The department Fire Chief must complete the required forms and submit by January 31 of each year. On the form it asks the question did the volunteer receive any compensation, if the volunteer received any honourarium, then the answer is "YES". In addition, the volunteer firefighter also qualifies for vehicle registration cost exemption.

In Canada, honoraria are considered salary and thus, taxable income under the *Income Tax Act*. In the case where a gift is substituted for honorarium (gift in lieu of money), it is still classified as a taxable benefit by Canada Revenue Agency. These rules must be taken into consideration in creating an honourarium program.

Emergency Services Volunteers - CRA

Under the Income Tax Act, a government, municipality, or public authority may exclude reporting as income up to $1,000 from amounts paid to any of the following individuals:

- volunteer firefighters
- volunteer ambulance technicians
- emergency service volunteers who help in the search or rescue of individuals, or in other emergency situations and disasters

The $1,000 exemption only applies if the amount paid for the duties that the individual performs is a nominal amount compared with what it would have cost in the same circumstances to have the same duties performed by a regular full-time or part-time individual.

The $1,000 exemption does not apply if the individual was employed in the year by the **same** public authority for the same or similar duties (such as a full-time firefighter who, from time to time, acts as a volunteer firefighter or rescue worker for their employer), or a part-time station maintenance person who is also a volunteer firefighters for that same organization.

Individuals who receive a T4 slip may also qualify for the volunteer firefighters' tax credit or the search and rescue volunteers' tax credit. When eligible individuals file their income tax and benefit return, they can choose to either receive an income exemption or claim a tax credit.

Honourarium – Canadian Revenue Agency Rules.

A volunteer fire fighter is eligible (in addition to the provincial tax credit) to claim $3,000 for the volunteer firefighters' amount (VFA) or the search and rescue volunteers' amount (SRVA), but not both, if the volunteer meets all of the following conditions:

- A person was a volunteer firefighter or a search and rescue volunteer during the year.
- They completed at least **200 hours** of eligible volunteer firefighting services or eligible search and rescue volunteer services in the year.

The volunteer firefighter can combine the hours they volunteered for both search and rescue and firefighter activities to claim either the VFA or the SRVA. However, if you were also employed by the same organization, other than as a volunteer, for the same or similar duties, you cannot

include any hours related to that organization in determining if you have met the 200-hour threshold.

Eligible services

Eligible volunteer firefighting services with a fire department include:

- responding to and being on call for firefighting and related emergency calls as a firefighter
- attending meetings held by the fire department
- participating in required training related to preventing or suppressing fires

Pensionable and Insurable Rescue or Volunteer Firefighter Income

The Canada Revenue Agency has rules that specify when income earned from search and rescue or volunteer firefighting organizations is pensionable or insurable. As a general rule, volunteer firefighters are not employees and would not be considered engaged in insurable or pensionable employment. If, however, the volunteer is being paid to perform services, the firefighter would not be considered a volunteer.

Regional Honourarium Program Recommendations

GA recommends that the new Regional Municipality strike a committee of the appropriate fire service and municipal personnel, including finance personnel, to establish a fair, equitable and affordable honourarium program across the region. The program should meet the following points;

1. The objective is to promote an active volunteer program and appropriately recognize the service through the honourarium.
2. The program should be applied to the volunteer firefighters who have reached the Age of Majority for the Province of Nova Scotia, and who are eligible for renumeration.
3. The program should establish participation standards for attendance at training, emergency incidents, and department operational communication meetings (i.e. not Society business or other meetings).
4. The program should develop an annual honourarium base amount for each volunteer within the organization regardless of position and regardless of incident volumes of that station, then further identify and define what is reasonable bonuses based upon position, and services (e.g. emergency responses) provided by the volunteer.
5. Procedures for the distribution and payment should also be established, especially surrounding payment method, i.e. individual cheques and the issuance of T4s by the municipality.

Honourarium Conclusion

The original intent of the honourarium was to replace expenses incurred by the volunteer in their performing of a volunteer service. Over the many years it has grown into renumeration for volunteer services provided; which is not in compliance with current federal and provincial regulations. It can be used as a tool for recruitment and retention, unfortunately if not managed properly it can become a source of frustration and discontent. Volunteers for the most part accept they do not get paid for service. However, like most employees in a work place they want to be treated fairly and equitably.

The challenge for the municipality is to ensure that the program is fair and recognizes equal contributions by all, and meets the requirements of both the Provincial and Federal legislation and policies.

FIRE SERVICE PROMOTIONS

According to General Colin Powell,[12] "*Ultimately, it is people-not plans, systems, structures, or budgets-who make the difference between organizational success and organizational failure*". For this reason, it is important that fire departments take the time to identify reliable and valid processes to select personnel for promotion; processes that will help ensure the most qualified person meeting the needs of the organization effectively is chosen.

In general, promotion practices in the volunteer fire service can be contentious and are often based on ancient practices. In the context of modern expectation of fairness and promotional competence, there can be some glaring gaps between existing practice and good HR policy/practice.

Fire Lieutenants and Fire Captains probably have more influence on retention, morale of the fire volunteers, and cost reduction than any other group or position within the fire station.

Being a front-line volunteer fire officer is one of the most difficult, demanding, and challenging jobs in any organization. It is also very rewarding even at the first level; a supervisor must be able to think and act in terms of the total system of operation. This includes defining and assigning priorities, planning and organizing, and programming and coordinating the operating tasks of a department so that the objectives of both the department and the community as a whole are achieved.

The front-line fire officer must excel in interpersonal skills. More and more, the trend is for volunteers to be a heterogeneous group of individuals, many of whom are not especially dedicated to their jobs, or their departments. Handling the variety of attitudes and values in this multiple-generation base has become extremely difficult.

It is the front-line fire officer who must cope with volunteers face to face and day to day. Being able to communicate effectively is vital. Being able to work with people is the most important characteristic a front-line fire officer can have.

[12] Harari, O (2002). The Leadership Secrets of Colin Powell. New York, NY: Mc Graw-Hill, p.24

Frontline officers must have technical competence in their role. Frontline officers must be able to themselves perform the specific tasks they ask their assigned personnel to do, and must understand the equipment used.

Having good technical skills allows supervisors to deal with the many challenges that firefighters face in accomplishing their assigned objectives/tasks, and facilitates their ability to mentor and train their subordinates.

A fire officer is always accountable and responsible for the outcomes associated with the assigned tasks and roles of the position. There are various fire officer ranks, and the main difference between them is the amount of accountability and responsibility as well as the expected technical competence.

For a specific example; a fire lieutenant (which is the entry level officer position) is a front-line and hands-on fire officer. Lieutenants are required to have good technical competence in operating forceable-entry tools (axe, sledge hammer, Haligan bar, power saws, etc.). He/she is responsible for mentoring and training the crew members to also have effective forceable-entry skills, and to work successfully together as a team; such that they achieve assigned or needed objectives.

On the other hand, the Fire Chief, who no doubt had good hands-on skills at one time when he was a Lieutenant, is no longer expected to maintain his/her task skills in this particular area. However, the Fire Chief does have a part to play in forceable-entry. It is the Fire Chief's responsibility to ensure that the Lieutenant and her/his crew have the required tools to achieve forceable-entry and to ensure that the rules of engagement (e.g. as to when forceable-entry is appropriate) are developed and clear to everyone in the fire department, and to address when the rules are violated. The Fire Chief is accountable for the service being provided. He is responsible for ensuring that the fire service operates within best practices and that it meets public expectations.

Review of current Practices

Following is a high-level overview of current promotional practices within the region. It should be noted that entire details of each department's process are not included in the overview. However, terms of office, eligibility and qualification criteria are different for each department.

Summerville Volunteer Fire Department:

Summerville has a subjective annual process where a nominating committee receives attendance and credential records of all members, and presents a selection of nominees for the general membership to vote on. If during the year there is a vacancy it will be filled by special resolution of the membership. If there is no nomination the chair (Fire Chief) may appoint.

Brooklyn Volunteer Fire Department:

Brooklyn chiefs and front-line officers are appointed subject to an application and interview by the Society's executive committee. Each position has a set service term and perquisite of qualifications required to be met before a candidate is eligible to submit their application.

Windsor Fire Department:

Windsor chief and front-line officers are appointed subject to an application and interview process. Each position has a set service term and prerequisite of qualifications required to be met before a candidate is eligible to submit their application.

Hantsport Fire Department:

The chief officers are elected every two years. The front-line officers, Captains and Lieutenants are appointed by the Chief officers, subject to eligibility and qualification criteria.

Promotion Recommendations

There are a number of agencies, associations and organizations that provide qualification recommendations for each of the positions within a fire department. These recommendations are general in nature in an attempt to cover a broad spectrum of communities and fire service

organizations. The base line for any trained firefighter is NFPA-1001,[13] Level I. For fire officers it is NFPA-1021.[14]

The Fire Services Association of Nova Scotia has produced a set of recommendations for various volunteer firefighter and officer qualifications according to position within the department. These standards reference NFPA-1001 Level I, and indirectly several other NFPA standards since available training is through the Nova Scotia Firefighters School which trains to NFPA standards.

The following recommendations are based upon an organization having separate and identified Incident Safety and Health and Safety officer positions as well as the usual line officers. It is in accordance with the general theme of current practices within the region. The recommended qualifications standardized across the many stations has many benefits for the organization, not only in knowing the volunteers of similar rank regardless of station can fulfill the same position at another station or at an incident in time of need.

KSAs

Any and all training has three basic components comprised of Knowledge, Skills and Abilities (KSA). Any person who attends a quality training program will attain Knowledge and Skills; Abilities will be attained to a degree. However, abilities require as the fire term suggests *"Time In"*, in other words experience. Certain positions regardless of the training and education received will require a certain amount of time-in, and experiences to be able to fulfill the mandate of the position. Thus, the reason for years of service requirements for the certain positions. Typically, the higher the position the more time-in is required.

Incumbents

If the recommendations are accepted, the incumbents who may not meet all of the qualifications in their current position should remain in their current position until their current term expires or until such time as there are candidates available that meet the minimum eligibility and

[13] National Fire Protection Association; NFPA-1001, Standard for Fire Fighter Professional Qualifications

[14] National Fire Protection Association; NFPA-1021, Standard for Fire Officer Professional Qualifications

qualification requirements. Incumbents who do not meet the minimum qualifications should be afforded every opportunity during their remaining term, to acquire any necessary qualifications so as to maintain their position/rank, if they desire to do so.

Recommended Position Qualifications

GA recommends that the following table of qualifications be implemented as a standard baseline for officer promotions in all fire departments in the Region.

Position	**Term (years)**	**Probation Period (years)**	**Min. Years Service Eligibility**	**Minimum Qualifications**
Health and Safety Officer (HSO)[15]	Indefinite	1	4	- Have thorough knowledge of the NFPA standard on Fire Department Occupational Safety, Health, and Wellness Program (NFPA-1500) - Familiarity with NS OH&S regulations (training by recognized provider)
Incident Safety Officer (ISO)	2	1	Minimum 1 term as a Fire Captain	- Pro Board-Certified Fire Safety Officer as per NFPA-1521 - Completed Fire Officer Level II (NFPA-1021 qualified) - Incident Command, ICS 200 (NSFS course 4042) - All the requirements of a Fire Captain
Fire Lieutenant	2	1	Minimum 4 years as a FF	- MFR (EHS recognized program) - Incident Command, ICS 100 (NSFS course 4041) - Managing Company Tactical Operations (NSFS course 4030) - Any requirements of a firefighter for the district station assigned - NFPA-1001 Level I with NFPA-1072 Haz Mat Ops sect. 6.2 & 6.6 (NSFS courses 1001-1023) - Level II FF by end of term (NFPA-1001 qualified) - Fire Officer Level I by end of term (NFPA-102 qualified) - Fire Service Instructor Level I, by end of term (NFPA-1041, qualified)
Fire Captain	2	1	Minimum 1 term as a Lieutenant	- Certified Fire Service Instructor Level I - Fire Officer Level I - Fire Investigation Fundamentals (NSFS course 3200) - ICS 200 (NSFS course 4042) - Any requirements of a firefighter for the district station assigned - Completed Fire Officer Level II by end of term (NFPA-1021 qualified)
Deputy District Fire Chief	3	1	1 term as a Fire Captain in the respective District Station	- All qualifications of a Fire Captain - Completed FMO Course on Roles and Responsibilities of a Local Assistant to the Fire Marshal - Risk Hazard Analysis - Individual communications skills course - Respect in the Workplace course (corporate HR course) - Fire Service Personnel Leadership course - ICS 300 by end of term - NFPA-1021 Fire Officer II (NSFS course 4060) by end of term
District Fire Chief	3	1	1 Term as a Deputy in the Regional fire service	- All of the requirements of the District Deputy Fire Chief - Certified Fire and Explosion Investigator, CFEI (current) - Budgeting (corporate Finance training) - Dalhousie University Certificate in Fire Service Leadership - Strategic planning (corporate management training) - Risk Management (corporate management training)

[15] As per the NS fire Services OHS Guide of 2003, this is an appointed position by the District fire Chief. However, the recommendations listed in the table above are guidance to the District Fire Chief in their selection of the HSO.

Recommended Promotional Process

GA recommends the following promotional process.

- Annually the promotional cycle for all districts shall be completed by December 01 of each calendar year.
- The process should commence with each District Station adhering to the annual completion date and their respective Bylaws/procedures for the establishment of a nominating committee(s).
- The committee should complete their internal processes in the developing of a promotional list each year for the filling of fifty per cent of the Lieutenants, Fire Captains and Incident Safety officer positions based upon the incumbent's term; i.e. staggered terms for each rank category. For the Deputy District Chiefs and the District Fire Chiefs this too should be staggered on a three (3) year cycle.
- All Candidates under consideration by the District committees, should produce a current driver abstract, a criminal/vulnerability background check, a medical health report, and proof of qualifications, all as part of the selection process.
- Once the District has completed their process for the positions of Incident Safety Officer, Lieutenant, and Captain, the list with Candidate qualifications should be submitted to the District Fire Chief who will review the Candidates with the Director of Public Safety/Fire Chief (DPS), before proceeding to interview the Candidates.
- The District Fire Chief should seek the agreement of the DPS before offering any position to a selected Candidate.
- Successful Candidates will be notified in writing by the DPS/FC and will commence their duties effective January 01 of the next calendar year.

For the positions of District Deputy Chief and District Fire Chief, the entire process should commence one month earlier than the other ranks process, so that the new chief officers can participate in the selection process of lower ranks.

- Candidates recommended by the nomination committee(s) should be submitted to the DPS/FC, who will meet with the committee to review the process and qualifications, including previous experience.
- Once the Candidates are selected by the DPS/FC, they should be notified in writing by the DPS/FC and will commence their duties effective January 01 of the next calendar year.

GA recommends that performance evaluations be done by the immediate supervisor annually.

- Captain and Lieutenant evaluations should be performed by the District Deputy & the evaluation confirmed by the District Fire Chief.
- The ISO and HSO should be reviewed by the District Deputy Chief and the evaluation confirmed by the District Fire Chief.
- The Deputy District Chief should be reviewed by the District Fire Chief and confirmed by the Director of Public Safety/Fire Chief (DPS).

- The District Fire Chief should be reviewed by the DPS.

DPS/Fire Chief has the authority to remove any officer from any position for cause and with due process in accordance with Corporate HR procedure and process.

HEALTH AND SAFETY POLICIES REVIEW.

Introduction

A review of Health and Safety Policies was asked to be conducted as part of the Fire Service Review contract. The basis for the review was the Nova Scotia *Occupational Health and Safety Act* and associated Regulations along with the Nova Scotia Fire Services Occupational Health & Safety Reference Guide; which is based upon NFPA-1500 *Standard on Fire Department Occupational Safety and Health Program*.

A fire service safety program is mission critical to any organization, even more critical for the fire service. Any injury that involves lost time for a volunteer or even death is costly not only in financial terms, and quality of life but the possible degradation of department morale and the negative psychological impact on members of the department and the community. A fire service safety program includes two distinct functions, a staff function, "*Occupational Health and Safety* and a Line function "*Incident Safety Officer.*" Although these roles have safety as their base responsibility, the roles have very different responsibilities and skill sets.

The objective and goals of any fire service safety program is to identify problems in wait and develop methods, procedures, and control measures to address prevention, then train personnel in those measures to lessen the risk to all department members and ultimately the municipality.

The Review

There are no less than ten (10) NFPA standards addressing firefighter safety. This review focused on only two of those standards NFPA-1500; *Standard on Fire Department Occupational Safety and Health Program* and NFPA-1521; *Standard for Fire Department Safety Officer*.

In addition to reviewing the provided fire department procedures and operating guidelines, two surveys were used covering eight (8) targeted subject areas, including 44 topics.

Targeted subject areas included:

- Occupational Health & Safety officers, numbers of, and qualifications
- Incident Safety Officers numbers of, and qualifications

- Emergency response vehicles
- Targeted fire equipment, i.e. ladders and hose
- Personal Protective Ensembles (PPE)
- Rescue rope
- Respiratory Protection (SCBA)
- Fire extinguishers

Based upon the survey results; regionally the compliance-average was 71%.

Firefighter Rehabilitation

In an additional area, the review of the provided departments' standard operating procedures, guidelines, policies and administration procedures, showed no reference to firefighter rehabilitation either at the emergency scene or in training exercises. (Rehabilitation was not specifically included in the safety survey).

As part of firefighters' health and wellbeing there is a need during emergency operations and training exercises to monitor their physical condition. This is normally done to help identify any issues that may lead to serious medical conditions that would require medical attention, or even worse, hospitalization.

NFPA-1584; *Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises*, establishes protocols and requirements for emergency responder at scene rehabilitation. The NFPA Standard identifies rehabilitation preparedness, criteria for rehabilitation area responsibilities and characteristics, and outlines the procedures for emergency scene and training rehabilitation.

GA recommends that standard operating procedures/guidelines (SOP/Gs) be developed that outline a systematic approach for the rehabilitation of members operating at incidents and training exercises; in accordance with NFPA-1584. The procedures need to address cooling and warming, medical monitoring, Emergency Medical Care, member accountability, and documentation.

The Occupational Health and Safety officer and the Incident Safety Officer.

A review of department positions appeared, in some cases, not to differentiate the role of the department Safety Officer into its two safety functions. What is the difference between a fire department Occupational Health and Safety Officer (HSO) and that of the Incident Safety Officer (ISO), which are distinct and separate roles?

Both roles are responsible for identifying risks and putting into place, practices, policies and procedures to prevent injury to fire department personnel. Their roles differ as one position, the ISO is part of an incident Command Team during an incident and addresses acute dangers present during an emergency incident.

ISO ROLE

The role of the ISO is one of a formidable task and includes but not limited to;

- Assists in the development of the Incident Action Plan.
- Conducts ongoing risk assessments.
- Assists in the management of risks at the incident.
- Assists in the development of the Incident Action Plan.
- Co-approves with the Incident Commander the Incident Action Plan.
- Monitors the Incident Action Plan throughout the incident.
- Checks for unsafe acts.
- Checks to unsafe conditions.
- Checks for unsafe behaviours.
- Has authority to alter or terminate operations to prevent injury
- Conducts at scene Accident Investigations
- Prepares documentation for required HSO investigation
- Conducts Posit Incident Analysis

ISO SKILL SET

The ISO position must have the necessary background, training and experience such as,

- Comprehensive knowledge of incident hazards
- Risk management criteria, including what constitutes unacceptable level of risk;

- Ability to apply knowledge of fire behavior and fire dynamics and their impact on conditions, building construction, hazardous energy, reading smoke,
- Experience as a fire ground officer

HSO ROLE

The HSO is responsible for programs and polices relating to chronic illnesses that could result from an event or accumulation of events that can occur prior to and post an emergency incident, or of a training event, or from station conditions. These include exposure to the effects of fire or an environmental incident, or around the fire station. The HSO ensures that proper protocols are carried out as per provincial legislation and best practice standards for certain types of equipment.

The role of the HSO is labour intensive and includes but not limited to;

- Development of and implementation of the OHS organizational risk management plan dealing with chronic issues.
- Identify risks; develop goals, objectives, and action plans to manage those risks; analyze data; perform cost-benefit analysis.
- Develop a plan for the treatment and transport of an injured or ill member.
- Conducts Facilities inspection.
- Develops, implements and manages the organization's Accident prevention program.
- Conducts safety and health investigations.
- Manage the collection and analysis of data related to accidents, occupational deaths, injuries, illnesses, and exposures to infectious agents and communicable diseases.
- Recommend safety-related specifications for fire apparatus and fire equipment, given new or existing fire apparatus and fire equipment specifications.
- Analyzes the fire department health maintenance program and makes recommendations if required.
- Develop, implement and manage the fire department's infection control program.

HSO SKILL SET

The HSO position must have the necessary background and experience in

- Occupational Health and Safety
- Understanding the intent of applicable Acts, regulations and standards
- Ability to assess, classify and determine risks and implement appropriate control measures.
- Ability to identify risks, develop goals, objectives, and action plans to manage those risks; perform cost-benefit analysis; compile and analyze data,

- Ability to conduct investigations and write comprehensive legal reports.
- Ability to manage the collection and analysis of data.

GA recommends that separate roles for ISO and OHS be established at each fire station.

TRAINING, and CERTIFICATION vs QUALIFICATION

Training of ISOs and HSOs as well as the difference between Certification and Qualification and its potential impact on the fire service will be discussed in the Training section of this Fire Services Review report. However in brief, the ISO should be certified, while the HSO should be qualified.

OH&S SUMMARY

A fire services organization strives to improve operational excellence while keeping firefighters and the community safe. If the organization is relying on inconsistent, out-of-date or incomplete policies for guidance, then the organization is at increased risk of experiencing an adverse event, and the potential for significant legal liability, and specifically in the area of OH&S there is a possibility of the laying of criminal charges.

It is the utmost importance to ensure that the regulations and standards for personnel safety and the maintenance of fire equipment are adhered to.

GA recommends that; as required by regulations and standards that an official written occupational safety, health, and wellness policy be developed for the Regional Fire Services that that identifies specific goals and objectives;

- The prevention and elimination of accidents and occupational injuries,
- The management of exposure to communicable diseases,
- The management of exposure to products of combustion (carcinogens, fireground contaminants, and other incident-related health hazards),
- The elimination of preventable illnesses, and fatalities.

This policy must be in compliance with and meet the intent of applicable regulations and applicable best practice standards. The situation for volunteer firefighters vis-à-vis the applicability of the *Occupational Health and Safety Act* and Regulations in Nova Scotia is

currently in flux. However, the general duty clause (§13) of the *Act* clearly lays out an employers' responsibility towards everyone when it states "*Every employer shall take every precaution that is reasonable in the circumstances to…ensure the health and safety of persons at or near the workplace…*" This provision clearly includes volunteer firefighters, and this was confirmed by NS's Occupational Health and Safety Division.

There are ample best practices and standards to demonstrate what these precautions should be for volunteer firefighters, including the provincial government's own *Occupational Health and Safety Reference Guide* developed for the Nova Scotia Fire Services. A failure to follow these clear directions could have serious consequences.

GA recommends that the fire service evaluate the effectiveness of the occupational safety, health, and wellness program at least once every 3 years and submit an audited report of the findings to the DPS/FC and corporate CAO.

Overall the current fire departments are managing health and safety fairly well but there are a number of areas that require further review, positive action, and corporate assistance.

PROFESSIONAL QUALIFICATIONS AND STANDARDS (TRAINING)

Training Principles

The Reginal Fire Services Review was requested to look into professional qualifications and training standards; more specifically to assess standards of existing department personnel in order to determine current and future training needs (gaps), and with consideration to documentation requirements, and succession planning.

Training and Learning

What is the difference between Training and Learning?

Albert Einstein once said, "Education is not about learning of the facts, but the training of the mind to think."

According to TalentLMS;[16]

> *"It's important to understand the difference between learning and training. Both assist in leading individuals into expected performances. Of course, they are **inextricably linked**, but they are **unique aspects of any educational process**. Training is the giving of information and knowledge, through speech, the written word, or other methods of demonstration in a manner that instructs the trainee. Learning is the process of absorbing that information in order to increase skills and abilities and make use of it under a variety of contexts.*
>
> *Whatever the goals, the quality of the learning will rely largely on the quality of the training, and so the role of trainer is very important as it can have a huge effect on the outcome of learning for the student.*
>
> *The Characteristics of Learning*
>
> *As mentioned above, learning is the process of absorbing information and retaining it with the goal of increasing skills and abilities in order to achieve goals – but it's more than that. Learning is what we go through when we want to be equipped for non-specific and unexpected situations; and the two are not mutually exclusive. While you*

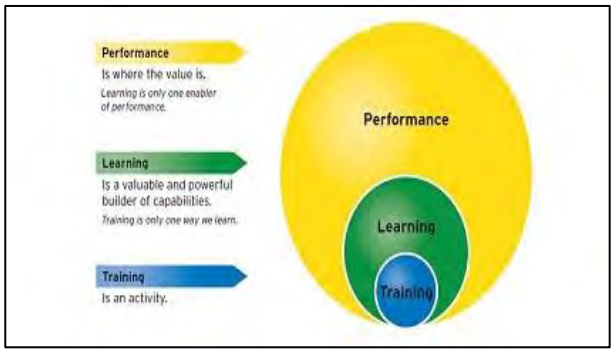
[16] https://www.talentlms.com/elearning/learning-vs-training

do learn to do something specific, you are also inadvertently equipped with the knowledge and/or skills to face future challenges. In essence, ***learning is all about equipping a person to tackle not just today's issues, but preparing him/her to creatively come up with ways to tackle tomorrow's issues****.*

The Characteristics of Training

Training, on the other hand, ***focuses more on the development of new skills or skill sets that will be used****. Training is the process each new employee goes through when joining a new organization to learn how to carry out the day-to-day operations, know how their department works and how job-specific tools operate in order to carry out their responsibilities. In essence, through training, we are not looking to reshape the behavior of an individual rather the point is to teach the employee or learner how things are done so that they can then carry out a process on their own."*

In summary; Training is how to do something and is also for compliance purposes. Learning is understanding the; knowing how, experience, and the why. The desired outcome is improved Performance. The accompanying diagram[17] shows this very well.



Fire Service Needs

The fire service needs both training and learning, as they complement each other. Certain aspects of the firefighter's role will require more on the training equation than that of learning; i.e. the things they need to do even if they do not fully understand why. Other skill sets, depending upon the fire service role, will rely more heavily on learning; i.e. the ability of apply skills to new situations. But all fire service job functions and skill sets require a little of both to enable the firefighter to fulfill their mandate and community expectations. The community expectations, (regardless of whether the firefighters is career or volunteer), are that a professionally trained and qualified person will attend to their emergency.

The fire service needs to be risk averse. In the fire service, whether career or volunteer, training is required to minimize the fire service's, and by vicarious liability the municipality's, exposure

[17] Dr. Rhonda Dubec, 2019, ePost to Lakehead University Teaching Commons

to possible civil litigation. Certain types of training are specifically designed and needed to minimize the risk to workers and the organization in terms of accidents, safety code violations, lawsuits and citizen complaints. In today's modern environment, organizations require diversity training, training about sexual harassment, workplace safety training, customer/taxpayer service training, and other quality initiatives can all help develop better work environments and services while minimizing any hazards along the way.

Traditionally fire service personnel trained only on how to respond, to emergencies, operate, and maintain equipment. Now they must have the required skill sets to write training syllabus, policies, procedures, reports, and to read, understand, and develop complex budgets and financial reports. In some roles to read and understand legislation and legal documents.

Fire Service Qualifications versus Certifications

Credential Creep is a term that means a tendency over time to focus on credentials which in turn leads to an inflation of minimum requirements for a specific task. This is pervasive in the health care industry and has been creeping into the fire service for years. A mass move towards certification requirements has led to significant business opportunities for institutions and private organizations. The move towards certifications are arising in part as a result of litigation against the fire service; i.e. the focus on proven qualifications.

To maintain and retain volunteer firefighters who in today's society are often working more than one jobs to make ends meet, and are raising families is a challenge. The competing needs amongst school, sporting, church activities, and competition with other community volunteer organizations, who do not have the same levels of demands on personal time as the fire department increases the challenge to maintain qualified, not alone certified, community minded volunteers.

If a volunteer knows how to operate a pump, then he/she knows how to operate a pump. In a volunteer world what is the difference whether they are qualified or certified? As long as they have been trained to the standards of pump operation and tested to the Job Performance Requirements (JPRs) of pump operation, and there are standardized records of training, and there is continuous training to maintain skills, there should be no issue.

During GA's stakeholder meetings the issue surrounding qualification versus certification was raised numerous times. The concern was the extra time and costs for certification. To assist in making a decision on which level of training should be accepted by the Region's fire services, i.e. whether all volunteer emergency services courses should be certified, or not, is the answer to the question "*is certification really required and what is the beneficial difference between qualification and certification to the organization?*"

Within the fire service there are two certifying and accreditation bodies, Pro Board® and The International Fire Service Accreditation Congress (IFSAC). IFSAC is a not-for-profit, peer-driven, self-governing system of both fire service certifying entities. The IFSAC Certificate Assembly provides accreditation to entities that certify the competency of and issue certificates to individuals who pass examinations based on National Fire Protection Association (NFPA) fire service professional qualifications, and other standards approved by the Assembly. The accreditation is made at the provincial, federal government, or territorial level for fire fighter certification programs. The IFSAC Certificate Assembly accredits the certification (examination) process of certifying entities. This includes evaluation of various elements of knowledge (written) and practical skills examinations,

Pro Board Accredits those public sector organizations (generally governmental or educational) that certify emergency services responders against the requirements of the Standards of the National Professional Qualifications System. Those Standards are promulgated by the NFPA. They do not accredit training systems, programs, or curriculum. Their focus is directed at the testing process used by an eligible agency. They do not accredit for profit companies or concerns. Pro Board accredits organizations that use the NFPA professional qualification standards.

WHAT ARE THE BENEFITS OF CERTIFICATION?

Professionalism has long been a goal sought by members of the fire service. It has only been within the past 25 years that a system has evolved to produce national professional qualifications standards that an agency can use to establish performance measures for personnel. Agencies that achieve either IFSAC or Pro Board accreditation are recognized as having met the rigors of

review by an independent organization. This third-party independent review is the best way to assure firefighters and governance bodies that the agency's program meets the national standards.

The term "*Professional*" does not differentiate between career or volunteer, it refers to a person formally certified by a professional body of belonging to a specific profession by virtue of having completed a required course of studies and/or practice; whose competence can usually be measured against an established set of standards.

WHAT IS CERTIFICATION?

Certification is a voluntary program administered by a non-governmental organization. Depending upon the subject It grants the use of a credential to individuals for a specific period of time. Certification is available to those who meet predetermined and standardized criteria for knowledge, skills, or competencies. Testing is by a third party. Depending on the field of study, recertification after a prescribed period of time may be required.

WHAT IS QUALIFICATION?

Qualification is awarded for achievement of a narrow body of knowledge with very specific learning objectives. This type of program often takes the form of a classroom learning experience and some practical exercises, followed by an assessment to determine if the desired learning goals and objectives for the training have been met. Testing is typically administered by the course instructor or course agency. Qualifications typically have no recertification component.

WHAT IS TRAINED TO?

"*Trained to*" is a term in the fire service the means an instructor in a specific subject has trained students to a certain standard. However, there was no method of ensuring the students in attendance acquired the specific knowledge or skills of that standard, or associated with the course attended. In other words, there was no testing or validation that either the instructor provided the required information or that the student absorbed or acquired the taught knowledge and skills. The student ends up with, basically, a certificate or record of attendance.

Certification Needs

The Review required the fire departments to provide current training records and to complete a training survey indicating the various training received by its members; identifying whether the training was a qualification or a certification. Unfortunately, as a result of lacking and conflicting data, the review was not able to verify results. However, even though meaningful analytics was problematic, it was obvious training was conducted across the region in several areas.

The second part of the Review was to determine what training courses needed to be certified if any. As a result of previous fire industry litigations and the potential for litigation and the need for stringent technical knowledge, it has been determined that there are four (4) identified fire service positions that require certification;

- Training Officers,
- Fire Department Incident Safety Officers, and
- Fire Inspector
- Fire Investigators.

The following certification courses are available through the Nova Scotia Firefighters School, who are able to provide the training locally within the Region.

- Fire Inspector I NFPA-1031
- Fire Investigator NFPA-1033
- Fire Instructor I & II NFPA-1041

Unfortunately, the Incident Safety Officer certification is not available in eastern Canada. There are a number of locations throughout the United States, the most notable being the Fire Department Safety Officer Association programs, in New York.

For individuals interested in becoming a fire inspector or investigator, the Fire Prevention Officers Association of British Columbia offer a Pro Board certification 100% on line program that is available to fire personnel all across Canada. The written and practical exams are conducted by Trained Evaluators across Canada.

A review of the fire service needs, and skill sets required for those needs, may reveal that there are positions that do not require young, physically fit, gung-ho individuals. Positions such as Public Education, administration, radio operators, traffic control persons, occupational health and safety opportunities, truck drivers. There may be seniors who are looking to keep active and are willing to provide some time to a volunteer organization with previous skill sets and experience that can fill a void within the organization.

Traditionally, the majority of volunteer fire services required any and all members of their respective departments to be firefighters, who were trained in additional services offered by the department. This means answering the question, *"Do all volunteer fire department members have to be fire trained"?* The answer is no.

Volunteer fire departments do need the majority of their membership to be fire trained so as to be able to deliver the department's core services; responding to, rescuing people from and extinguishing fires.

Qualification Needs

What types of functions/positions are required at the scene of a structure fire that are required to be firefighter qualified?

- Firefighters
- Fire Officers
- Incident Safety Officer
- Accountability Officer
- Incident Commander

What are some of the functions/positions that are required at the scene of a structure fire that ***do not*** need to be a trained firefighter?

- Apparatus Driver/operator
- Air/SCBA support person
- Command Post - radio communicator/scribe
- Firefighter rehabilitation support personnel
- EMS
- Traffic Safety Control

- Logistics

What are some of the other types of emergency services that some fire departments provide that ***do not*** require volunteer members to be firefighter trained?

- Water rescue, (Boat enthusiasts, SCUBA Drivers)
- Ice Rescue
- High angle rescue service
- Medical First Responders

Additional non-emergency Staff functions in which volunteers do not need to be firefighter trained but could be most beneficial to the fire department.

- Administration, Mgt of Records (data) and reports, budget, inter-government relations)
- Fire Prevention (fire-safety education, fire-investigation, fire-inspection/enforcement)
- Maintenance
- Communications
- Research & Planning
- Community Relations/Public Information
- Financial Management
- Personnel Management

Regardless of the function/role of the volunteer, all volunteers will require specific subject/service training, skills maintenance, and fire department orientation. All persons in their specifically assigned role will need to trained and qualified for their assigned role. However, taking the specific assigned role approach to training and learning, some of the traditional basic firefighting courses would not be required and thus make more effective use of allotted training funds and perhaps aid in department recruitment.

Observations

Documentation

The first observation related to the review of Professional Qualification and Standards is the lack of appropriate training documentation. The training records that were provided and the training survey data, proved to be challenging in that there were variations and discrepancies. This resulted in the inability to conduct a proper and thorough analytical review.

GA recommends acquiring a proper records management system (RMS). If related recommendations throughout this report are accepted, then an RMS training module adhering to NFPA-1401; *Recommended Practice for Fire Service Training Reports and Records* can be acquired as part of an overall Records Management System.

The Municipality of West Hants as part of their Fire Services Policy COGE-0700.00, Dated 2018, provides the basis for a standard training record table. The table only captures one of many required elements required of a proper training record. It is believed this record of training, has more to do with identifying a registered fire department's ability to provide the level of services in the department's Fire Service registration filed with the municipality, than a proper recording and tracking of a department's training program. However, it appears that the form has become the record of choice.

The National Fire Protection Association's standard, requires training reports and records that are comprised of eight (8) sections, totaling thirty-five (35) recording elements.

The majority of required minimal records for training reports and training records can be found in canned Fire Records Management Systems.

Schedule 2A – Example of Training Record Format

Summary of Active Fire Fighters Training Records

			Training (Please check all applicable training)								
Name	Rank	Year of Service	Level I Qualified	Level I Certified	Incident Command	Strategy & Tactics	Fire Safety Officer	Fire Prevention Educator	Fire Investigation	MFR	Other (Specify)

West Hants Training Standards

The Municipality of West Hants as part of their Fire Services Policy COGE-007.00, Dated 2018, provides a *Minimum Service Level Standards Table*. The table lays out what service level is required. Indirectly this forms the basis, to a point, for the required training standards needed to meet the service delivery standard.

This form raises a couple of questions as it relates to training and standards.

WEST HANTS
NOVA SCOTIA

POLICY COGE-007.00

Minimum Service Level Standards Table:

Minimum Service and Level Standards	Per Station	Per Station2	Per Region	Outside Suppor
	Serviced	Unserviced		
Fire - Structure	yes	yes		
Fire - Defensive	yes	yes		
Medical - Reg First Responder (level 4)		yes		
Medical - Medical Assistance (level 1-3,5,6)	yes			
Veh Rescue-Technician	NA	NA		
Veh Rescue Operational	yes	yes		
Veh Rescue Awareness	NA	NA		
Water Rescue - Technician	NA	NA		
Water Rescue Operational	yes	yes		
Water Rescue Awareness	yes	yes		
Ice Rescue Technician	NA	NA		
Ice Rescue Operational	yes	yes		
Ice Rescue Awareness	yes	yes		
Structural/Excavation Collapse Technician				
Structural/Excavation Collapse Operational			1	HRM
Structural/Excavation Collapse Awareness	NA	NA		
High Angle Rescue Technician			1	1
Hig Angle Rescue Operational			1	
High Angle Rescue Awareness	NA	NA	1	
Hax Mat Technician				1
Haz Mat Operational	yes	yes	1	
Haz Mat Awareness	NA	NA		
Ground Search and Rescue Provider	no	no		
Ground Search and Rescue Assistance	yes	yes		

NFPA Standards versus Service Standards Table

As part of the Service Standards Table is the Appendix A, Definitions. In the definition section it makes references to a few NFPA standards and editions of those particular standards. Some of the standards refenced have had several updates from the year referenced in the policy. One referenced standard edition is 1995, making the edition out of date by twenty-four years.

Examples:

- NFPA-472; Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents, 1997 edition; the Current Edition is 2018.
- NFPA-1983; Standard on Fire Life Safety Rope and System Components 1995 edition. The Current is 2017
- NFPA-1670; Standard on Operations and Training for Technical Search and Rescue Incidents. No version referenced, the most current is 2017.

Other notable observations include the fact that within the policy it makes reference to various specialized rescue services, such as ice rescue and water rescue. The table references NFPA-1670 as noted above. This standard provides outlines as an aid to the user of the standard in developing training for personnel who will be involved in the various levels of the search and rescue disciplines. The standard it is not a competency standard, it is an operational methods standard. The competency Standard that should be referenced is NFPA-1006; *Standard for Technical Rescue Personnel Professional Qualifications*, 2017 edition.

The Service Standards table provides levels of service/training for various specialized services and makes reference to an appropriate level of training for that service based upon NFPA training levels. NFPA levels of competency are hierarchical, meaning you shall be trained and qualified in the very basic level, (Awareness) before you are eligible to move up to the next level (Operations) and you shall be trained in the Operations level before one can move onward to the Technician level.

What is interesting in the COGE-007 policy is that in the table, for some services, Awareness level and Operations level are required but for other services only Operations level is required and Awareness level is marked "*Not Applicable*." Referencing the previous paragraph, Awareness level is required before one is eligible to acquire an Operational level qualification or certification.

Haz Mat Operations

In speaking with fire service stakeholders there is much confusion and lack of understanding as it relates to the service and training requirements for Hazardous Materials Operations as identified in the COGE-007 Policy table.

The Policy references NFPA-472; *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*, 1997 edition. However, NFPA had already released a new personnel qualifications standard for Haz Mat responses; i.e. NFPA-1072; *Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications*, 2017 edition.

NFPA, in the nineties, amended NFPA-1001 Level I competencies/qualifications/certifications to include skills and knowledge contained within NFPA-1072, Operations (sections 6.2 and 6.6 only). The competencies defined will provide firefighter responders who respond to motor vehicle accidents with the requisite skill sets (as required in the referenced sections) so as to minimize hazards while protecting themselves from potential harm from fluid leaks and spills while wearing only their bunker gear.

Basically, the Haz Mat Operations sections 6.2 and 6.6 requirements provides one with the necessary skills to control fuel spills or anything that can be done in firefighting bunker gear. There is no plugging, no patching skills required as these are required competencies of a full Haz Mat Operational training program. The competencies in 6.2 and 6.6 include product damming, diking, and motor vehicle accident clean up.

Whereas only two sections of the NFPA-1072 training standard are required to complete NFPA-1001 Level I firefighter program, any so called Haz Mat Operation courses solely provided to address sections 6.2 and 6.6 are non-core and non-accredited courses. However, they are required to obtain Firefighter Level I Qualification or Certification. These sections of Haz Mat training do require the participant to obtain either the NFPA-472 or 1072 Awareness level training.

The Nova Scotia Firefighters school's thirty-two-hour Haz Mat Course, for Level I Firefighter includes Awareness Level training as well as Haz Mat Ops Core training which only covers 6.2 and 6.6 sections. The Haz Mat course referenced here does not qualify anyone to be a Core Hazardous Material Responder as per the intent of the NFPA-full 472 or 1072 standards.

Training/Courses Required by Fire Department Position

Due to the mere fact that the Region's firefighters are volunteers and their time commitment is strained, training requirements must be very judicious and only required on a "as needed" basis. Often the term "minimum" is used. This term must be used in the context of the actual training required to meet the need of the skill sets in order to perform the duties and tasks required of the particular volunteer's position and responsibilities within his/her organization.

A basic Level I firefighter qualification course requires a time commitment of 168 hours plus an additional 32 hours for Haz Mat Operations section 6.2 and 6.6 for a total of 200 hours of volunteer time. If the course was spread out over several sixteen (16) hour weekends this would equate to approximately twelve (12) weekends.

Such a time requirement is very onerous for the volunteer recruit. What is a reasonable interval for a volunteer to acquire their Level I firefighter complete with NFPA-1072, Haz Mat Ops section 6.2 and 6.6? If the interval requirement is too restrictive, a department may lose volunteers, if there is too long of a period of time to meet the qualification, standards can change and the ability for the department to meet it needs may not be met if ever.

GA recommends that a three-year period be considered a reasonable period of time for a new recruit to become NFPA-1001 Level I qualified if that recruit aspires to attain a higher rank.

Once a firefighter has obtained their Level I qualification, they are eligible to acquire a Level II firefighter qualification. This training requires an additional commitment of eighty (80) hours or five (5) weekends.

There are a number of agencies, associations and organizations that provide recommendations for each of the positions within a fire department. These recommendations are general in nature in an attempt to cover a broad spectrum of communities and fire service organizations. The base line for any trained firefighter is the Level I.

In addition to the Level I fire fighter qualification, there will be additional training requirements for the volunteer based upon the services and programs offered by the community fire department.

- Vehicle extrication
- Apparatus operator/driver
- Specialized rescue
- Medical First Responder and associated courses i.e. establishing Helicopter landing zones
- Proper Radio Communication Procedures
- DNR Basic Forest Fire Suppression Course

Fire Officer Training

All fire officers, beyond their response skills, should receive training in the management of personnel (soft skills). These skills can be acquired from recognized and authorized personnel/management programs and should be made available to Fire Officers interested in participating in such programs. Most important aspects of their role will be leading and managing volunteers.

Training Challenges

All positions within a fire organization require continuous skill and knowledge retention after initially obtaining their qualifications. This requirement is the mainstay of weekly training sessions for the volunteer fire services.

There are a number of challenges for the local fire service to conduct training which mostly occurs during a two (2) hour session one evening a week. Keeping all of the attendees engaged, especially with members with a wide range in years of experience, is a challenge.

Firefighters, after completing the specific topic KSAs need to focus on team exercises and developing team skills. Engaging experienced firefighters to assist with less experienced personnel (mentoring) can go a long way in personnel and team development and meeting personal satisfaction needs of those involved.

Based upon a years of service survey, (66.6% return rate) the following table is the combined experience of personnel found in the area fire stations.

Years of Service	0-2	3-5	6-10	11-24	25+
Per Centage	12.23%	21.5%	22.56%	25.5%	15.23%

As one can see, the are challenges in meeting the needs of the various levels of experience throughout the group. The challenge is how best to keep everyone interested and engaged.

Another challenge facing the Regional fire stations is that of the various type of department memberships. In particular those that have veteran, veteran driver, mutual-aid multiple fire department memberships.

With veteran memberships, depending upon the station one belongs to, regular training is not a requirement. For veteran drivers their only requirement is to maintain the appropriate class of driver's license.

GA recommends a minimum mandatory training of six (6) hours per quarter to maintain Veteran driver status, plus an annual 8-hour training day. This is required to maintain skill proficiencies and teamwork skills.

Another challenge on the fireground is knowing who has what training and experience. Especially with so called mutual-aid and multiple-station type memberships, how does the incident commander, or others, know what qualifications that personnel on scene have? Of particular importance is who is a qualified firefighter and who is not.

One department uses a different colour helmet to distinguish the variation; which is a costly way to distinguish the differences. Other departments in other jurisdictions use a more cost-effective method and that is the use of different reflective coloured stickers and or letters.

GA recommends that all stations use the same method, specifically to employ the same colour helmets by rank, and standardize on vinyl reflective qualification stickers.

During GA's stakeholder meetings the issue was raised of firefighters travelling long distances to training, especially for those stations that are considered outside the main stream locations where training is held. The issue is the travel time involved especially after a long day at work, and then having to drive a considerable distance to attend training sessions. The issue can be remedied by having more training delivered at these stations or at alternate locations on a weekly basis or develop more in house capabilities.

Training Officers/Instructors.

The responses to GA's survey suggested that regionally there are a total of nine (9) Level I trained instructors. and nine (9) certified Level 1 instructors.

What is interesting is that none of the stations within their bylaws nor their Honourarium program or department rank structure identify a Training Officer/Instructor position.

In some stations training is managed by committee and it appears the majority of training is station oriented.

GA recommends that there be at last one certified Training Instructor (Minimum Level I Instructor) at each of the region's six stations.

Fire Marshal's Local Assistant Training

Each fire department has at least one if not two or more senior positions within the department appointed by the provincial fire marshal as a Local Assistant under the authority of §14.1 of the *Fire Safety Act*. Their role as Local Assistant is to assist in carrying out the provisions of the *Act* and the Fire Code. To ensure the Local Assistants have basic knowledge of their duties and responsibilities the Office of the Fire Marshal provides cost free training. As a result of changes in polices within the OFM and regulations all Local Assistants are required to attend refresher training in 2020.

Training Methodology/Programs

Delivery of training and education in today's world, is many faceted. Today's educational environment encompasses self-study, online programs, instructor lead classroom sessions, attendance at higher learning institutions such as colleges, accredited fire schools etc.

NFPA-1500; *Standard on Fire Department Occupational Safety, Health, and Wellness Program*, 2018 Edition - requires all departments to:

- Prepare and maintain written policies and standard operating procedures that document training requirements,
- Establish and maintain a training, education, and professional development program with a goal of preventing occupational deaths, injuries, and illnesses.
- Provide training, education, and professional development for all department members commensurate with the duties and functions that they are expected to perform.
- Establish training and education programs that provide new members initial training, proficiency opportunities, and a method of skill and knowledge evaluation for duties assigned to the member prior to engaging in emergency operations.
- Develop a recurring proficiency cycle with the goal of preventing skill degradation and potential for injury and death of members.

- Develop and maintain a system to monitor and measure training progress and activities of its members.
- Provide an annual skill check to verify minimum professional qualifications of its members.

In today's environment there are a number of courses available on line including courses that one can lead to certification. The programs still require time commitment for the students. However, depending upon the course or program the student is able to proceed at their own pace and in the comfort of their home, so long as they have a computer and internet.

As stated previously, a good portion of training is conducted in the local fire station delivered by experienced firefighters with a training background. However, due to the nature of the business, field training exercises and out of classroom training experiences are essential to maintain skillsets. It appears that a majority of the training involving live burning occurs at the Nova Scotia Firefighters School in Waverley, Nova Scotia. For the student this involves time away from home and travel.

There are two options to address this issue. One is to develop a centrally located training facility that has the ability for live fire training or the other is to use the fire school's mobile burn unit. Previously there were scheduling issues for booking the mobile burn unit, those issues have now been addressed. The school is also in the midst of acquiring a mobile vehicle burn unit, to provide programs involving live vehicle fire extinguishing techniques.

A centrally located training area for the region is needed to provide many of the practical skill sets required not only for the individual firefighter, but also for team skill sets, and inter-station and mutual-aid departments to practice joint operating procedures and inter-departmental taskings together.

GE recommends that the Region invest in construction of a properly designed, central training facility can meet most of the training needs of the Regional fire service.

GA does not recommend the inclusion of a live fire training facility. Due to the high risk of firefighter injury and liability associated with live burn scenarios, and given the associated costs of building and maintaining a live fire facility (that must be built, maintained and operated in accordance with NFPA-1403; *Standard on Live Fire Evolutions*) and with the availability of the

Fire School's mobile unit to travel to the Windsor – West Hants region, the Region should take advantage of the school's mobile burn units. Use of the mobile burn units will meet the needs of the local fire services, will be more cost effective and reduce risk to the department or municipality.

IN addition, the Nova Scotia Fire School offers a number of non-accredited but free courses at their facility. The courses available (2019) at no charge are as follows:

- Introduction to Haz Mat
- Operations at Haz Mat incidents
- Vehicle Extrication
- Incident Scene Safety Officer
- Emergency Vehicle Driver Training
- Managing Company Tactical Operations
- Emergency Responders Traffic Management Guidelines
- Incident Command System, (ICS 100 & ICS 200).

In conversation with the fire school management, almost any and all courses can be delivered locally. In some cases, they are able to fast-track (i.e. compress) courses based upon need. A fast-track course was delivered to a local department within the last couple of years.

Annual Regional Training Weekend.

GA recommends that an annual 3-day Regional Training Weekend be established and organized on an annual basis. Such a weekend could be rotated annually amongst the six station locations, each playing host in turn.

Another tool in the tool box featured by many departments is organizing and developing an annual three-day training and symposium weekend. Such a weekend can involve invited subject matter experts from outside the area and is an opportunity for all of the regional firefighters to attend classroom plenary educational sessions and also practical exercises. Such opportunities may allow for the testing of large operational procedures such as tanker shuttles or long pumper relays that may have not been practiced for a period of time or practical for a single station to test, and permit (especially) newer members to participate who previously may not have had an opportunity to do so.

These weekends promote camaraderie, allow firefighters to intermix, and expose attendees to new and different trainers/instructors and topics. Such weekends are invaluable in building trust amongst fire services team members as well as an opportunity to meet and know newer members. There is an old fire service metaphor "*It is always better to know your neighbor before you need them*."

Medical First Responder

Medical first responders (MFR) must complete MFR training through one of the EHS approved Medical First Responder training agencies; i.e. St. John Ambulance ($400) or Canadian Red Cross ($499). Anyone who is 19 years of age or older, has successfully completed MFR training by an EHS approved MFR training agency, is a current resident of Nova Scotia, and is associated with an EHS MFR response agency is eligible for this training. Each consecutive year, a fully sponsored EHS MFR agency is entitled to receive partial reimbursement for MFR training of two (2) persons at a maximum rate of $150/person.

MFRs are required over a three-year period to maintain their EHS/MFR competencies. Competency training is available free through the EHS/MFR program. The program has the ability to provide to the department a volunteer paramedic, free of charge, to deliver the required maintenance training locally.

Training Summary

Inadequate or deteriorating knowledge and skills due to improper training, or lack of on-going competency assessment, is an issue with any organization. Successful operations require continuing education and skills enhancement training.

All team members must make a commitment to lifelong learning. Periodic competency assessments foster deeper understanding of skills and encourage individual pride through safely completing operational tasks.

The fire services should research available programs to meet the needs of the department so as to meet the needs of the community and take a cost-effective approach to developing individual and

team Knowledge, Skills and Abilities. A cooperative and collaborative approach with others is always recommended. This promotes standardization amongst the many stations.

Each station should have its own assigned training officer with the responsibility to ensure standards and training needs are being met and to coordinate the training and educational activities with the station's training committee if one exits.

GA recommends that an individual, at least on a part time basis, be hired Regionally (Division Chief) to guide and assist in the development and delivery of Region-wide, standardized, focused, and appropriate training and personnel development to the fire departments and firefighters. If the desire is to have a regional single focused fire operational service, then all associated training must also be singularly focused. For this to occur, a regional-wide program, with homogenous training policies and procedures, with common goals, and common objectives needs to be implemented and managed.

SUCCESSION PLANNING

Succession planning is a process for identifying and developing new leaders who can replace old leaders when they leave, retire, or die. Succession planning increases the availability of experienced and capable employees that are prepared to assume these roles as they become available.

The typical succession planning program is achievable in a full-time work place where certain individuals who are considered potential leaders are targeted and placed on a career development path. In an organization in which the top senior positions (District Fire Chief or District Deputy Chief) and the various officer positions are elected every two or three or so years, by the membership, and where there may be minimum requirements to qualify for the chance of being elected, or in some cases no required qualifications, then succession planning in the true sense of the definition is not really achievable in the traditional sense.

What is achievable is to ensure that the organization has programs in place that provide educational opportunities for those individuals with an interest, at some point in the future, to take on a leadership role. With clearly defined organizational goals, objectives, along with defined position requirements and opportunities for training and education to meet those requirements; that is really all of the succession planning that a volunteer organization is able to accomplish. This is especially so in an organization where the more senior positions are elected and have the ability to oversee who receives the training and educational opportunities.

However, depending upon organizational model chosen along with numbers and type of supportive career staff, then at that time a proper succession plan can be evaluated and implemented.

ORGANIZATION AND STAFFING

OVERVIEW OF CURRENT FIRE SERVICES

The fire departments in the regional area of Windsor and West Hants (W/WH) have a very long history of proudly serving the citizens within the area. Windsor fire department was established in 1881, other departments have been providing emergency services to their communities and the surrounding area for over 100 years.

Currently, within the new Region of Windsor and West Hants Municipality there are four independent volunteer fire departments (Summerville, Brooklyn, Windsor and Hantsport) with six fire stations, one is considered a municipal department (Hantsport).

The three departments of the Municipality of West Hants, serve a population of approximately, 15,368 in an area of approximately 1,244 square kilometers. The Windsor Fire Department provides services to a population of 3,068 in an area of 9.11 square kilometers. There are also significant numbers of tourists and the travelling public on the 100 series highway or local road networks.

Brooklyn Volunteer Fire Department operates out of two stations, one located in Brooklyn, the second located in Garland's Crossing. Hantsport volunteer fire department provides and manages fire service operations from the Southwest Hants Society fire station located in Vaughan. The Windsor Fire Department provides fire services to the Town of Windsor.

In order to provide reasonable fire service coverage in the outer reaches of the western and eastern part of the municipal boundary, the Municipality of West Hants has quasi-agreements for response services with two Municipality of East Hants Fire Departments, Walton Shores to the west and Mount Uniacke and District Fire Department to the east.

The Brooklyn Volunteer fire department provides contract response services to the South Rawdon area of the Municipality of East Hants on behalf of that Municipality. The Municipality of West Hants has a service agreement with the Municipality of Kings County for the delivery of fire service to the Hantsborder area of Kings County as well as providing services the First Nations people of Glooscap. Glooscap First Nation is located halfway between the towns of

Wolfville and Windsor, not far from Blomidon Provincial Park. The fire service to that area of Kings County is provided by the Hantsport Volunteer Fire Department.

As shown on the accompanying map, taken from the West Hants municipal website, each fire department currently has their own geographic response district. Also shown are the areas covered by the Windsor Fire Department, Walton Shore VFD and Uniacke and District VFD

Summerville, Brooklyn and Windsor fire departments are managed by registered societies under the Societies Act of Nova Scotia. Hantsport, is solely a municipally operated and managed department.

There is a volunteer Fire Chief with volunteer deputies and corresponding volunteer rank and file for each district/department. Each of the departments have part-time cleaners and some are equipment maintainers, some of whom are also volunteer fire department members.

In 2018, all the fire departments within the Municipality of West Hants signed a mutual-aid response agreement with each other. In 2019, the Windsor Fire Department was added to the agreement. The Brooklyn Volunteer Fire Department signed a mutual-aid agreement with the East Hants Fire Service Association. The Hantsport Fire Department signed a mutual-aid agreement with the Municipality of Kings County in 2001 (before dissolution).

In August, 2019, a draft auto-aid agreement was introduced involving the Windsor, Brooklyn and Hantsport fire services. This agreement established what the departments would send simultaneously to an incident in any of their jurisdictions. It specified what type and number of apparatus which is based on the location and type of incident. Although not formally executed, this draft agreement appears to be operational at this time and helps ensure that the three stations, together, adequately staff incidents.

Services Provided

Fire departments were initially formed to provide what is typically defined as core fire services. Core services are the basic services directly linked to the term fire, such as firefighting, rescuing

people from fires, the provision of regulated fire prevention activities such as fire inspections and Fire Code enforcement, and public fire prevention education activities.

Over the years, the addition of non-core services has expanded the fire department's role and there are now multiple services provided by modern fire services. Currently, departments within the Municipality of West Hants and the Town of Windsor provide core fire services (except for fire inspections and code enforcement) along with responses to environmental incidents, motor vehicle collisions/entrapment, water rescue, ice rescue, and medical first response. It is also usually the fire department that is called to natural disasters and other emergencies, whether or not they are specifically trained and equipped to deal with them

Standardization

A review of the individual fire services within the region has revealed that there is little that is standardized. From recruiting practices, firefighter classifications, promotions, service levels, other areas; each department has their own methodology.

Organizational Design and Staffing Models

To design an organization for the delivery of fire services, a number of questions must be asked and answered.

- What are the organization's core and subsidiary services?
- What will be the staffing profile in the delivery of the services?
- What line and staff functions are required in achieving and in supporting the organization's goal and objectives?
- How will the organization be funded?

Typically fire services are divided into two basic organizational functions, Line and Staff.

A Line function (aka Operations) is one that directly advances the organization in its core work as it interfaces with the customer, i.e. the public. For the modern fire service, the primary core work is emergency response to and mitigation of incidents using appropriately trained and equipped personnel. Property Inspection and Fire Code Enforcement are also core components of

the typical fire services line function. Both emergency response and inspection work are regulated under provincial legislation.

A Staff function supports the achieving of organizational goals by supporting the line functions, as well as overall corporate goals, through specialized advisory and support functions. For example:

- Administration (Mgt of records/data, reports, budget, inter-government relations)
- Fire Prevention education, incident investigation
- Training
- Health & Safety
- Equipment maintenance
- Communications
- Research & Planning
- Community Relations/Public Information
- Financial management
- Human Resources and personnel management

Once line and staff functions are identified, the next question is how should the individual line and staff positions be staffed.

Staffing Models

In the fire service there are many possible combinations for staffing a local department. Staffing combinations include: full-time paid, part-time paid, paid on call, and volunteer, or combinations of these. The choice of how to staff the fire department, what staffing model to use, is determined by the community based on a number of factors. What works well for one community may not work well in another.

There are a number of factors worth considering that may influence the preferred fire department staffing model.

- Financial resources of the municipality.
- Range of fire services expected.
- The availability and skill set of volunteer personnel.

- Frequency of and type of incidents.
- Workload load created by the objectives for Staff functions
- The type of department preferred by the community.

The experience in Windsor-West Hants has been for many generations, emergency response services have been delivered by volunteer firefighters, and citizens. This basic staffing model for line functions seems to work well and we found no suggestions that it be changed. We note that volunteer firefighter skill levels are rising, and they need to, as the type of incidents continues to evolve, and thereby demands higher level and sometimes different skill sets.

The one main concern is that in today's litigious society it is becoming more common for fire department errors to be challenged in court. One part of a municipality's defense is to ensure that firefighter skills meet best practices, which generally means meeting established standards; one example is NFPA-1001[18] Level I. These standards need to be recognized and established through policy. Firefighters need to achieve the standard skills, and the achievements must be well documented. This is not currently happening in a sufficiently consistent manner even though the fire department registration process with the municipality demands it.

As for staff position, i.e. senior officers, we note that these positions seem to be struggling with the work load imposed on them. Currently, all fire chiefs and deputies are volunteers. In the recent past the fire chief in Windsor was a full-time position, but this has lapsed. Several comments were made by chiefs that more assistance from the municipality is needed.

In the RACI[19] survey that was conducted as part of this Review it was noted that quite a few required programs have either not been introduced or are not being accomplished as expected. Some of this may be due to lack of knowledge but some is due to lack of available time.

During stakeholder meetings with firefighters, line officers, and chief officers, there were several themes. One was that the volunteer firefighters did not want to be responsible for Fire Code

[18] National Fire Protection Association, NFPA-1001; Standard for Firefighter Professional Qualifications. Level I is the basic level. The standard includes a more advanced Level II.

[19] RACI (Responsibility, Accountability, Communicate, Inform) is a means to decipher who is doing what in the establishment, management, review, direction and providing leadership for necessary programs and processes in the fire department. All of these programs/processes are either best practices or established through legislation.

inspections and enforcement in their communities. Inspections and enforcement are currently a function of full-time municipal staff.

Another theme was that the chief officers were desirous of reducing their administrative responsibilities. They required assistance, including the provision of municipal assistance with HR issues.

In our opinion they need assistance in other areas as well where administrative loads can be high and/or where municipal standards demand that a particular process be followed for the expenditure of public funds, for example major purchases.

Current Staffing at Stations

The current staffing levels in the W/WH fire departments are as follows;

Position	Windsor	Hantsport	South-West	Brooklyn	Three Mile Plains	Summerville
Fire Chief	1	1	0	1	0	1
Deputy Chief	2	2	0	1	2	1
Captain	5	4	1	7	3	2
Lieutenant	4	1	1	0	0	2
Firefighter	13	20	10	29	19	18
Safety Officer	0	1	2	1	1	0
Mutual-aid firefighter	0	3	2	0	0	2
Veteran/Driver	6	0	0	0	0	2
Veteran	5	4	0	0	0	7
Dispatcher	0	1	0	0	0	0
Totals: (188)	36	37	16	39	25	35

Veterans are former firefighters who continue to participate in a non-firefighting role, usually as support personnel at major fires, doing odd jobs. Veteran/Drivers are veterans who drive and operate the fire trucks when needed but have no further firefighting role.

FIRE SERVICE LINE FUNCTION STAFFING/POSITIONS; EXISTING AND PROPOSED

Typically, the fire service hierarchy includes senior officers in the positions of Fire Chief and Deputy or Assistant Fire Chief. These positions function as both line and staff positions, having responsibility in both areas. At emergency incidents, typically larger or more complex ones, they are expected to assume overall responsibility for the conduct of operations.

Front line officers typically consist of Captains and Lieutenants. These positions are primarily focused on the preparation for and response to incidents, both emergency and non-emergency. They have first-line supervisory roles at the station as well as at the incident scene. At an emergency incident, a line officer is usually in charge of the response to the incident including all other firefighters, and under legislation of the public also. When relieved by a more senior officer (Chief/Deputy) the line officer retains similar responsibility at the incident, but for a smaller portion of it.

There are other formal staff positions in the fire department than those already mentioned. These positions also have line and staff functions, in varying degrees according to their assignments.

The following section outlines the responsibilities of each formal staff position in the fire department. Except as noted, all are currently filled by volunteer firefighters.

Fire Chief

In the Municipality of West Hants each of the four fire chiefs is responsible for emergency response in their specified response District, as previously noted on the map. The fire chief is responsible for;

- the executive management and direction of a department,
- strategic and master planning,
- budget preparation,
- establishment of legislated and best practice programs,
- personnel and equipment management,
- safety initiatives, and
- incident management, which is hands-on at larger incidents.

The fire chief is appointed as a local Assistant to the Provincial Fire Marshal, which is the fire department's conduit for provincial authority under the Fire Safety Act.

Deputy Fire Chief

The Deputy Fire Chief(s) is the second in command of a fire department. The deputy is responsible for;

- Assisting the Fire Chief in all aspects of department operations and management,
- assuming the role of the Fire Chief in the latter's absence,
- responding to emergencies,
- ensuring proper training is delivered,
- ensuring department policies and procedures are followed, and
- managing line officers as direct reports.

The position includes a combination of administrative work and time spent in the field to keep operations running efficiently in the fire department. A deputy chief may have a specific area of the fire department function that he/she is specifically responsible for; for example, administrative functions like fire reports.

Assistant Chief

Some fire organizations use the title Assistant Chief in lieu of Deputy Chief. Typically, they are assigned to oversee and manage particular function such as the firefighter training program or administrative duties.

Similar to the deputy fire chief, an assistant fire chief may act as the Fire Chief in the absence of the Fire Chief, assuming the Fire Chief's roles, responsibilities and authorities. There are currently no Assistant Chiefs in Windsor-West Hants.

Division Chief

This position is one that is between the rank of Captain and that of either, an Assistant Chief or Deputy Chief. The role of the Division Chief is specific to his Division; and includes the administration, management, planning, organizing and implementing of specified programs.

Some typical assignments for a Division Chief include the Training and Safety Division, Communications Division, Fire Prevention Division, and Maintenance Division.

There are currently no Division Chiefs in Windsor-West Hants.

Fire Inspector

The Nova Scotia *Fire Safety Act* §19 requires all municipalities to appoint at least one fire-inspector and to "*establish a system of fire-safety inspections…*" Also, in the *Act*, are stipulated requirements for record keeping and minimum inspection schedules.

The *Act* does not specifically stipulate that municipally appointed fire-inspectors be qualified, but elsewhere in the *Act* such a stipulation is there for the Fire Marshal's appointed fire-inspectors and for local assistants who also have the powers of fire-inspectors.

In the *Act*, §3(ad) *"'qualified' means acceptable to the Fire Marshal.*" This suggests that fire-inspectors in Nova Scotia should meet the requirements of NFPA-1031[20] as detailed by the Nova Scotia Professional Qualifications Board.[21] The Fire Inspectors Association of Nova Scotia (FIANS) offers, in cooperation with the Nova Scotia Fire Marshal's office, a Fire Inspector Certification Program.

In the Windsor-West Hants region the responsibility for providing a municipal fire-inspector has varied, but is currently undertaken by building officials in the West Hants Planning and Development Department. The building officials split building and fire inspection tasks amongst their qualified staff. Fire inspection is a secondary responsibility. Personnel assigned fire-inspection duties have taken the FIANS course.

A fire-inspector is responsible for inspection of properties and determining if the properties meet the minimum requirements of the National Fire Code, as required by the provincial *Fire Safety*

[20] National Fire Protection Association; NFPA-1031, Standard for Qualifications for Fire Inspector and Plan Examiner.

[21] Minimum competencies are laid out by the Nova Scotia Fire Service Professional Qualifications Board (NSFSPQB), an organization that is sponsored by the Fire Marshal's office.

Act and associated Regulations and according to the municipal policy on fire inspection schedules.

Some of the specific responsibilities of a fire-inspector are;

- to inspect buildings to locate hazardous conditions and Fire Code violations,
- inform the owner/occupant the corrective actions necessary to bring properties into compliance with the Fire Code,
- conduct follow-up inspections to ensure that corrective actions have been taken,
- make and keep records of every fire inspection performed,
- review and approve fire emergency plans, and
- lay charges for offenses contained in the *Act* pertaining to fire-inspections and Fire Code violations, and support the charges through the court system as might be required.

This position ideally will have a firefighting background or experience to better inform the fire-inspector to issues relating to firefighting access and operations, especially where interpretation of fire department issues is stipulated in the Fire Code.

Fire Investigator

The Nova Scotia *Fire Safety Act*[22] §32 requires that the *Local Assistant* to the fire marshal;

> *"immediately, and in no case later than twenty-four hours following a fire, investigate, or cause to be investigated, the cause, origin and circumstances of every fire by which property has been destroyed or damaged…"*

Under §14 of the *Act*, the Local Assistant is "*a qualified fire chief or, with the consent of the fire chief, another qualified member of the fire chief's fire department."* In Windsor-West Hants each fire department's fire chief is the local assistant within their response jurisdiction. We have been advised the fire chief, and in some cases the deputy fire chief(s) conduct the required fire investigations.

[22] Nova Scotia *Fire Safety Act*. 2002, c. 6, s.1.

As stated in the *Act*, fire investigation should be conducted by qualified[23] personnel. This means persons who meet the job performance requirements of NFPA-1033.[24] Fire investigation is a highly sophisticated process and must follow another recognized standard, NFPA-921,[25] for the results of the investigation to be valid and defensible. Qualified fire and explosion investigators are designated as a Certified Fire and Explosion Investigator (CFEI).

Fire Training Officers

Currently there are no dedicated training officers in the Windsor-West Hants fire services organizational charts, as such. However, Captains have been tasked with the delivery of training and there are a number of training committees.

Typically, training officers research training needs, identify resources, and developing training programs as required to meet the needs of emergency services delivery. Training is a critical component of the delivery of fire services. It helps to ensure the effectiveness, and efficiency of the service, and is key component in firefighters' safety.

The Nova Scotia Fire Service Professional Qualifications Board has established a qualification standard for fire service instructors that is based on NFPA-1041[26], levels I and II. In the standard, level I is a person who delivers instruction to firefighters, and level II is someone who is responsible for "*The management of instructional resources, staff, facilities, and records and reports.*"

In W/WH the level of training officer qualifications is inconsistent; with two department reporting persons qualified to level I and no departments reporting persons qualified to level II.

Typically, the station training officer, qualified to level I would;

- provide advice to the Fire Chief regarding training needs,

[23] According to the *Act* the incumbent must meet the Fire Marshal's requirements for competence. Minimum competencies are laid out by the Nova Scotia Fire Service Professional Qualifications Board (NSFSPQB), an organization that is sponsored by the Fire Marshal's office.

[24] National Fire Protection Association, NFPA-1033, Standard for Professional Qualifications for Fire Investigators

[25] National Fire Protection Association, NFPA-921, Guide for Fire and Explosion Investigations

[26] National Fire protection Association, NFPA-1041, Standard for Fire Service Instructor Professional Qualifications

- coordinate weekly training sessions at the station and/or assist the line-officers in the conduct of training,
- provide logistical coordination for local training,
- resource and/or develop lesson plans,
- maintain the training data base of all training, and
- prepare training safety-plans for all hands-on training sessions.

The last two bullet items are particularly critical.

Captain

Currently in W/WH, the fire Captain position is the senior operational officer. Every station has at least one Captain. There is currently a total of 22 Captains in W/WH departments.

At an emergency incident there must be enough Captains at the scene to maintain an effective span-of-control (SOC). Ideally this means that each Captain has three to no more than five direct reports. There is insufficient data to determine the current situation re SOC at emergency incidents in W/WH. However, looking at the station staffing numbers we can make some reasonable assumptions that the ratios seen in the station will also be seen at incidents.

The SOC ratio is inconsistent in W/WH, with current station staffing numbers suggesting that the SOC for Captains varies significantly between as low as 3:1 to as high as 10:1. Numbers exceeding 5 are undesirable and suggest that coordination and control of firefighting actions at incidents will suffer. Some stations need to train and appoint more Captains.

The Captain is responsible for the direct supervision of firefighters and other duties, as follows;

- the welfare and performance of their assigned personnel,
- may oversee multiple lieutenants,
- directs a firefighter team at incidents,
- reports to the incident commander on conditions and resource needs,
- firefighter safety at all times,
- is the incident commander unless relieved by a more senior officer,
- participate and/or deliver training to their assigned personnel (company), and
- discipline and conformance to department policies and procedures by subordinates as the first line supervisor.

The Nova Scotia Professional Qualifications Board has established a certification program for fire officers. The standards are based on NFPA-1021[27] and include qualification Levels I through Level IV. Roughly speaking, a Fire Officer Level I is a Lieutenant, a Fire Officer Level II is a Captain, a Fire-Officer Level III is a Deputy/Assistant/Divisional Chief, and a Fire Officer Level IV is a Deputy Chief/Fire Chief.

According to the data we have gathered, in W/WH the qualifications of fire officers is inconsistent. At least one department has certified some of their fire officers at Level I and trained others to that level also (but not yet certified). Another department has trained some of their fire officers to Level I.

Lieutenant

A Lieutenant is a rank between that of a firefighter and Captain. It is the entry level officer position. Lieutenant is a rank that is present in all W/WH fire departments, except Brooklyn and consequently in Three Mile Plains station.

- The Lieutenant is a transition role between that of an experienced/senior firefighter and a Captain. It provides an opportunity for the person in this position to learn new skills and the role of fire officer through one-on-one mentoring and coaching by a Captain, to ready them for their future role as a Captain.
- In the absence of Captain, the Lieutenant assumes the Captain's responsibilities and duties.
- A Lieutenant can also participate in training firefighters and assist the Captain in completing their assigned duties.
- At an incident scene, a Lieutenant is expected to be a team leader and helps maintain a manageable span-of-control.

Incident Safety officer (ISO)

An Incident Safety Officer (ISO) is not a line-officer per se although this position is most prominent at the scene of emergency incidents. The main function is as an extra pair of eyes and ears for the incident commander, with a specific focus on mitigating hazards to firefighters.

In W/WH the formal recognition of the ISO as an organizational position is inconsistent. Regardless, at all major emergencies there is a high likelihood of a senior firefighter or officer

[27] National Fire Protection Association, NFPA-1021, Standard for Fire Officer Professional Qualifications

acting in the capacity of ISO and assisting the incident commander. Almost all of the W/WH fire departments reported that they had numbers of firefighters trained (not certified) as ISOs. All departments should have enough officers or senior firefighters trained/qualified such that there is a high probability that a qualified ISO will be in attendance at every incident.

Typically, this position is a well experienced Captain who has both extensive emergency response experience and experience as an incident commander. It is also advantageous that the ISO has building construction knowledge.

The ISO monitors incident operations and advises the incident commander on all matters relating to safety and health of all responders at the emergency. In particular the ISO;

- is responsible to the incident commander for the operations of systems and procedures necessary to ensure ongoing assessment of hazardous environments, including development of the incident safety plan, and the coordination of multi-agency safety efforts,
- exercises emergency authority during an incident to stop and/or prevent unsafe acts,
- initiates preliminary investigation of accidents within the incident area, and
- assists in the development of department safety standards.

There is a recognized standard for the ISO position, NFPA-1521.[28] However, certification as a safety officer is not currently available in Nova Scotia. The Nova Scotia Firefighters School, in Waverley, does offer their Incident Scene Safety Officer course free of charge to volunteer firefighters. This course is based on NFPA-1521 and provides a qualification certificate for successful completion. The next step would be to the Firefighters School achieve accreditation for the course so that participants could apply for certification.

[28] National Fire Protection Association, NFPA-1521, Fire Department Safety Officer Professional Qualifications

Occupational Health & Safety Officer (HSO)[29]

This position is different than the Incident Safety Officer and is an organizational appointment in accordance with best practices. This appointment can be any individual with an interest in occupational health & safety and who is adequately trained in this field.

This position addresses;

- the day to day health and safety of the individual firefighters,
- recognizes and takes action to control occupational health and safety issues that impact firefighters, such as unsafe conditions in the fire station,
- insures and plans that required testing and inspections of apparatus, PPE, SCBA, ladders, fire extinguishers, and etc. are completed,
- conducts facility and equipment inspections, maintains records and takes corrective action to minimize risks and exposure of firefighters and staff to hazards,
- chairs station OH&S committee,
- monitors OH&S programs, and
- instructs/monitors firefighters in OH&S issues and procedures, i.e. proper cleaning of PPE after an event.

The basis of the recommended occupational safety and health program is NFPA-1500[30] and applicable provincial legislation. Firefighter safety and health must be a strong focus for fire department management. There is currently some inconsistency in how this is interpreted and understood across the W/WH fire departments.

Firefighter

The firefighter position is, on the one hand, the entry level to firefighting and, on the other hand, also can be the most senior and experience person in the fire department. There are consequently many practical levels of firefighters, reflecting the training, skills, and experience of each person.

[29] The Nova Scotia Fire Services Occupational Health and Safety Reference Guide, 2003, recommends the appointment of a Health and Safety Officer "*that performs the duties and responsibilities as stated in section 29 of the Nova Scotia Health and Safety Act.*" This guide is a consensus guide (participation of career, volunteer, composite fire services and the OFM) that was developed and "recommended to be considered a minimum standard for safe operations."

[30] National Fire Protection Association; NFPA-1500, Standard on Fire Department Occupational Safety and Health Program

The widely accepted standard for firefighter qualifications is NFPA-1001[31]. The Nova Scotia Fire Service Professional Qualifications Board has recognized certification levels as a Firefighter I and Firefighter II, which matches the NFPA-1001 job performance requirements.

In W/WH every fire department has persons in the firefighter ranks. The current total is approximately 110 with that specific designation. Some of these firefighters have designations in accordance with their skills and knowledge and responsibilities, as follows;

- Probationary or Recruit firefighter (not fully qualified)
- Driver/Operator (of specified heavy vehicles)
- Veteran and/or Veteran Driver (semi-retired former firefighters, not in the 110 total)
- Junior/cadet firefighter (young people learning to be firefighters not in the 110 total)

More generally a firefighter;

- follows the directions and orders of department officers
- is the principal hands-on working member of the fire department at incidents,
- uses all available tools, machines, and equipment to achieve objectives,
- administers emergency medical care and saves lives.
- applies knowledge of numerous technologies and methodologies,
- does search and rescue activities in burning buildings or hazardous conditions.

Driver/Operator, Engineer

A driver/operator, sometimes called a fire department engineer (a hangover from early days of fire service nomenclature), is a firefighter who mainly drives and operates the fire apparatus' water pumps, aerial devices, and in a volunteer, department is not always required to be a trained firefighter. Their main role is to;

- do minor maintenance on the apparatus and equipment,
- do the daily or pre-trip safety inspection,
- bring any safety issue to the OH&S officer or company officer,
- drive the apparatus in a safe manner,
- respond to incidents with their assigned vehicle, and

[31] National Fire Protection Association; NFPA-1001, Standard for Fire Fighter Professional Qualifications

- operate the fire pump and other vehicle-based devices as required.

Fire Service Coordinator

A review of this position was conducted for its role and value to the fire service within the new Regional Municipality. This position is not a regulated/required position in NS.

Several interviews were conducted with Fire Service Coordinators from across the province and from these it was learned that none had any authority within their fire departments. The coordinators' roles and responsibilities greatly varied and in some cases the role of coordinator was not accepted by the volunteer chiefs and the position was really only of any value to the municipal administration, presumably.

We conclude that was there was little to no real value going forward to propose a fire coordinator position within the organizational structure for the new regional municipality.

Administrative Assistant

The Administrative Assistant is primarily responsible for administrative support to assist the Director of Protective Services/Fire Chief and Assistant Fire Chief. The position will also assist the Divisional Chief and the District Chiefs in carrying out their respective administrative responsibilities

The Administrative Assistant assists senior management with a wide variety of complex administrative duties. Key responsibilities include planning, coordinating and reviewing assigned activities, administrative programs and functions, including data management and reporting; budget preparation and monitoring; fiscal and expenditure auditing; submitting payroll information and processing accounts payable, accounts receivable, deposits and petty cash for the Fire Department. Other responsibilities include administering and customizing Records Management Systems; liaising with inside/outside contacts on behalf of the Fire Chief; creating/typing/formatting reports, presentations, correspondence; facilitating prompt attention to telephone/visitor/email inquiries and complaints; participating on project teams; and other duties as assigned.

Rotational ON-CALL Opportunities

There are certain services that the fire departments throughout the region provide that can lead to volunteer burnout, unnecessary overstaffing for certain types of incidents and inappropriate use of qualified firefighting personnel. A way to manage these issues is to provide an on-call rotational period for each of the targeted services so as to address the current and ongoing issues.

Currently the three services recommended for the possibility of rotational on-call program are:

- Medical First Responder (MFR)
- Fire Investigations
- Incident Traffic Control

Medical First Responder

During the many stakeholder meetings, many raised the issue of volunteer burnout, especially with regards to Medical First Responder (MFR) calls. The majority of the MFR incidents can be responded to and managed with no more than three responders. There have been call reports which indicated six or ten volunteers responded to the fire hall for a two or three responder event, where the excess personnel are left standing in the fire station. Doing this hundreds of times annually can lead to dissatisfaction.

There are two methodologies to reduce the potential for MFR burnout, one is reducing the call volume by changing the level of service offered or offer an alternative to the current method of responding.

The reason for high number of responders is that at certain times no one really knows who is available at any given moment. To lessen the burden on volunteers and the potential for burnout, a rotational system of three-four volunteers per a shift period, (to be determined), per station would be on call and if an MFR response is required, only the on-call group would be the volunteers to respond.

Investigations

During the many meetings others were concerned over fire investigations and the lack of support from the Fire Marshal's office and the length of time some investigations can absorb from a

volunteer's day or days. In review of available training data, for those who have been trained as a fire investigator, the majority are also the same individuals who have active roles in commanding the fire scene. One cannot perform both at the same time. Investigations should start during the incident.

As part of the hybrid model, it allows for a group of volunteers on a regional basis to be placed on rotational call periods. The on-call investigators would be on call for the entire regional municipality. On-call staffing requires only one investigator to be on-call per shift. (Rotational Shift period to be determined). If a confirmed detailed fire investigation is needed, then an additional fire-investigator(s) would also be called to assist as necessary.

Incident Traffic Control

Other than residential MFR calls, every incident, especially motor vehicle collisions along the 101 and higher speed secondary highways, require traffic control to protect the emergency responders. This traffic control requirement for the most part is provided by frontline volunteer firefighters. In conversation with the RCMP they are simply too under staffed to provide traffic control services and look towards the fire service to provide. Whereas scene safety is a priority function of the fire service, they have taken this role on. The Nova Scotia Government in cooperation with policing services and fire have developed a Traffic Management Training Program and Guide.

The real issue is how to appropriately staff this service. Currently it is the front-line firefighting personnel that provide this service using very expensive frontline fire apparatus. The other issue, as witnessed during the review, a structure fire had a qualified frontline fire captain directing traffic, instead of working at the fire incident.

There is an opportunity to provide this safety service on a regional basis, operating out of two stations. It is recommended that Windsor and Brooklyn stations be the ideal location for the provision of this safety service. Their communities may have the best opportunity to be able to recruit non-firefighting volunteers to provide this service. Each traffic control unit only requires two to three volunteer staff and each incident would require responses by both units.

To ease in the staffing issue and volunteer burnout, this is another service that could benefit from the on call rotational program.

FIRE PREVENTION

Overview of Services Provided

Fire departments were initially formed to provide what is typically defined as *core fire services.* Thus, the reason for inclusion in Model 3; Hybrid Regional Fire Services. Core services are the basic services directly linked to the term *fire*, such as firefighting, rescuing people from fires, and fire prevention. The provision of regulated fire prevention activities such as fire-inspections, Fire Code enforcement, fire-investigation, and public fire-safety education activities are now collectively called fire prevention.

Fire prevention consists of the three focus areas

- Public fire-safety education,
- Post-fire investigations to determine cause, origin, and circumstances, and
- Fire-inspection/enforcement of the Fire Code;

Fire-safety education to the public is intended to warn persons of potentially hazardous conditions, what to look for. It is also intended to encourage changes in behaviour, behaviours that are known to cause fires. Fire-safety education usually includes training, often of children and other particularly vulnerable groups, on how to behave in a fire emergency. The *Fire Safety Act* §16 expands on these concepts.

The consequences of fires can be devastating, including loss of irreplaceable personal items, loss of home, loss of employment, loss of life and serious injury to self and others. There are many standardized programs in existence, through several sources, to assist in the development of programs that are properly targeted to the community's fire safety challenges. If these challenges are known. One big component of a successful fire-safety education program is to determine the community fire risks.

Post-fire incident investigation is a mandated[32] service under the NS *Fire Safety Act*. All fires must be investigated immediately after the fire but in no case later than 24-hours after. Completed reports of the fires must be filed with the NS Fire Marshal's office no later than seven days after the fire. It is the responsibility of every fire chief and/or other appointed Local Assistant to the Fire Marshal to investigate fires.

The objective of the investigation is to discover the area of origin of the fire and what caused it, and the circumstances under which that combination started a fire. The intention is to discover if the fire was caused by;

- Nature (e.g. lightning);
- Human caused: accidental, deliberate, criminal, negligent, malicious, etc.;
- Equipment malfunction: used incorrectly, neglected, overheated, etc.;
- Caused by another fire: sparks, radiation, conduction, convection;
- Or other combination.

The investigation also determines if there is contribution to economic or life loss/injury because the occupancy did not meet Fire Code requirements at the time. For example; in a hotel the doors at the top and bottom of the stairs are part of a fire separation and are required to be closed at all times (that someone is not walking through them) to prevent the spread of smoke and heated gasses/flame. If a fire occurred on the first floor, trapping persons on the second floor because smoke and fire travelled through these stairwell doors that were blocked open with wedges, then the secondary cause of any deaths or injury, and fire/smoke damage to the second floor was Fire Code violations.

Discovery of these circumstances would be cause for further investigation into similar occupancies in the community that are equipped with stairwell doors. This provides an appropriate focus for resources. Proper investigations apportion responsibility properly.

[32] Fire Safety Act, 2002, c. 6, s. 1., as amended, see §32

Property fire-safety inspection and Fire Code enforcement are also mandated[33] by the NS *Fire Safety Act*. All municipalities are required to appoint a fire-inspector. Municipalities are required to keep records of the inspections made by the inspector.

The *Act's* associated Regulations[34] require inspections every three years for all assembly occupancies (Group A). The municipality must also carry out a scheduled program of inspection in all buildings containing residential occupancies of more than three-units, and in business, personal services, mercantile, and industrial occupancies. The implication is the schedule be based on the results of the fire-inspections, and the risk of fire in the community.

Money spent on fire prevention is well spent on many levels. Effective fire prevention can avoid some fire-response costs by lowering emergency incident volumes (i.e. fires) and their severity/impact on the property owner, and on the economy and social fabric of the community. It can also lower insurance rates community wide.

Fire-Inspection

GA was able to manually determine the occupancy classifications for some of the approximately 13,300 properties in the Region. Sorted by current fire station district the following table shows this distribution. It is very likely that this information is not complete.

The C classifications shown are for multi-unit buildings and do not include any single-family residences. They are not parsed for greater or lesser than 3-unit buildings, because that data was not known or provided.

[33] Fire Safety Act, 2002, c. 6, s. 1., as amended, see §19

[34] Fire Safety Regulations, N.S. Reg.48/2003

FIGURE: DISTRIBUTION OF IDENTIFIED OCCUPANCIES

Station	A	B	C	D	E	F
Windsor	30	8	33	11	8	6
Hantsport	25	2	20	4	1	17
South West	9				1	1
Brooklyn	28		8	3	6	14
Three Mile Plains	18	1	8	3	8	28
Summerville	9		1	1		3
Uniacke						
Walton Shore	3					2
Totals:	**107**	**11**	**62**	**22**	**21**	**57**

West Hants introduced the *Policy Respecting a System of Municipal Fire Inspections* in 2010. In that policy they set out the following fire-inspections schedule.

- Assembly occupancies (Group A) will be inspected every three years.
- Residential occupancies (Group C) with more than three units will be inspected every three years unless the fire-inspector deems risk of fire and loss of life requires a more frequent inspection of one or more buildings.
- Mercantile occupancies (Group E) will be inspected every five years unless the fire-inspector deems risk of fire and loss of life requires a more frequent inspection of one or more buildings.
- Business and Personnel service occupancies (Group D) will be inspected every five years unless the fire-inspector deems risk of fire and loss of life requires a more frequent inspection of one or more buildings.
- Industrial occupancies (Group F) will be inspected every five years unless the fire-inspector deems risk of fire and loss of life requires a more frequent inspection of one or more buildings.

West Hants fire-inspectors inspected a total of 56 assembly occupancies in 2017 and 2018. Assembly occupancies appear to be the focus and the work is likely approaching the three-year required cycle. For other occupancy types the inspection numbers suggest that they will not meet the minimum 5-year cycle in the policy. According to fire incident records and Provincial/National statistics the most fires/injuries/deaths occur in residential (Group C) occupancies and not Group A.

In 2017 the Windsor fire-inspector inspected 7 assembly occupancies. Based on the incomplete data for number of occupancies of various Groups inspected, in Windsor the 2017 inspection rate for A occupancies appears to fall significantly short of producing the required inspections every three years. GA does not have sufficiently complete data to draw any other conclusions.

The provision of fire-inspection services has been dynamic over the past few years. Both Windsor and West Hants have had their own inspectors, but combined with other responsibilities. Windsor once shared with Wolfville, and then with a split role as part-time fire chief, part-time inspector. West Hants shares building and fire inspection duties distributed amongst several staff, and currently provides these services to Windsor also. Fire-inspection is a secondary priority for the building officials in West Hants, and currently they have one vacant position.

Enforcement

For every building owner or occupant, failure to be in compliance with the *Fire Safety Act*, by currently having violations of the National Fire Code is a summary offence in Nova Scotia. Under §17 of the *Act*,

> "…every owner of land or premises, or a part thereof, and every person shall take every precaution that is reasonable in the circumstances to achieve fire safety and to carry out the provisions of this Act, the regulations and the Fire Code."

Furthermore, under §44(1) of the *Act*;

> " Every person who …
>
> (g) fails to comply with an order made pursuant to this Act, the regulations or the Fire Code; or
>
> (h) otherwise contravenes this Act, the regulations or the Fire Code,
>
> is guilty of an offence."

What the above means is that, under the law, any owner or occupant of a building where there are Fire Code violations has already broken the law and is subject to summary offense proceedings. This is similar to speeding on a town street. If you are caught, you will in all likelihood get a speeding ticket, unless the infraction was trivial, and then you were lucky.

The fire-inspection practice in W/WH is probably similar to most jurisdictions in NS, but is potentially flawed. As GA understands the currently practiced process in W/WH; upon a fire-inspection being conducted in an occupancy, violations are noted by the fire-inspector and submitted in writing to the owner/occupant with a demand that the violations be rectified within a specified time-period.

The fire-inspector should be immediately issuing an Order under the provisions of the *Act.* An Order lists the offences and stipulates their correction, and can include a period of time to accomplish the correction. Such Orders are required to be filed with the Fire Marshal's office, and are appealable.

Furthermore, in circumstances where a fire-inspector;

> "…determines that there is a significant risk that a fire will occur, or a likelihood that a person will be killed or injured if a fire does occur, the fire official, with the approval of the Fire Marshal, and upon such terms and conditions as the Fire Marshal considers proper, may
>
> *(a) order that an owner of the land or premises close the land or premises and prevent persons from entering until the corrective actions ordered … are completed;*"

It is important to note that the *Act* requires the issuance of an Order according to the rules under §25, and §26. According to the *Act*, the owner/occupant has already broken the law. The *Act* stipulates the offenses and refers the fire-inspector to the *Summary Offenses Act* for process.

The *Act* provides the Order process, which is part of a legal process, and is the means to commence the process of correcting offences. Orders are not a substitute for prosecution, they are a parallel step along the way.

It's GA's understanding that few if any owners or occupants have been prosecuted for violations of the *Fire Safety Act* - Fire Code. We note in the Fire Inspection Report for the Year 2017 various inspections with the dates of the inspections and the dates for follow-up inspections. Follow-up inspections means that there were violations noted at the original inspection and that the owner was instructed to fix them. Most of these follow-up dates are about six weeks after the original inspection, but some were 12 weeks, and one was just shy of eight months.

GA does not know if any Orders under the *Act* were issued, but suspects not many were. There should have been Orders issued in every inspection where violations were found. Failing to use the tools in the *Act* to issue Orders and prosecute owners for violations can incur negligence liability for the municipality and for the fire-inspector. If a deadly fire occurred within the grace period, the fire-inspector provided the owner, between inspection and re-inspection(s) the fire-inspector would be held proportionately liable if the condition in violation was material to the

loss/death. This liability is vicariously shared with the municipality and the municipalities liability insurance carrier.

GA recommends that a thorough evaluation of current fire-inspection practices and procedures be conducted to determine compliance with the *Act*. Changes should be immediately made where discrepancies are found or practices open up the municipality to avoidable liability.

Fire Investigation

Fire investigation, as mentioned, is a mandated activity after every fire. The person currently responsible for doing the investigation is the district fire chief, who is generally automatically appointed as a *Local Assistant to the Fire Marshal*. The *Act* allows other members of the fire department to be delegated as Local Assistants and to do fire investigations.

GA interviewed the district fire chiefs and they do own the responsibility for investigations. However, they also expressed that with time and energy expended fighting the fire, and with being responsible for the department during and after the fire; often they are not well motivated to spend more time the next day at a fire doing a detailed investigation. They lean on the Fire Marshal's office (OFM), and in several noted cases have leaned on an insurance company adjuster to provide investigation of the fire.

The Fire Marshal's fire investigators will investigate fires, but only do a fraction of the province number of fires every year. There must be a death, serious injury, very large loss, or suspicion there is something of provincial interest, for the OFM to accept doing an investigation. The catch is, in order to know if these triggers are present, some investigation needs to be done locally first.

Insurance companies are motivated to avoid paying out dubious or fraudulent claims; which is understandable. Unfortunately, this makes them an inherently biased source for fire investigation services. Most use contracted services, who are hopefully competent. GA was told of one prominent case in the area where two insurance companies were in dispute over the cause of a fire, and the apportioning of responsibility. Fire investigation is a science, and must be conducted accordance to forensic investigation rules. Conclusions must be supportable in court.

The RCMP is responsible for prosecuting Criminal Code offenders for arson. To do this they need evidence from a fire to build a case for prosecution. Usually, the RCMP work with the OFM in obtaining this evidence, if OFM accepted the fire for investigation.

Under the rules of the *Canada Evidence Act*, the police need probable cause to obtain a warrant before they can start taking physical evidence from the fire scene in a criminal investigation. If the OFM is not involved in an investigation, then the probable cause must come from the fire department's investigator. Probable cause is most effective when it comes early in a case, and not 24-36 hours later after potential evidence is lost, destroyed or altered. It is also more valuable, and secure, if it comes from a credible source; i.e. a qualified fire-investigator. It is GA's experience that a successful fire investigation should start while the fire is still in progress.

Fire investigation is a professional skill, and takes considerable training and experience to become competent. This is a deterrent for Local Assistants (fire chiefs) to take on the role that they have forced on them, and is a deterrent to getting a well processed and informed investigation that will withstand scrutiny. For the average citizen who experiences a fire loss, the value is the insurance company will more likely pay-out the loss. For the municipality, the value of an opportunity to focus fire-safety education and inspection programs appropriately.

GA recommends that qualified fire-investigators be retained by the Regional fire service for the purposes of investigating all fires for their origin, cause, and circumstances.

Fire-Safety Education

The local fire departments currently do some fire-safety education in their communities. Some of these activities include open houses where children and parents have the opportunity to visit the fire station and fire trucks and possibly pick up a smoke alarm pamphlet. For a number of years one station went out into the community once a year and did home smoke alarm checks and friendly home risk inspections. This initiative eventually morphed into a fund-raising activity and so was dropped.

Anecdotally, GA heard the following comments on station based "fire prevention." Many firefighters do not enjoy participating in fire prevention (i.e. fire-safety education) activities.

Those that do, do so as time permits, often as an individual initiative. Some stations have firefighters go to schools and nursing homes. Some stations are against doing a smoke alarm program where the firefighters go out into the community and visit homes. One group mentioned a possible partnership with ground search and rescue where GSAR could get fundraising support in exchange for assistance with fire-safety education assistance.

GA saw no evidence that there is any Regional coordination and resourcing for these activities, although there are modest funds in the budget for this purpose. West Hants Policy COGE-007.00, under which the local fire departments are registered to provide their services, expressly states a desire for the above to happen, as follows;

> *"The purpose of this policy is:*
>
> *d) To provide for other matters necessary and expedient for the provision of fire and emergency services, including: …*
>
> *(3) To create the framework by which the participating Service Providers and the Municipality can explore opportunities to **standardize the delivery** of fire and non-fire emergency services including **fire prevention activities** such as promoting awareness and providing education, …*" {emphasis added}

GA recommends that more resources, coordination, and emphasis be placed on fire-safety education activities. These activities should be delivered locally but coordinated regionally and in accordance with risks in the community.

THE FIRE SERVICES ORGANIZATIONAL REVIEW OBJECTIVE

The Review was intended to determine a cost effective and efficient organization for the delivery of fire services throughout the new Regional Municipality.

The Review included all of the current services being offered, current service levels, staffing, staffing types and staff functions. Recommendations were requested that would enable the new regional municipality to establish a fire protection service delivery program that would be homogeneous across the entire regional municipality. Part of the goal was to consider the valued history and individuality of the local community culture of each of the current fire departments.

Change is implied when a fire service is reviewed as a result of municipal evolution. Sometimes it is hard to accept the changes needed to provide better fire and emergency services. Although the status quo may need to change, change is never easy and is not universally acceptable, especially to those who are heavily invested in the present.

However, sometimes the expectations of the public, who receive and pay for the services, will push the need for change. In that case it is better for those who provide the services to understand the need for progress and to embrace and become part of the change. The service providers contributions past and present are appreciated.

In general, the fire services have believed that the solution to new and developing challenges was to apply more resources; i.e. more money, more staff, more equipment, and etc. A study of the true needs to meet new demands for service can show in some cases that the *need more resources* approach is not the only solution, and may in fact not be the appropriate solution as there are inherent challenges for the organization in adding resources, not to mention the financial strain on taxpayers.

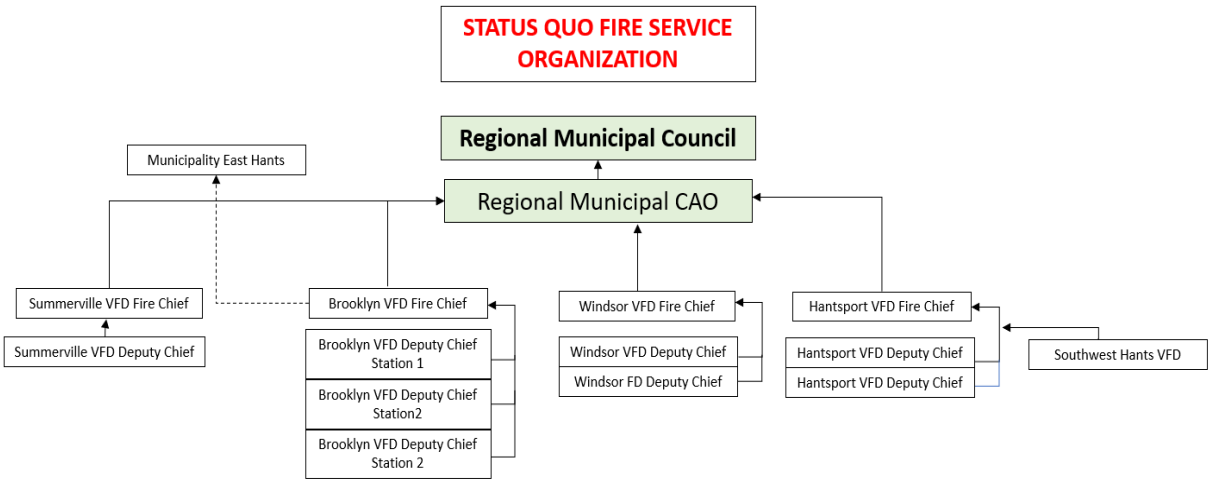
One of the fundamental questions posed as part of this Fire Services Review was whether or not the current fire department resourcing was sufficient to meet service demands. In our opinion the resources are adequate, but should be considered within the context of optimizing their access for use. In other words, current resources should be used more efficiently, as part of a better coordinated system of service delivery.

To that end, three organizational models were evaluated to determine if they would meet the stated objectives and goals of the Review. In any organizational structure it takes great collaborative leaders and support from within the organization to meet the organization's objectives. With the caveat that it is most unlikely that any proposed organization will work without the right leadership, GA has developed for consideration the following three organizational models.

***Model 1**: The Status Quo*

One of the main goals of this Review was to propose how to provide a more homogeneous service. The evidence of the past and current procedures, policies, interdepartmental relationships, and department competitiveness distracts from any true standardized service delivery. There have been steps taken to address a few of the issues, but much more needs to be done, if there is to be any real progress.

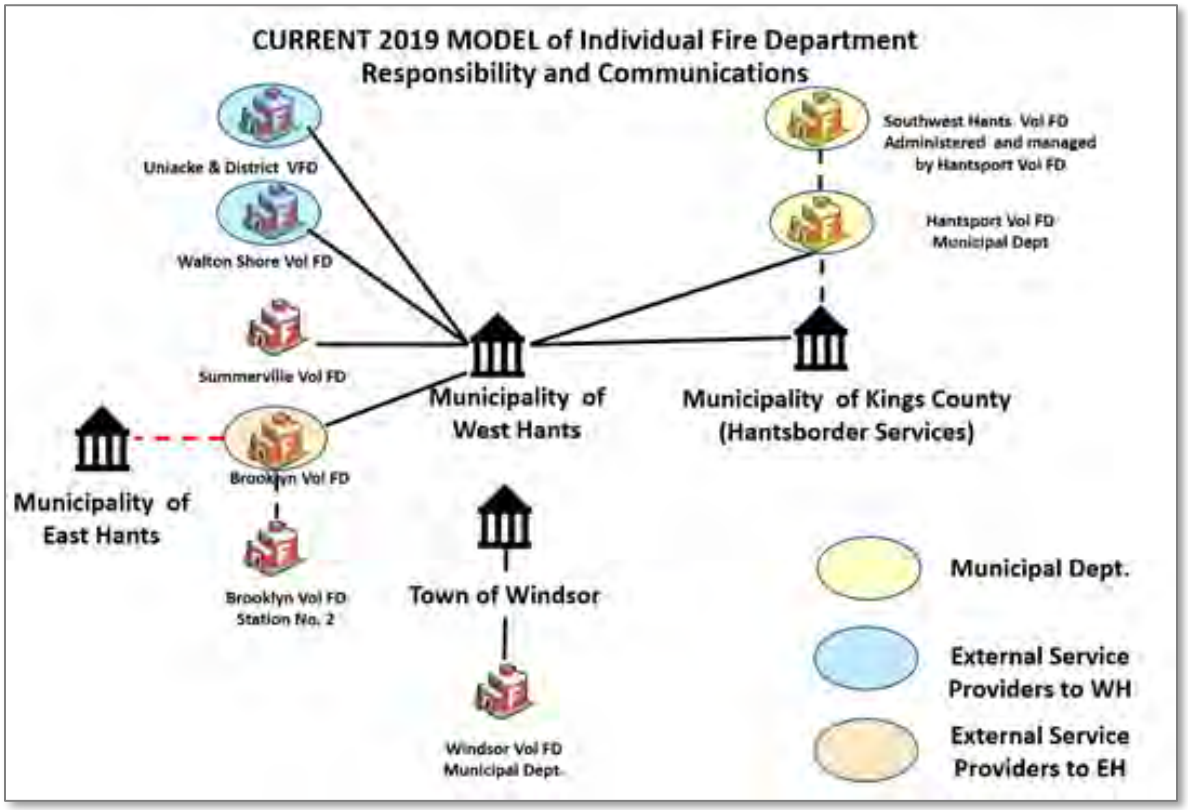
In the current situation, all but one department is managed by a registered society. The following represents the current/existing organizational model



The reporting relationships of this model are complex and largely tenuous. Many relationships are at arms-length from the municipality, and indeed may not be known to the administration and

may not be formalized although they likely carry liability. The following diagram illustrates these relationships.

***Model 1**; Relationship Diagram*



An analysis helps to clarify the pros/cons of this model. The results are captured in a S.W.O.T. (Strengths, Weakness, Opportunities, Threats) analysis chart, as follows on the next page:

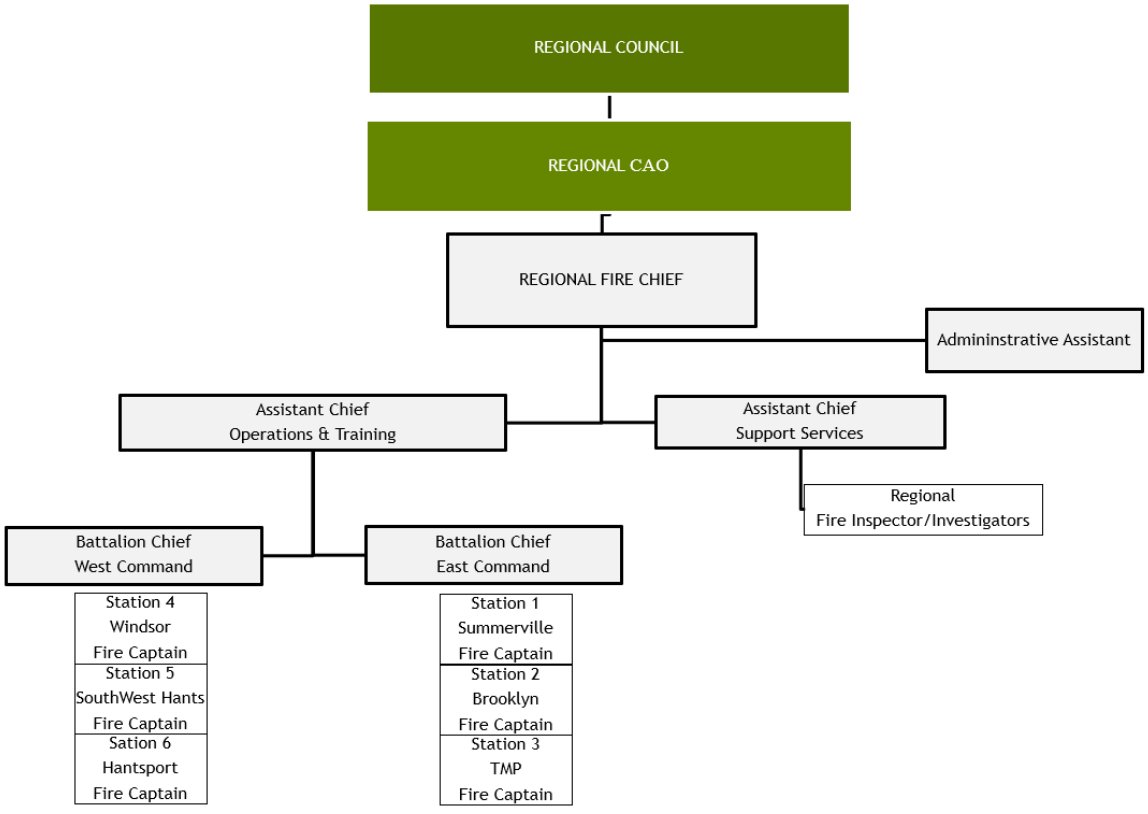
***Model 1**; S.W.O.T. Analysis*

	STRENGTHS		WEAKNESSES
1	Because Societies have responsibility for the administration, management, and operation of their departments, within municipal set rules, there is little municipal overhead required on a day to day basis	1	Lack of Municipal oversight for those that are Society Departments, and who are accountable to their society and local community residents
2	The current model has provided 60 plus years of service to the communities.	2	Lack of complete Accountability & Transparency Funding issues are problematic
3		3	Perpetuates the possibility of self-serving interests
4		4	Lack of Collaborative Leadership
5		5	Often big picture of service delivery is lost
6		6	Possibility of differing service levels throughout the Regional Municipality
7		7	Could possibly create an over or under funded department, exceeding or not meeting needs of the local community
8		8	Lack of overall Regional strategic focus
		9	Only responsible to deliver a service level to local area.
9		10	Not all polices and procedures between departments are compatible; possibly causing operational challenges and personnel issues
	OPPORTUNITIES		**THREATS**
1	Opportunity for change to permit effective collaboration so as to meet the needs of the Regional Municipality	1	Liability Risk to Regional Municipality is high
2		2	Must negotiate with service provider on any proposed changes to service delivery methodology and accountability
3		3	Often suggested alterations to current conditions are perceived as a threat to individual organization's viability and possibly impact business relationship and political fallout
4		4	Major disagreement may threaten provision of services and municipality may have to scramble to find alternative solution
5		5	Costs to municipality may continue to increase with little ability to find alternative cost model due to lack of true insight into needs

***Model 2**: Integrated Regional Service*

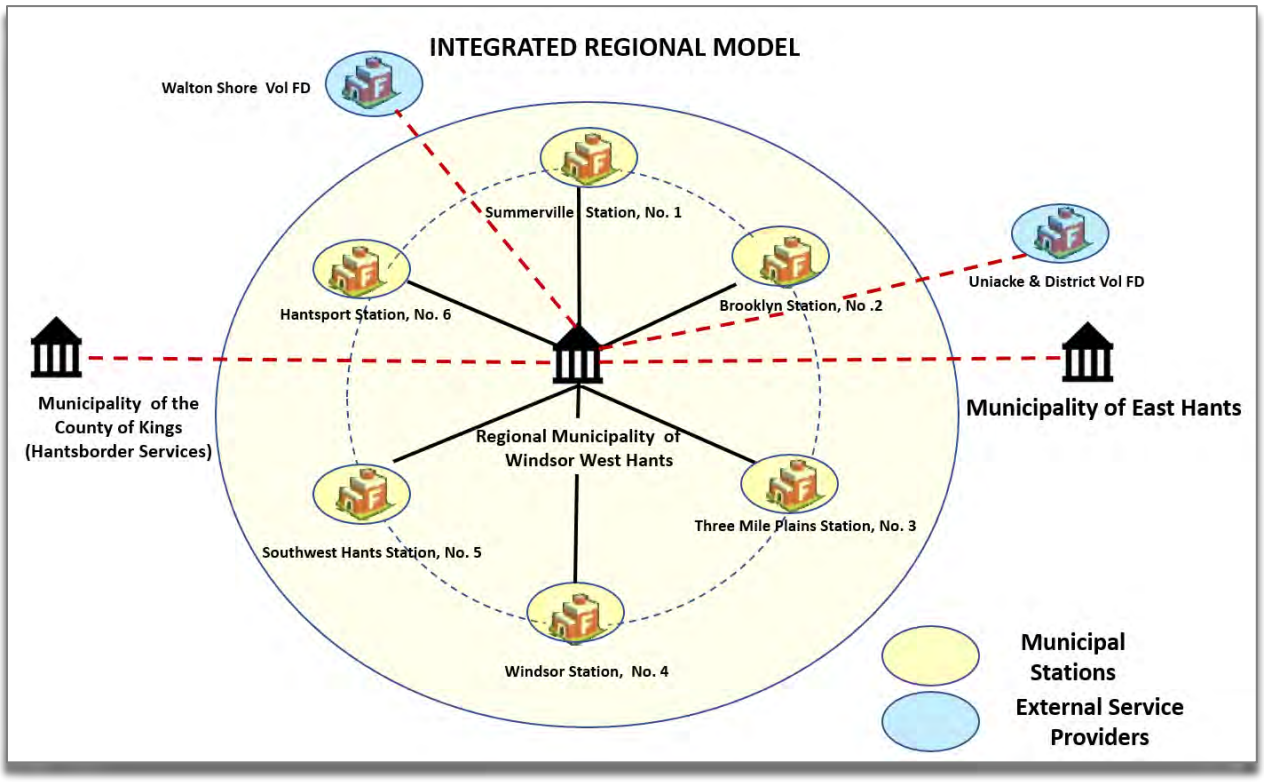
This model is similar to the HRM (Halifax Regional Municipality) Model. It is a fully integrated municipal fire service model featuring a single management group that is part of the municipal management structure; supported by line and staff positions, and with each station having a senior Fire Captain in charge, reporting to the consolidated management group.

Complete and full responsibility, accountability, and funding for the service rests solely with the Regional Municipality. Establishing this model would require the Municipality to buy-out or displace the existing Society run services.



The reporting relationships of this model are well known and defined. All relationships are direct to the municipal management team, with each municipal department contributing its expertise as with any other municipal operational department. Accountability and transparency are subject to administration and Council oversight. The following diagram illustrates these relationships.

***Model 2**; Relationship Diagram*



An analysis helps to clarify the pros/cons of this model. Analysis results are captured in a S.W.O.T. (Strengths, Weakness, Opportunities, Threats) analysis chart, as follows on the next page:

***Model 2**; S.W.O.T. Analysis*

	STRENGTHS		WEAKNESSES
1	Provides Municipal oversight	1	Drastic change will put exteme stress on volunteer/Corporate relationship
2	Provides Accountability & Transparency	2	Lacks recognition of individual department history and contribution to their local residents and the community at large.
3	Accountability to all regions and citizens of the municipality	3	Lacks redundancy with in the operating function of the organization
4	All departments provide service, without mutual aid or auto-aid agreements, to all areas of the Regional Municipality	4	Potential impact on volunteer recruitment and retention as there are few promotional positions/opportunities with the service
5	Provides for big picture overview of entire fire and emergency service delivery. Stronger Corporate understanding of issues and challenges	5	
6	Provides one Regional strategic focus in service delivery	6	
7	Standardizes, administrative, management and operational policies, including , training, safety, service delivery, HR and volunteer benefits	7	
8	Reduces Municipality's liability in service provision	8	
	OPPORTUNITIES		**THREATS**
1	Opportunity for change to permit effective administration and management of the fire service so as to meet the needs of the Regional Municipality	1	Remote management could lead to mass resignations of volunteers
2		2	Negative Political impact likely in near term
3		3	Potential lessening of integration with the local community

***Model 3**: Hybrid Regional Fire Service*

This model is a blend of the current (status quo) and the integrated regional model. It is a partially integrated municipal service featuring a distributed management group that includes; a Director of Protective Services/Fire Chief (DPS/FC) who is part of the municipal management structure, some regional staff positions to support administration and regional priorities, and a management committee of district fire chiefs representing local fire station management.

The role of the Director of Protective Services also includes responsibility for the Region's Emergency Management Program and will act as its Regional Emergency Management Officer when called upon. In addition, the role of Protective Services Director, on behalf of the CAO/Council, is the main liaison between the Region and Emergency Health Services and Policing.

This model provides better responsibility and accountability to the Regional Municipality than the status quo while still recognizing a semi-autonomous role for local management of fire stations.

Individual district fire chiefs, within their respective response districts, will have responsibility for local issues and will ensure that their station and volunteer firefighter staff are ready and able to respond to incidents as required. The regional DPS/FC will have responsibility for the overall fire services delivery, including operational and financial management of the fire services and responsibility for implementing Council's directives on standards and levels of service. His/her responsibility will be to ensure the provision of an effective, efficient, and safe emergency response service that meets best practices and that is accountable to the municipality's Chief Administrative Officer and Council.

It is recommended that individual fire stations maintain their individual community names in order to maintain that local connection to the community. For this reason, we are also recommending that all six W/WH stations operate as individual entities within their communities, not as substations.

This model features a District Fire Chiefs' Management committee that meets with and reports to the Director of Protective Services/Fire Chief. This committee is recommended to not only improve communications throughout the W/WH fire service, but to also achieve consensus on issues of importance.

This model is anticipated to provide full accountability and transparency, and will take advantage of the benefits of standardization of service, equipment, training, and response procedures. One of the benefits will be cost-efficiencies in region-wide purchasing of equipment and also the better use of unique equipment region-wide.

The recommendation is to include a part-time Divisional Chief of Training, Safety and Communications. The role of this part-time position is to develop standardize programs, and to implement and manage those programs across the regional fire service.

This organizational model also proposes to enhance the current positions of part-time station maintenance and cleaning personnel to include the duties of a firefighter/driver. This will enhance response during those times of the day and days of the week where volunteer response is low.

This model provides for an Assistant Chief position that, in addition to filling in for the Director of Protective Services/Fire Chief his during absences, is also responsible for the Regional Municipality's Fire Prevention initiatives; i.e. fire safety-education, and regulated fire-inspection, and fire-investigation services.

It is proposed that the current practice of fire-safety education, delivered to the public by their local stations, continue. What we have heard during this study is that this initiative is in need of coordination across the Region and better support. It is not essential that active firefighters provide this service. Interested civilians, seniors, or retired firefighters are often interested in participating in these programs, and this model improves that opportunity.

Currently fire-inspection services are being performed by the West Hants building inspection personnel. There are currently insufficient resources assigned to this task to meet legislated and bylaw requirements for fire-inspection. Fire-inspection is a secondary priority for the busy

building inspectors and there needs to be more focus on what is in fact a potentially life-saving service and overall cost saving program. For this reason, we are proposing that fire-inspection and Fire Code enforcement services be delivered by the Regional fire services. Effective communications with building and planning staff is required to continue. GA has worked with the proposed model in several jurisdictions and it does work well.

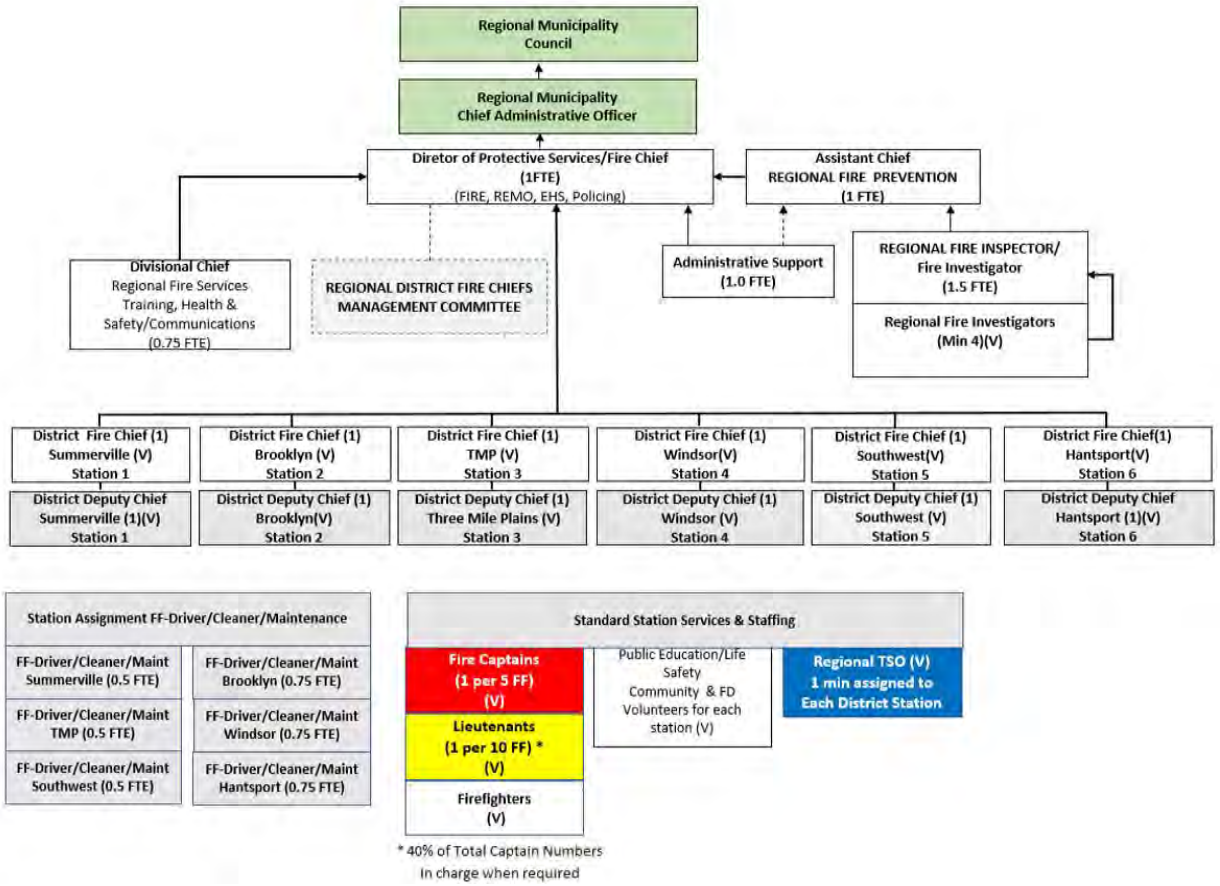
The model provides for 1.5 FTE fire-inspectors. The inspectors will also have a role to play in fire-investigations. Very often Fire Code violations become evident during a fire investigation to those who know the requirements well, i.e. fire-inspectors. These violations are often contributory to loss and injury suffered during the fire.

Currently, fire-investigations are not meeting best practices nor the requirements of legislation. Adequate numbers of properly trained staff are required to ensure that every fire is investigated within the legislated time-lines, and that the required fire incident reports are completed and filed with the Fire Marshal's office, also within the legislated time-lines. We are proposing that a small cadre of interested volunteers be trained as part-time fire-investigators, and that they be deployed region-wide, on an on-call basis, and as-needed to support the incident commander by providing effective fire investigation resources in a timely manner.

We are suggesting that for radio communication effectiveness and personnel safety that the stations and assigned apparatus be assigned a unique number/ID. That concept is incorporated in the proposed model.

The following diagram shows the basic features of the proposed organization model.

***Model 3**; Organization Chart*

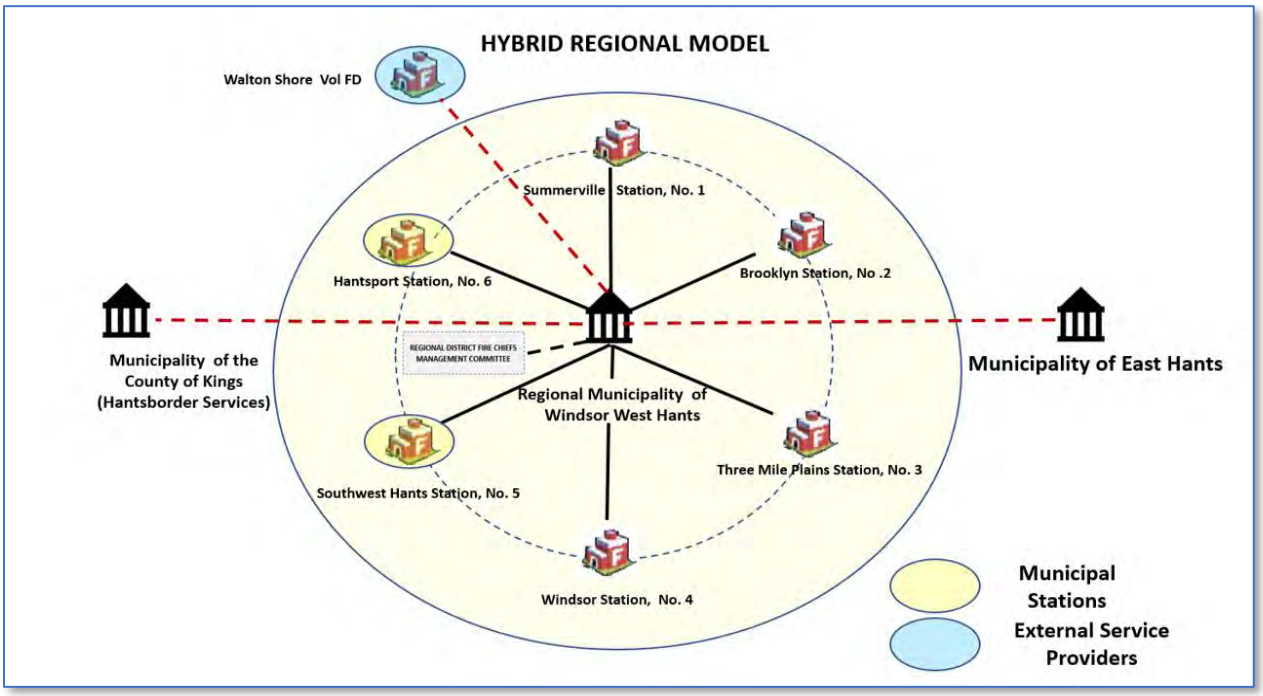


The reporting relationships of this proposed model are well known and defined. All relationships are direct to the municipal management team through the DPS/FC. Each municipal department will be able to contribute its expertise as with any other municipal operational department. Accountability and transparency are subject to administration and Council oversight. The following diagram illustrates these relationships. With this model, the part time contract position of REMO will become the responsibility of the Regional Fire Services most senior position.

In addition, an Assistant Chief of Fire Prevention will also be required to carry out the responsibilities of the Fire Safety Act/Regulations but also act as the Director during the Director's absences.

This model requires an administrative support position to support both the Director and the District Fire Chiefs.

***Model 3**; Relationship Diagram*



An analysis helps to clarify the pros/cons of this model. The results of the analysis are captured in a S.W.O.T. (Strengths, Weakness, Opportunities, Threats) analysis chart, as follows on the next page:

***Model 3**; S.W.O.T. Analysis*

	STRENGTHS		WEAKNESSES
1	Provides Municipal oversight by the CAO and Director of Protective Services	1	Not being able to fill the positions with persons having the correct skill set and willingness to accept role responsibilities.
2	Provides protective services, i.e. fire, REMO, fire inspections, fire prevention , Emergency Communications and liaison with emergency services partners , i.e. EHS, RCMP under one roof.	2	Certain positions identified as requiring Certifications may not being accepted.
3	Retains, department individuality & Recognizes within current department districts the role of District Fire Chief	3	Initial start up costs
4	Provides District Fire Chiefs direct input to the overall administration and management of the Regional service to the Director of Protective Services and ultimately the CAO; via the District Fire Chiefs Management Committee	4	Time is needed to obtain buy-in and plan implementation.
5	Provides Accountability & Transparency	5	
6	Accountability to all regions and citizens of the municipality	6	
7	Provides for big picture overview of entire fire and emergency service delivery.	7	
8	Provides one Regional strategic focus in service delivery	8	
9	Standardizes, administrative, management and operational policies, including , training, safety, service delivery, HR and volunteer benefits	9	
##	Provides redundancy across fire service positions across the region thereby reducing volunteer stress and burnout. Improving retention rates		
##	Significantly Reduces Municipality's liability in service provision		
	OPPORTUNITIES		**THREATS**
1	Opportunity for change to permit effective administration and management of the fire service so as to meet the needs of the Regional Municipality	1	Often suggested alterations to current conditions are perceived as a threat to their organizations viability and possibly impact department morale and business relationships
2	Provide volunteers and staff growth opportunities within the organization	2	Lack of buy-in
3	Provides the opportunity to provide a best practice , affordable service, meeting the needs of not only the municipality but the needs of the volunteers and staff of the fire service organization.	3	Lack of funding to implement all crucial objectives in a timely manner

Sample Fire Services Job Descriptions

To assist the reader in understanding and appreciating some of the fire services positions more fully, draft sample duties/job descriptions are attached as **Appendix VII; Sample Job Duties and Descriptions** to this report.

The positions included are:

- The Director of Protective Services/Fire Chief
- Assistant Chief of Fire Prevention
- Divisional Chief of Training, OHS, and Communications
- Regional Fire Inspector/Investigator

Organization Conclusion, Recommendations

F. Buckminster Fuller is quoted as saying: "*You never change things by fighting against the existing reality. To change something, build a new model that makes the old one obsolete.*"

Can we use technology to gain efficiencies in service delivery? Can we use existing, not commonly used, resources from varying, sometimes competing, entities to meet the need rather than buying more?

The organization just needs to put things together differently and better. The organization needs to focus on wholistic service delivery. The results/outcomes would possibly achieve the very thing claimed to be desirous in the first place; i.e. a change for the better. Individuals know *what* needs to be done; the deeper question is *how*. If there is one dominant theme which runs through all of today's challenges, it is awareness that the way things have been done is no longer acceptable in today's environment.

Collaborative leadership needs to create a space in which each of the leaders and professionals come together to design and build the new model for systematic program delivery.

Collaborative leadership can be implemented at any time and can resolve the problem of silo-thinking and achieve cost-effective goals and objectives.

Successful change requires time and relationship intensive consensus building with due sensitivity to, and the broad-based participation of, key stakeholders. Highlighting to all stakeholders the need to manage liability and risk issues is an important component of any regionalization/consolidation process. Seasoned leadership and support staff are key success factors to the successful initiation of this strategy and to sustain it over the long run.

There are two key challenges in managing organizational change; developing trust and consensus among key stakeholders, and managing diverse volunteer fire department desires.

GA recommends the implementation of Model 3; Hybrid Regional Fire Service, for all of the reasons discussed starting on page **120** above.

GA recommends the hiring of a full-time Director of Protective Services/Fire Chief.

GA recommends the hiring of a full-time Assistant Fire Chief.

GA recommends the hiring of a part-time Divisional Chief.

GA recommends the hiring of a full-time Administrative Assistant.

GA recommends the hiring of four part-time paid on call fire-investigators.

GA recommends the transfer of 1.5 FTE Fire-Inspectors from Planning & Development, Building, to the regional fire services.

OPERATIONS

EMERGENCY CALL TAKING AND FIRE SERVICE RADIO COMMUNICATIONS

911 CALL TAKING AND ROUTING

The *Emergency "911" Act* was enacted in 1992;

> "The purpose of this Act is to establish the number "911" as the primary emergency telephone number for use in the Province and to implement a Province-wide system for the reporting of emergencies to emergency service agencies. 1992, c. 4, s. 2."

It is useful to pull some definitions out of the Act for our discussion, as follows;;

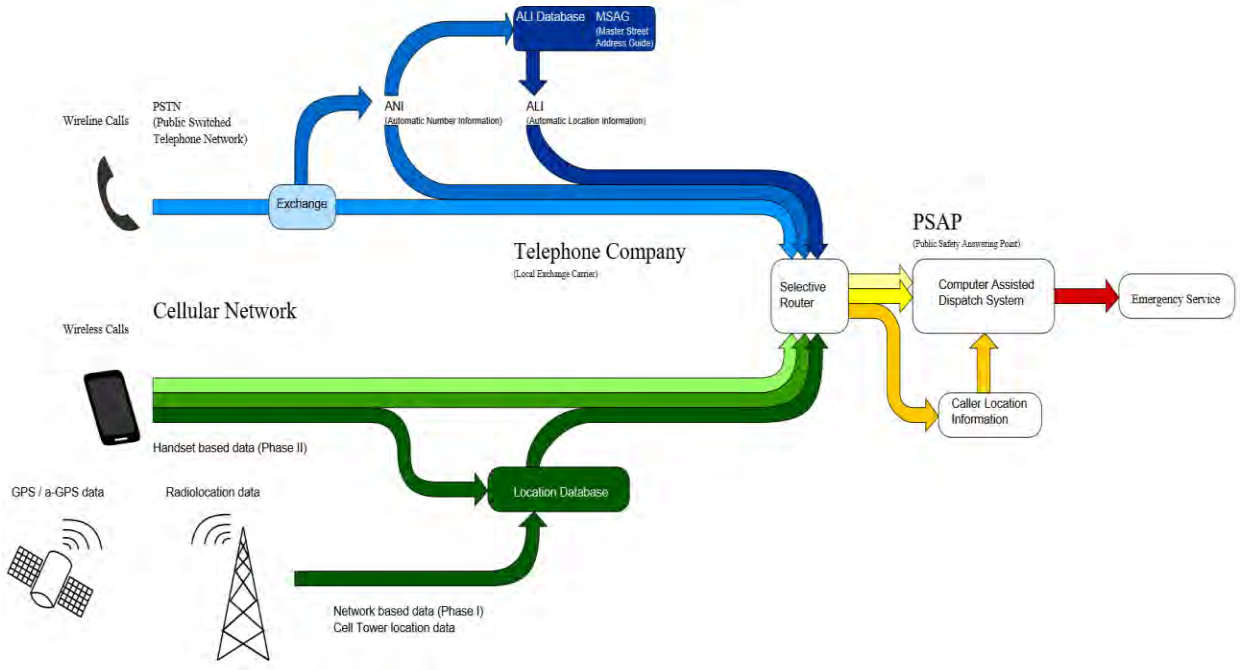
> "3 In this Act,
>
> (h) "primary public safety answering point" a primary public safety answering point means a communication centre that is normally the first point of reception of emergency calls;
>
> (i) "public safety answering point" means a communication centre that functions to receive emergency calls and to dispatch such calls to the appropriate emergency service agency;
>
> …
>
> (k) "secondary public safety answering point" means a communication centre to which emergency calls are transferred from a primary public safety answering point that is normally the agency responsible for dispatching emergency personnel;"

Windsor/West Hants 911 Service

The 911 system (E-911) service for the Windsor/West Hants fire departments commences with a caller in need dialing 911. This 911 call is routed to the Primary Public Safety Answering Point (PSAP). The PSAP for Windsor/West Hants is Truro RCMP in Truro, NS. If they are too busy then Valley Communications picks up the overflow, followed by HRM, and finally CBRM.

Due to the technology of telephone and cellular service providers and the capabilities of the E-911 system, two key pieces of information are immediately provided, the telephone number from the caller's telephone (called an ANI, Automated Number Identification) and the address and/or location (either the civic address if call is made by landline or the closest cellular tower if by cellular phone) from which the call is being made (called an ALI, Automated Location Identifier).

These two very important pieces of automated information assists the E-911 operator in determining to which emergency service the call should be transferred to, in a timelier fashion.

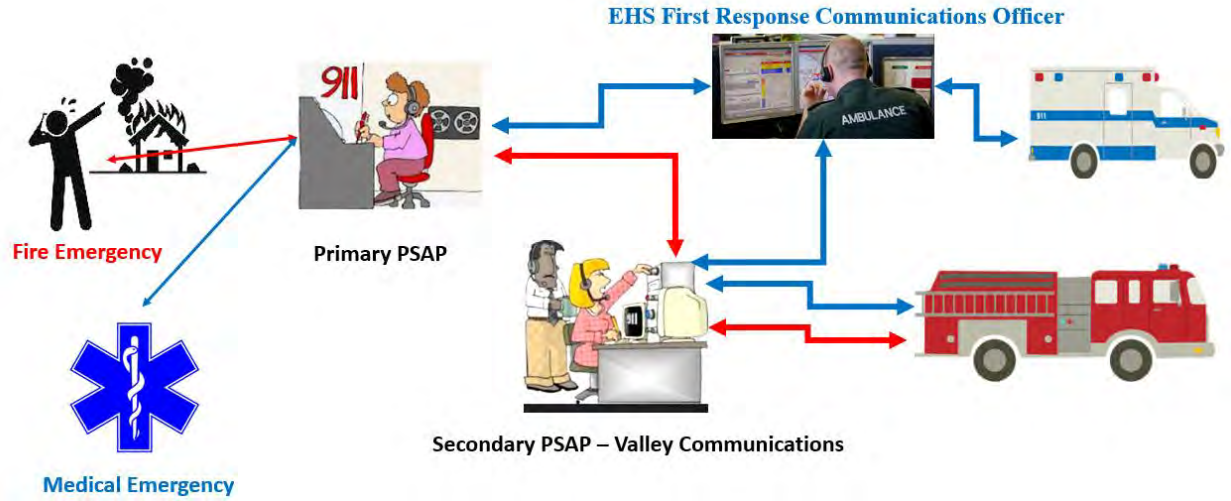


For fire incidents, once the Primary PSAP call taker determines the nature of the emergency (police/fire/ambulance) and confirms the location against the ALI information, the call taker then transfers the call to the Secondary PSAP/Dispatch centre for fire services in that area. The above graphic from Wikipedia[35] illustrates the process.

In the Windsor/West Hants region the fire dispatch service is operated by Valley Communications. For medical emergencies, medical calls received by 911 Primary PSAP are transferred to an EHS First Response Communications Officer (FRCO) located in their communications center in Dartmouth. EHS then triages the nature of the medical emergency, and will dispatch the closest ambulance and contact a secondary PSAP to dispatch the closest fire department; in accordance with provincial EHS and local Fire Department Medical First Responder protocols.

[35] https://en.wikipedia.org/wiki/9-1-1

Once Valley Communications determines the nature of the service required, i.e. Medical First Responder, fire, rescue, and etc., they will dispatch the appropriate fire department(s).



VALLEY COMMUNICATIONS

Valley Communications (VComms) was established in 1959, then known as the 'Kentville Telephone Answering Service', to provide emergency call taking with dispatch service to the Kentville Volunteer Fire Department. Other areas of the business developed to provide service to other agencies that required around the clock coverage.

At present, Valley Communications operate as one of four 911 PSAP's (Public Safety Answering Points) in the province of Nova Scotia. They act as a Primary PSAP for the town of Kentville and the surrounding area cellular towers and act as a Secondary PSAP for the Town of Windsor and the Municipality of West Hants. They also provide fire dispatch for about 94 fire departments in the counties of Kings, Annapolis, Hants, Lunenburg, Queens, Colchester and Cumberland, and act as a secondary 911 answering point for these areas. This translates to 8,000 fire calls per year or 20 to 30 calls per day. Valley Communications also provides telephone answering service to over 100 clients and monitors over 2,000 security alarms province wide.

The Town of Windsor and the Municipality of West Hants both have active service contracts with Valley Communications. Both of which expire June 30, 2020. (Ref. Appendices II and III). The contracts, although for basically the same services, are different.

Communications/Dispatch Service Contract Notes

The following are some observations related to the service level agreements reviewed between the municipalities and the supplier that should be addressed to ensure an appropriate level of service is maintained. The contracts differ between the two municipalities. One references the provision of dispatch services, the other communication services.

GA recommends that future communications/dispatching contracts reference all services required, for example; "*provision of fire department dispatching and emergency communication services*".

The following notes are for the current services being provided;

- There is no clarification on how Valley Communications are to keep the records, who has access, who does the auditing of the records and who manages quality control related to records management.
- There are no service level performance requirements,[36] such as time required to process receipt of a 911 call to time of dispatching the appropriate services.
- No required level of training and or qualification of operators.
- There is no record or copy of a signed Non-Disclosure agreement.
- The recording of all emergency calls with accurate time and date is required "*when at all possible*". (West Hants Contract). Question why would it not be possible?
- A copy of digital recordings, "*if available*", are to be kept on site for the duration of the Agreement. (West Hants Contract) Why would the digital recordings not be available?
- The West Hants contract permits the Municipality to periodically review Standard Operating Guidelines and update from time to time. The term periodically is not defined.

[36] Fire Service Association of Nova Scotia (FSANS) Fire Dispatch Standards requires that the number of Call-Taker/Dispatchers on duty to be determined by the following performance benchmarks: C(i) 95% of emergency calls shall be answered within 15 seconds and 99% within 40 seconds. C(ii) 95% of emergency dispatching shall be completed within 60 seconds.

Valley Communications Operations

Communication Facility

The most recognized standard for communications facilities is NFPA-1221; *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*. This is a very stringent standard. In 2017, the Fire Services Association of Nova Scotia (FSANS) produced a *Fire Dispatch Minimum Standards* document that is based upon the NFPA-1221 standard, while recognizing modified requirements for existing structures.



The current facility is a vintage converted residential above ground structure, featuring offices and the communications center, complete with a backup power generator for the comms center. It is located at 218 Belcher Street in Kentville, NS.

Staffing

Day time hours (8:00 am to 4:00 pm) there are three (3) to five (5) staff on duty, if the center gets extremely busy some of the office administration staff are able to assist. The 4:00 pm to 8:00 pm shift, three (3) staff are on duty and the 8:00 pm to 8:00 am shift two (2) staff are on duty.

The minimum staff on duty are still required to provide primary and secondary PSAP services as well as being the backup Primary PSAP for Truro and Cape Breton Regional Municipality as well as process and dispatch fire calls on behalf of 94 fire departments (20 to 30 calls per day), acknowledge security alarms, and do client paging services. Depending upon time of day and work volume, off-hour staffing could become very challenged to meet demand in an effective and efficient manner.

Call Taker/Dispatcher Training

Training is all done internally and features a six (6) month mentorship program with a competent dispatcher, 911 is the last part of the training program. All new personnel start off as part-time staff.

Valley Communications (VComms) has developed their own training manual; employing a lot of the Halifax Regional Municipality information. Training includes seven (7) days of PSAP training conducted by provincial EMO staff at their Dartmouth PSAP. Local training includes operation of communications equipment and related software. Every Two (2) years refresher training for all staff is required with E-911 for PSAP operations. PSAP operation follows provincial operating procedures.

GA recommends that Valley Communications have one or two staff attend a recognized certification program such as offered by the Association of Public-Safety Communications Officials (APCO). Such courses are offered in a number of colleges in Ontario. Extensive training is also available through APCO online.[37]

The FSANS Dispatch Service Standards (2017) requires the following;

> "9) Trainee Call Taker/Dispatchers shall successfully complete a Call Takers/Dispatchers training program recognized by APCO or other authority"

NFPA-1061[38] also establishes qualification requirements for "*Telecommunications*" personnel, and is a good resource for additional training needs and programs.

Dispatch Facility

Standards for Dispatch Facilities are provided in the Fire Services Association of Nova Scotia (FSANS) Dispatch Service Standards and some of which are highlighted below.

[37] https://www.apcointl.org/training-and-certification/course-options/institute-online/

[38] National Fire Protection Association; NFPA-1061, Standard for Professional Qualifications for Public Safety Telecommunications Personnel

BACKUP FACILITY

FSANS Fire Dispatch Standard requires;

> 1) Every Comm Centre providing emergency dispatch or notification services shall have a reliable, fully functional backup facility sufficiently geographically separated from the primary facility so as to minimize dependence on the same electrical distribution, sanitation and transportation infrastructure.
>
> 2) A backup facility shall be maintained in full standby mode such that dispatchers can be relocated to it on short notice and immediately resume full service to clientele.
>
> 3)The backup facility communications equipment shall be tested at least once a month. At least once every six months the backup facility shall be operated for one full shift.

Valley Communications has a backup facility located in the Kentville Fire Station. According to the supplier, the facility has never been tested.

GA recommends that the backup dispatch/communications facility's communications equipment be tested at least monthly.

GA recommends that at least once every six months the communications/dispatch backup facility shall be operated for one full shift as per FSANS standard and that records of all testing and operations of the backup facility be created and maintained, including all maintenance provided.

BUSINESS CONTINUITY-SUCCESSION PLANNING

> 1) The owner or manager of a Comm Centre providing emergency call taking, dispatching, or notification shall develop and maintain a business continuity plan to acknowledge the possibility of catastrophic events either physical or human.
>
> 2) The owner or manager of a Comm Centre shall develop and maintain a succession plan for continuation of service for a reasonable period of time in the event of a loss of any key personnel from the organization.

GA recommends that the dispatch/communications service provider undertake the development and implementation of business continuity plans and successions plans, if they have not already been made, as soon as possible.

Call Taking and Dispatching Operational Issues

An operational review was conducted of the Valley Communications Services (VComms) and their interaction with the fire services within the Region of Windsor and West Hants Municipality. A total of twenty-seven areas of service topics were reviewed. Both the fire services and VComms raised issues during the Review that impact efficient and effective services. Both had an equal part in some of the deficiencies. The good news is with collaborative efforts between all the parties involved, the Municipality, Valley Communications and the fire services the issues are all fixable.

Some of the findings of the review include the following.

- Quality Control of incident reports and data appears to be inconsistent
- Data entry errors, missing data. Some of the missing data can be attributed to the fire departments not reporting properly, or completely, or in a timely manner to Valley Communications (VComms).
- VComms time data entry is occasionally wrong (i.e. "*Depart Time*" and "*Time at Scene*" times reversed) & other time recording issues. These appear to be human operator errors, but a good CAD system would not permit such anomalies to occur, i.e. error trapping.
- Use of nonstandard time terms in the electronic CAD system; i.e. "*Time at Scene*" instead of "*Arrival Time*." In the majority of FD CAD/reporting systems "*Time at Scene*" is total elapsed time the FD actually spent at the scene. "*Depart*" time is the term used by VComms for the industry standard "*Enroute*" term, and etc. Although not fatal flaws, they are disconcerting because they do not meet standard understandings.
- Incident call classifications are non-industry standard. In some cases they do not allow a fine enough understanding on the part of the responder, and later the reviewer, into the true nature of the incident.
- Incident type dispatched by VComms vs their report tables at times do not match up. This is likely a symptom of the previous bullet point.
- Lack of E-911 automated ANI/ALI information populating the CAD and therefor fire departments' RMS.
- Valley Comms CAD reportedly does not record all 911 calls.
- Reportedly the back up facility is not being tested according to any recognized standard.

VComms has access to language translation services provided by ATT in Toronto; who have the ability to translate 70 languages. The time it takes to connect and translate is unknown, and reportedly has never been measured.

The transfer of calls between PSAPs is all verbal no ANI/ALI data available. Reportedly, VComms does not have the necessary equipment.

Computer Aided Dispatch

VComms uses a Computer Aided Dispatch (CAD) software program, developed in Nelson BC, called Fire Pro2 (FP2). Windsor Fire Department also uses FP2 for their Records Management system (RMS) and call tracking and service analytics. However, reportedly, as a result of VComms inability to receive the E-911 ANI/ALI information, all caller information received from the Primary PSAP is by voice only. This requires the VComms call taker/dispatcher to re-enter the call information manually by typing the information into their CAD system, which has led to many typographical errors, which in turns produces incomplete and erroneous incident data.

The Windsor Fire Department FP2 Records Management System, includes the module that permits downloading all incident data information from the VComms CAD system. This could permit the hands-off automated downloading of the Date, time, dispatch, response times, type of incident, responding units, and etc. This data could then be stored in an incident records module that permits future data mining and analyzing of the information. Data analysis allows the fire service to review and adjust service delivery programs in an effective, efficient manner.

Unfortunately, as a result of manual data manipulation and entry errors the information downloaded in many cases was incorrect and created additional effort on behalf of the fire service to correct the errors. Errors such as misspelling of addresses (e.g. Gray versus Grey) creates duplicate calls to civic addressing that were in fact not duplicate calls. Other data has been corrupted, which had nothing to do with ANI/ALI data, was discovered causing RMS errors that had to be manually corrected. Some examples are apparatus Enroute times were actually apparatus Arrival times and Arrival times being Enroute times. Meaning (nonsensically) the apparatus arrived before being dispatched. As a result of the data entry errors, the automated data download feature was turned off by the fire service.

Analytics in today's fire service delivery is of the utmost importance; but is only effective if it is timely and accurate. Analytics is needed to review fire and rescue trends developing within

communities. With a good understanding of service demands and issues, adjustments in service delivery can be made in real time and budget planning can be more accurate.

Fire RMS also make modules available for almost every aspect of the fire service. These can assist in managing the fire service delivery programs for each station, Modules include incident reports, equipment management/inventory, training records, personnel records, and etc.

There are several Canadian software programs available that integrate with E-911 data, are map based, include CAD capabilities and provide holistic RMS.

GA recommends that the Regional Municipality investigate a cost-effective fully integrated Fire CAD/RMS program. It is recognized that with the large client base of VComms that it may not be possible to reach consensus on a single CAD/RMS system for all fire departments. However, a possible and attainable goal is to have VComms' system operate properly, provide accurate data, and be able to interface and reliably data-dump, with error checking, to the RMS system that the Regional Municipality choses.

The other benefit to this research and acquisition is that depending upon the CAD/RMS program preferred, the other 80+ fire departments that VComms services might be interested in joining a larger client base for acquisition and maintenance of the preferred CAD/RMS and this may provide lower costs to the Regional Municipality.

Municipality Responsibilities

The contract requires the Municipality of West Hants to supply the equipment, tools and software ("Equipment") to the Supplier, or appropriate replacement Equipment, and may provide such additional Equipment as it deems necessary.

The contract requires the Town of Windsor and/or the Windsor Fire Department to supply the transmitters and receivers for the provision of Communication Services and the Town is responsible for all costs and charges for its own telephone linkage and any other costs and charges associated with the installation, repair and upkeep of equipment.

911 Call Taking and Dispatch Recommendations

GA recommends that Valley Communications adhere to FSANS Fire Dispatch Standards

GA recommends that the Regional municipality and Valley Communications acquire the required software and firmware/hardware to enable the capture of any and all ANI/ALI data from the Primary PSAP.

GA recommends that the Regional municipality appoint a single contact person to manage emergency dispatch/records management, radio communications, and be the primary liaison between the municipality and Valley Communications.

GA recommends that Valley Communications test, and time, Language Translation services provided by ATT in Toronto.

GA recommends that the Municipality and Valley Communications implement a proper and ongoing incident call reporting and auditing program.

FIRE SERVICES RADIO COMMUNICATIONS

The various fire stations across the region use two types of radio systems, a) their own private Very High Frequency System (VHF) and the province-wide multiagency Trunk Mobile Radio (TMR) system.

Several issues were raised by Stakeholders, as follows:

- Proper radio etiquette is an issue,
- Overkill on Medical calls. Reportedly, 3 departments paged for one medical incident.
- EHS dispatch lacks information when transferring calls to Valley Comms
- Fire Services switching back and forth between TMR and VHF frequencies during an incident.
- Not all channels being used are recorded
- Fire Services take over full radio control.

Current practice is for the fire departments to use both their VHF paging system, as a fire ground radio, and the TMR system, simultaneously. The fire services switching back and forth between different operating systems is a major safety issue and causes lack of continuity between the Dispatcher and the fire service during an emergency incident. This will be further discussed in the Fire Services Communications Section below.

IamResponding Application/Software

In addition to the radio communications all stations employ a software communications program called IamResponding.[39] This platform is a web-based system which saves critical time for fire departments, when responding to emergencies. When paging firefighters over the radio system, the dispatcher also routes the page to this application. After receiving a dispatch notification through the existing VHF radio system (or through IamResponding to any mobile device), responders simply speed dial one number on any phone, or press a button on IaR's free apps. On a computer screen in the stations (or accessed through any computer or mobile device with internet access), the station, chiefs, team leaders, and dispatchers immediately see who is

[39] https://iamresponding.com/v3/Pages/Default.aspx

responding, their level of certification/qualification, the time that they are responding, and the location where they are responding (station or scene).

IamResponding also provides: supplemental dispatch notifications to members (if data has been previously collected and inputted by the fire department) via app push notifications, text messages, emails and alpha-pagers (all simultaneously, and all managed by the members themselves). The supplemental information available includes; mapping and routing to the scene of the incident, customizable mapping layers showing the real-time location of all of your responding members, hydrant and water source locations, pre-plans, hazards, road closures, AED and FDC locations, and other customized map markers. It also features an internal mass-messaging system for easy and fast communications with all department members, records management tools for certification tracking, training records, incident reporting, and attendance.

GA does not know what if any additional features are being employed by the various stations.

Radio Hardware Inventory.

A review of the current radio inventory of the various stations throughout the region indicates that all stations have a mix of two manufacturers' radio hardware, with a multitude of differing models. Motorola by far outweighs the second supplier Kenwood in volume of product. Pagers are all manufactured by Motorola, and are of two different model versions. The following table provides a summary of the current inventory as provided by the individual fire stations.

			Summerville	Brooklyn	TMP	Windsor	Southwest Hants	Hantsport	
TMR	Motorola	Portables	14	17	0	5	4	13	53
		Mobiles	0	3	1	9	3	6	22
	Kenwood	Portables	0	0	1	0	0	0	1
		Mobiles	0	0	0	0	0	0	0
VHF	Motorola	Portables	16	35	33	22	5	27	138
		Mobiles	0	0	7	13	3	10	33
	Kenwood	Portables	2	7	0	0	0	0	9
		Mobiles	0	6	0	1	0	0	7
		Sub Total	32	68	42	50	15	56	263

Total Portables 201 Total Mobiles= 62. Windsor has 1 Marine Radio, plus 1 VHF Motorola repeater which brings the total radio compliment. 265 being reported.
TMP has 1 mobile base radio included in the VHF mobile number of 7.
NOTE: Summerville reports no base stations nor mobile radios.

In addition to two-way radio hardware all stations use VHF pagers for emergency response notifications. These Motorola pagers are ubiquitous in the fire service and, by necessity, operate on a VHF radio system. There are few, if any, suitable alternatives for firefighter pagers.

Dept Pagers	Freq Type	Manufacturer	Models	Channels	Number	Sub Total
Summerville	VHF	Motorola	Minitor 5		22	
	VHF	Motorola	Minitor 6		10	32
Brooklyn	VHF	Motorola	Minitor 5		27	
	VHF	Motorola	Minitor 6	1	4	
	VHF	Motorola	Minitor 6	5	28	59
TMP	VHF	Motorola	Minitor 5		1	
	VHF	Motorola	Minitor 6	1	1	
	VHF	Motorola	Minitor 6	5	24	26
Windsor	VHF	Motorola	Minitor 5		51	51
Southwest Hants	VHF	Motorola	Minitor V		12	
Hantsport	VHF	Motorola	Minitor V		34	46
					TOTAL	**214**

According to Industry Canada, as a standard rule in Canada, about 85% of radios sold are either in the UHF, or higher frequencies like 700 MHz (for public safety) or 900 MHz. The TMR2 system in Nova Scotia is 700 MHz, P25 compatible (i.e. digital).

The W/WH fire departments each have their own licensed VHF radio channels, as follows;[40]

Municipality of West Hants

Brooklyn

Frequency	License	Type	Tone	Alpha Tag	Description	Mode	Tag
152.30000	XJI515	RM	71.9 PL	Brooklyn FD Ops	Fire Operations	FM	Fire Dispatch
154.62000		M		Brooklyn FD Simp	Fire Simplex	FM	Fire-Tac

Hantsport

Frequency	License	Type	Tone	Alpha Tag	Description	Mode	Tag
150.95000		M		Hantsport PW	Public works	FM	Public Works
154.34000	VAC765	RM	71.9 PL	Hantsport FD	Fire department	FM	Fire Dispatch

Summerville

Frequency	License	Type	Tone	Alpha Tag	Description	Mode	Tag
154.71000	XJI517	M		Summerv. FD	Fire department	FM	Fire Dispatch

Vaughan

Frequency	License	Type	Tone	Alpha Tag	Description	Mode	Tag
152.63000	CFA680	RM	88.5 PL	SW-Hants FD	South West Hants fire department (Hantsport station #2)	FM	Fire Dispatch

Windsor

Frequency	License	Type	Tone	Alpha Tag	Description	Mode	Tag
151.46000	XJW400	RM	107.2 PL	Windsor FD	Fire department	FM	Fire Dispatch
153.98000		M		Windsor PWks	Public works	FM	Public Works

Currently, as a reality check, to meet standards VComms needs the ability to monitor, respond/communicate, and record conversations on all of the above noted VHF channels (six) plus the various TMR channels that the W/WH fire departments could use.

If one station is assisting another, some of a responding trucks' conversation will at some point jump from their own VHF channel to the other station's VHF channel, and very possibly back and forth if they continue to communicate with other trucks or stations that may be still on their own or TMR channels. It is easy to understand why this issue is a concern.

[40] https://www.radioreference.com/apps/db/?ctid=4699 Note: only the scanner frequency is shown. Most of the channels use a pair of frequencies for repeater operation (i.e. unless labelled simplex)

KPIs

To aid in fire service delivery's program performance analysis, Key Performance Indicators (KPIs, aka Fire Ground Bench Marks) must be documented during an incident by announcing and recording the pre-defined KPIs. This process is often referred to as benchmarking. Benchmarking also assists those in command and dispatch as to the status of the incident and helps determine if additional resources or a change in tactics is required.

Some examples of KPIs required during an incident are:

- On Scene, this is the time captured by the Dispatcher, as transmitted, by the first arriving unit of a dispatched call.
- Conditions on arrival (Sit Rep), a brief description of the incident upon arrival of the first unit; e.g. nothing showing, or house fully involved, heavy smoke showing etc. This helps all responding personnel understand what to expect upon arrival and if additional help is required.
- Water on Fire, this is important as it determines the time it took from arrival of the first crew(s) to the time they start minimizing loss. This is important as there are many response time standards and bench marks used in litigation that consider time of call to time of intervention. This equates to service delivery performance standards being met. Internally, this leads to investigating what circumstances led to delays, and whether there are tactics possible to address them for the next time.

There are others such as primary search complete, secondary search complete, under control, loss stopped, all clear, and a few other less common ones.

Why is the foregoing referenced here? The issue is that all of the bench marks should be broadcasted over the radio system as they occur, and should be recorded by the radio recording system along with a time-stamp, be manually noted/recorded by the Dispatcher (in CAD), and thereby entered (dumped) into the incident report.

Times, and sequence of events can be critical to post-incident analysis for fire service managers and personnel. It is a great training tool. However, it serves a larger purpose also if there is litigation over an incident. One of the consultants is currently participating in a post-incident analysis associated with a large lawsuit; and the recorded events and time-stamps are critical pieces of evidence for the defence of the municipal fire service.

Who is Listening?

The main issue that is of concern in W/WH is that the fire departments are using two different radio systems (and possibly up to six VHF channels plus TMR channels) at the scene of an emergency and often alternate their radio transmissions between their individual department's VHF and the province's TMR radio systems. GA has noted fire officers and others carrying and simultaneously using two different radios. Anecdotally, fire officers have related occurrences where halves of conversations occurred on each system. This not only leads to confusion, frustration and missed key information during a fire, it makes recording of radio transmission virtually meaningless, and it is also a serious firefighters safety and efficiency issue.

If a firefighter(s) is in need of urgent assistance and requests immediate assistance over the radio system (Mayday Call), what radio system do they use, will the incident commander and others hear the call for help? Anecdotally, stakeholders have related trying to answer a radio transmission and used the wrong radio and had missed parts of transmissions. In GA's opinion this is a serious issue, that was also expressed as a concern by several officers.

During GA's review of communications systems and procedures/practices, both the VComms and the fire department officers complained about missed information, wrong information being recorded, the Dispatcher not responding to calls on the radio in a timely manner and the VComms complaining that when their Dispatcher attempt to contact the on-scene fire department there is no response.

There appear to be a small number of actions that have led to the issues highlighted. First let's consider the contractual role of Valley Communications for the provision of dispatching and communications services. The contract[41] between West Hants and VComms is for the provision of;

> "Emergency Dispatch Services and shall keep full and complete records of incoming and out-going dispatch communications."

[41] Please see **Appendix II; West Hants /Valley Communications Contract** starting on page **320** for more details of this contract.

The contract between Windsor and VComms is different, and does not speak to any intent to record transmissions. The entire service is contained in the first clause as follows;

> "The Communication Service shall provide communications services for the use and benefit of the Town."

What is the intent of these contracts? GA believes that the intent of the contracts, at least on the part of the fire departments, is to provide full dispatching and emergency communications between VComms and the response firefighting personnel at scene and to maintain records of the communications and the incident. However, the use of multiple radio systems is a serious complication.

Some of the noted anomalies in the use of the communications services are noted below;

- Some incidents, the responding fire department take over full control of radio communications by placing a "dispatcher" in the fire station and using the station's base radio.
- Some departments have designated volunteer radio operators who operate as the main emergency radio communication center for incidents; but only when they are available. There is an inevitable delay in them responding from home/wherever to the fire hall to perform their duties and there is a consequential loss of critical dispatch information. Once they take over control VComms looses continuity in radio traffic as the fire department switches from TMR to VHF radio channels. Important dispatch and communication traffic data may be missing and is needed to properly complete required incident reports.
- Using two radio systems simultaneously causes lack of continuity, and if VComms is busy, the Dispatcher looses track of the incident flow. The Dispatcher is dealing with other fire departments who also need communication services and are not hopping around between systems.
- With the fire departments taking, for some incidents, control of communications during an incident, it make it unclear who has responsibility for those communications. This could have serious consequences if it is necessary to determine responsibility or track the sequence and timing of events in the case of litigation, or even an enquiry; e.g. by the coroner if there is a fire related death.
- Not all communications channels are recorded and time-stamped.

All of the foregoing leads to dysfunctional and missing radio communications that may lead to serious consequences. Not to mention the financial burden of needing to equip, maintain, and train on two operating system at an emergency.

The resolve should be simply to use the contracted services as intended and a single emergency radio system for all dispatching and the TMR system for emergency scene communications.

Radio System Related Recommendations

GA recommends that VComms acquire the necessary radio transmission recording equipment to record all fire department used channels.

GA recommends that the Regional fire departments operate on TMR channel 23 for all incident dispatches and incident operations, and TMR channel 22 for water shuttle and Traffic Control operations, etc.

GA recommends that the Municipality maintain the current VHF system for fire service paging only. The Municipality should strike a committee of the fire services to examine if there are any compelling reasons why the VHF system must be maintained for other than paging use.

GA recommends that the fire departments permit VComms to provide the contracted services for dispatching and communications as required by the service contract, by discontinuing the practice of taking over radio communications from fire stations.

GA recommends that the fire departments and VComms implement the use of industry standard radio transmitted benchmarks (KPIs) for all fire incidents.

GA recommends that dispatch protocols for MFR incidents be revised so that only one MFR capable unit is dispatched to single patient incidents.

GA recommends that the fire departments collectively develop and implement a standardized training program to make all personnel aware of required radio operating procedures, benchmarks, channel usage, and all other aspects critical for effective and efficient radio system usage.

Alternative Service Providers

GA was asked to look at alternatives to the current service provider. Consideration was given to other dispatch/communication opportunities. However, given the combined service costs for services of the two municipalities for the current provider, ($44,443/annum) it was highly unlikely that a more cost-effective service could be found. The other consideration moving forward is that there have been ongoing discussions between the Fire Services Association of Nova Scotia and the Provincial Government for a single province wide fire dispatch and communication system, to include all fire departments except for HRM, and CBRM. It is being suggested to GA that within the next couple of years movement on this possibility will take place.

Given that the issues that require some form of addressing are not insurmountable nor terribly costly, are not unique to any one communications service, and there is currently the ability to make procedural and equipment changes;

GA recommend that the new regional municipality negotiate with VComms in 2020 for a new service agreement. The agreement should address the issues raised in this report. With the province possibly moving forward with fire dispatch services, the idea to seek an alternative provider should be placed on hold for the next while.

FIRE SERVICE RADIO AND UNIT IDENTIFICATION SYSTEM

A system of standardized identification of trucks and personnel is needed to avoid errors in radio communications that could lead to confusion or lack of understanding; and thereby to deadly consequences. To aid in standardization across the Region, fire apparatus unit numbers and radio assignments by rank and position should be established.

A review of neighbouring municipality's unit and radio assignment numbering programs was conducted. From that review, and considering the current methodology within the Windsor/West Hants region, the following program is being recommended.

Fire Station Numbering

The purpose of numbering fire stations is to assist in the associated fire apparatus and personnel radio identification. Ease of communications and a standard structure and is the basis for the program. The numbering system chosen starts with a single digit station number; commencing with the Summerville fire station and moving clockwise. This results in the following station number assignments.

- Summerville Fire Station 1
- Brooklyn Fire Station 2
- Three Mile Plains Fire Station 3
- Windsor Fire Station 4
- Southwest Hants Fire Station 5
- Hantsport Fire Station 6

Fire Apparatus Identification

Each current unit will be assigned a new unit classification/type.

Current Unit Nomenclature	**New Unit Nomenclature**	**Class**	**Unit Numbering Series**
Squad/Engine/Pumper	Engine	Water tank less than 650 Igal	11-15
Squad/Engine/Pumper	Engine	Water tank 651 - 1,000 Igal	15-19
Pumper-Tanker & Tanker	Tanker	Water tank 1,100-2,000 Igal	21-25
Pumper-Tanker & Tanker	Tanker	Water tank 2,100+ Igal	26-29
Rescue	Rescue	Light capacity	31-35
Rescues	Rescue	Medium or Heavy capacity	36-39
Aerial Ladder/Snorkel/Platform, etc.	Aerial	All	41-45
Quint	Quint	All	46-49
Utility	Utility	All	50
ATV/RTV/UTV w/wo trailer	RTV	All	60
Special Vehicles (dedicated purpose only): i.e. Command, Rehab, Tactical	Unit Type + ###	Example; Command 271	70
Boats	Marine	Example; Marine 1 (i.e. Summerville)	Station number

Each unit number will be prefaced by its assigned station number. Please see the following examples.

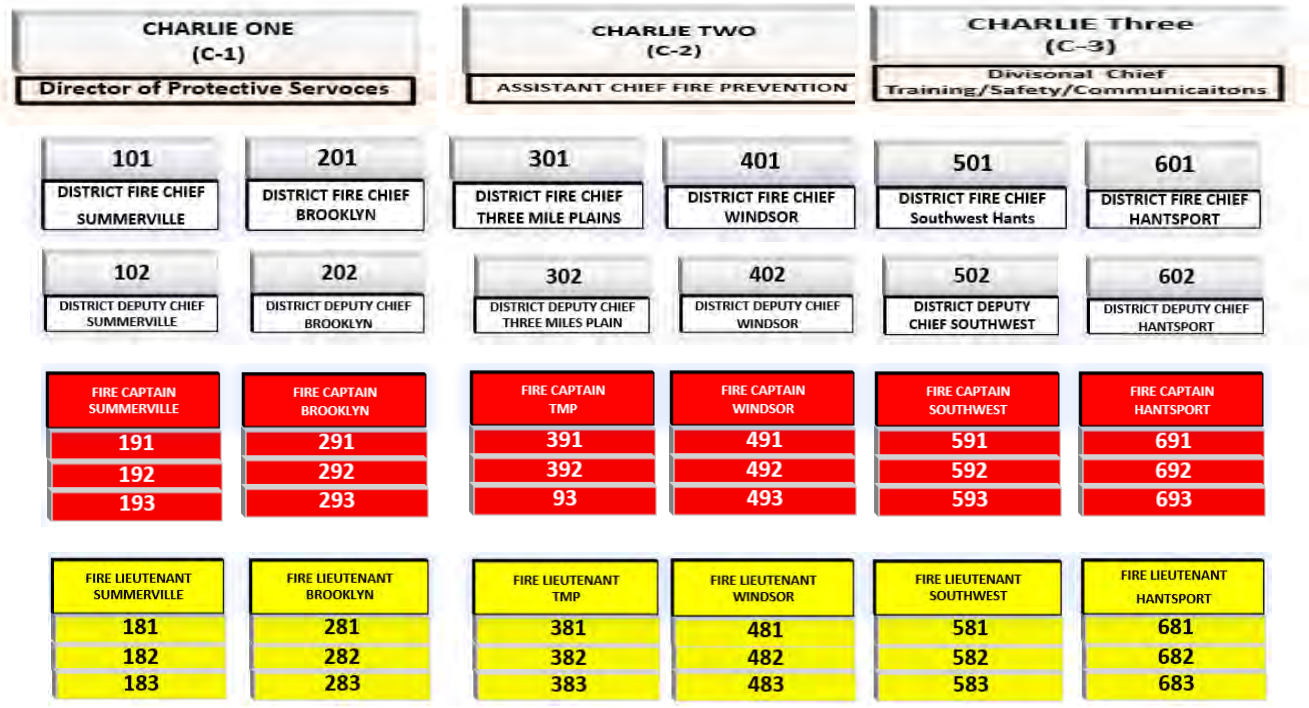
Examples

Station	Old ID	New ID
Hantsport	11	Engine 611
Hantsport	12	Engine 615
Summerville	Truck 1	Engine 115
Brooklyn	Squad 3	Engine 211
Windsor	Aerial 4	Aerial 441
South West	14	Tanker 526

Position Radio Call Signs

As with any fire organizations there are several identifiable positions within the organization, which is especially important at an incident. All positions need to be clearly identified (position ID) and standardized across the region. Whereas the fire service is a hierarchical and paramilitary organization, so must be the radio call signs.

Again, the use of fire station numbers come into play. The following Position IDs are premised upon the selection of the hybrid organizational chart. The use of phonetic lettering and numbers are used jointly in some of the radio identifications.



Firefighters

Firefighters radio identification will be based upon their unit number that they responded on. Under the proposed system of radio identification it might look like the following chart for the particular fire apparatus chosen for the example. The choice of a captain or lieutenant was arbitrary in the examples; just depends who got on the truck. Also, not every seat might be filled. For Aerial 441, it only seats five, and 526 only seats three.

Station	Apparatus ID	Capt.	Lieut.	FF ID	FF ID	FF ID	FF ID	FF ID
Hantsport	Engine 611	691		611-1 (driver/operator)	611-2	611-2	611-2	611-2
Hantsport	Engine 615	692		615-1	615-2	615-3	615-4	615-5
Summerville	Engine 115		181	115-1	115-2	115-3	115-4	115-5
Brooklyn	Engine 211	291		211-1	211-2	211-3	211-4	211-5
Windsor	Aerial 441	493		441-1	441-2	441-3	441-4	
South West	Tanker 526			526-1	526-2	526-3		

Firefighters arriving on scene with personal vehicles will be assigned radio call signs by the Accountability Officer or Command following the radio ID standard.

Other Functional Radio IDs

The following are some standard radio identification protocols that should be adapted for use Region-wide.

Person/Position/Function	Radio ID	Condition, Example
Valley Communications	FIRE CONTROL	
Incident Commander	Location + COMMAND	Example: Burlington Street COMMAND
Accountability Officer	ACCOUNTABILITY	Once the position is established
Entry Control Officer	ENTRY + Location	Example: ENTRY East Side
Incident Safety Officer	SAFETY	Charlie 3 assumes this ID once on-scene as the ISO
Incident Safety Officer, station based	SAFETY + Stn ID+1st, 2nd, etc.	SAFETY 4-1, SAFETY 4-2, SAFETY 3-1, etc.
Water Supply Officers	WATER SUPPLY + Stn ID	WATER SUPPLY 4, WATER SUPPLY 3, etc.
Fire-Investigators	INVESTIGATOR 1, 2, etc.	Investigators are not station based
Fire-Inspectors	INSPECTOR 1, 2, etc.	Inspectors are not station based
Traffic Control	TRAFFIC + Stn ID + 1st, 2nd, etc.	TRAFFIC 4-1, TRAFFIC 4-2
Staging officer	STAGING + Location	Example: STAGING Burlington Street
Planning Officer	PLANNING	Larger incident IMS model
Logistics Officer	LOGISTICS	Larger incident IMS model
Administration Officer	ADMIN	Larger incident IMS model
Sector Officer	Location + SECTOR	Example: BETA SECTOR, ROOF SECTOR

Summary and Recommendation Radio IDs

All requests for emergency services commences with a 911 call. Once the call is placed the expectations of the public are extremely high and demanding. Emergency Call taking, dispatching and radio communications must be efficient, timely and very effective.

If any part of the process goes awry, a multiple chain cascade of events can occur that could cost either a citizen's or a responder's life. A delay in response, or responders sent to an incorrect address, or a responder's missed May-Day call are all possible consequences of not having adequate and reliable equipment, training, procedures, and having people not adhering to them. Effective and efficient communications is the incident commanders' best tool in his/her tool box to manage an incident and to protect citizens and responders alike.

Communications must be a disciplined process right from the time a call is received for service to completion of the event. It is a total collaborative process. In addition to being a tool and process that permits talking and listening, the process, if properly equipped and managed, allows for analytics that permits the organization to establish key performance indicators and adjust service needs and levels according to past history of events. A good quality computer aided dispatch software integrated fire department records management system, permits an efficient means for not only capturing data, analyzing data, but will likely aid in the defense of any civil suit or investigation. If the system, equipment, and processes are not robust, nor meet best practices, it can become a liability.

As a result of the review of the dispatch and communication systems and procedures, a number of recommendations are provided for consideration in addressing some of the issues referenced. They are fixable and relatively inexpensive to address.

GA recommends that fire stations be numbered starting with Summerville as number 1 and going clockwise from there.

GA recommends that a standard system of IDs be utilized for identifying functional positions on the fire-ground, starting with the regional staff and extending down through to all apparatus seat positions and to firefighters who arrive on-scene in a private vehicle.

GA recommends that standard radio protocol titles be established for all regular positions at an incident scene.

INCIDENT RESPONSE OPERATIONS

EXISTING OPERATIONS

Fire Stations, existing

There are currently six fire stations in the Region, as follows;

FIGURE: STATIONS

Station	Location	Apparatus Space	Firefighters[42]
Windsor	King St. Windsor	5,955 sqft	36
Hantsport	5 Oak St. Hantsport	2,338 sqft	37
South West Hants	1870 Highway 14, Vaughan	1,558 sqft	16
Brooklyn	995 Highway 215, Brooklyn	8,000 sqft	39
Three Mile Plains	5984 Highway 14, Garlands Crossing	3,400 sqft	25
Summerville	59 Wharf Rd. Summerville	2,840 sqft	35

Fire Apparatus, existing

In those stations are the following numbers and types of fire apparatus and utility vehicles;

FIGURE: CURRENT APPARATUS INVENTORY

Station	Pumper	Tanker *	Aerial	Rescue	Utility	RTV	Boat
Windsor	3	1	2	1	2	1	1
Hantsport	2	1	0	1	2	0	0
SWH	0	1	0	1	0	0	0
Brooklyn	2	1	1	1	1	1	0
TMP	2♦	1	0	0	1	0	0
Summerville	1	2	0	0	1	1	1
Totals:	**10**	**7**	**3**	**4**	**7**	**3**	**2**

* All current tankers have large pumps, equivalent to that of a pumper
♦ One of these pumpers is currently out of service

Several of the existing vehicles are long past their replacement date, both in age and condition. Both aerials in Windsor should no longer be in the fleet. One has an aerial device failure (structural) and will not pass the aerial device certification inspection. It is not equipped with a pump or water tank. It serves no useful purpose and is almost 31 years old.

[42] Included in the overall total of 188 staff are: 16 veterans, (none firefighting), 1 dispatcher, 7 who respond to more than one station, 8 drivers only.



The other aerial is a Snorkel, an articulating-arm platform design, which is no longer a common aerial device type. This apparatus has a pump that will not pass ULC testing and is no longer certified. The pump was a proprietary design by the apparatus manufacturer, who went out of business in 1985 (one year after this apparatus was built). It is very likely that to rebuild the pump there will need to be custom machined parts made, if a successful and reliable rebuild is even possible. The apparatus is over 35 years old and is obsolete.

FIGURE: CURRENT APPARATUS DETAILS

ID	Type of Apparatus	Seats	Age 2019	Builder Chassis/Body/Aerial	Engine	Built NFPA	Pump Brand	Pump Capy	Tank Volume	Station
A-8	Aerial-Ladder	2	30 ¾	ALF/ALF/ALF	DET 6V-92	Yes	N/A	N/A	0	Windsor/OOS
Twr-6	Aerial-Platform	6	3 ½	Pierce/Pierce/Pierce	CUM ISL	Yes	Waterous	1,750	325	Brooklyn
A-4	Aerial-Platform	5	35 ½	King/King/King	DET 6V-92	Yes	King	1,099	0	Windsor
S-3	Pumper	6	3 ½	Pierce/Pierce	CUM ISL	Yes	Darley	1,250	640	Brooklyn
11	Pumper	6	17 ¾	EOne/EOne	DET DD13	Yes	Hale	1,050	600	Hantsport
12	Pumper	6	4 ¼	Pierce/Pierce	CUM ISM	Yes	Waterous	1,250	662	Hantsport
Tr-1	Pumper	6	3 ¼	Freightliner/Fort Garry	CUM ISL	Yes	Darley	1,319	800	Summerville
S-9	Pumper	6	4	Pierce/Pierce	CUM ISL	Yes	Waterous	1,543	634	TMP
P-1	Pumper	5	32 ½	Ford/Hub	CAT 3208	Yes	Waterous	1,050	800	TMP/OOS
E-1	Pumper	6	26 ½	EOne/Superior	DET 6V-92	Yes	Waterous	1,500	800	Windsor
E-5	Pumper	6	19 ½	EOne/Superior	CUM ISM	Yes	Hale	1,500	800	Windsor
E-11	Pumper, Wildland	5	14 ½	International/Superior	IHC DT570	Yes	Hale	1,050	600	Windsor
P/T-2	Pumper-Tanker	2	17 ¼	Freightliner/LRB	MER MBE4000	Yes	Darley	840	3,200	Brooklyn
P/T-4	Pumper-Tanker	6	15	ALF/ALF	DET DD15	Yes	Hale	1,750	2,000	Brooklyn
21	Pumper-Tanker	2	16 ¼	Peterbilt/Superior	CAT 3126	Yes	Hale	840	2,000	Hantsport
Tr-3	Pumper-Tanker	3	12 ¾	Sterling/Fort Garry	CAT C13	Yes	Darley	1,319	2,350	Summerville
14	Pumper-Tanker	3	4 ¾	Freightliner/Pierce	DET DD13	Yes	Waterous	1,250	2,500	SWH
T-10	Pumper-Tanker	2	4	Freightliner/Pierce	CUM ISL	Yes	Hale	840	2,842	TMP
T-2	Pumper-Tanker	2	16	International/Superior	CUM ISM	Yes	Hale	1,500	2,000	Windsor
Tr-2	Tanker (vacuum)	2	8 ½	International/EOne	IHCMaxxforce13	Yes	Hale	1,099	2,950	Summerville
R-5	Rescue	5	4 ½	Dodge/Lantz	CUM ISB	No	N/A	N/A	N/A	Brooklyn
31	Rescue	6	3 ¼	Freightliner/Lantz	CUM ISB	No	N/A	N/A	N/A	Hantsport
33	Rescue	5	18 ¾	Ford/Lantz	Powerstroke 7.3	No	N/A	N/A	N/A	SWH
R-6	Rescue	2	28 ¾	International/Lantz	IHC DT366	No	N/A	N/A	N/A	Windsor
R-7	Utility	5	5	Dodge Ram	Hemi 5.7	N/A	N/A	N/A	N/A	Brooklyn
32	Utility	2	15 ½	Ford F-150	NR	N/A	N/A	N/A	N/A	Hantsport
51	Utility	5	11 ¾	Dodge Ram	CUM ISB	N/A	N/A	N/A	N/A	Hantsport
Tr-4	Utility	5	16 ¾	Dodge Ram	Powerstroke 6L	No	N/A	N/A	N/A	Summerville
R-11	Utility	5	4 ¼	Dodge Ram	Hemi 5.7	N/A	N/A	N/A	N/A	TMP
U-9	Utility	5	11 ¾	Dodge Ram	CUM ISB	N/A	N/A	N/A	N/A	Windsor

ID	Type of Apparatus	Seats	Age 2019	Builder Chassis/Body/Aerial	Engine	Built NFPA	Pump Brand	Pump Capy	Tank Volume	Station
V-7	Passenger van	8	11 ¾	GMC	Vortec 6L	N/A	N/A	N/A	N/A	Windsor
Boat	Rescue Boat	NR	11 ½	Zodiac	Yamaha 60	N/A	N/A	N/A	N/A	Summerville
Boat	Rescue Boat	9	14 ¾	Zodiac	Yamaha 60	N/A	N/A	N/A	N/A	Windsor
RTV	Rough Terrain	4	8 ¾	Kubota	NR	N/A	N/A	N/A	N/A	Windsor
RTV-8	Rough Terrain	2	4 ½	Polaris	NR	N/A	Honda	250	80	Brooklyn
RTV	Rough Terrain	4	7 ½	Polaris	NR	N/A	N/A	N/A	N/A	Summerville
NR	Trailer	N/A	NR	NR	N/A	N/A	N/A	N/A	N/A	Brooklyn
	Totals:	159						24,049	26,583	

NR = not reported OOS = out of service

Brooklyn has a pumper that is out of service for mechanical reasons (unspecified) and is also 32 years old. It is currently parked at the Three Mile Plains station, and is shown on their inventory.

One of the pumper trucks in Windsor was designed as a wildland/urban interface truck for the Vaughan station. It is unsuited for use in Windsor and of questionable value even in South West Hants due to features making it very difficult to work with.

In total, there are seven fire apparatus that require replacement and/or retirement in 2020 based on their serviceability and/or their age. These include two aerials, three pumpers, one rescue and one rescue/utility. They are yellow highlighted in the above table. Except for the Brooklyn pumper (P-1) and one Windsor aerial (A-4) these are all still in service.

Generally, a standard make and model of fire pump should be specified for all fire apparatus equipped with a pump.

- Servicing a greatly reduced variety of pumps will reduce the need for unique parts and knowledge, peculiar to each make and model. This reduces servicing costs and down-time.
- Generally, standardize on fire pump capacity. Reducing the variety of pump capacities[43] in pumpers and pumper-tankers will facilitate coordination in pumper relays and improve the effectiveness, and therefore value, of this equipment.
- Standardization on the engine, or engine family, used in the heavy vehicles is recommended. Although generational development of engines will continue, standardization will decrease servicing time/costs and down-time.
- Standardization of custom cab/chassis specification will improve the access to proprietary, manufacturer's parts that all custom cabs/chassis use. It will also improve maintenance efficiency, thereby reducing time/costs and down-time.

[43] Typically aerials have larger pumps due to the need to force water through aerial master streams. A pumper of slightly small capacity will usually feed an aerial adequately.

- Standardization of commercial cab/chassis specification will improve the access to proprietary, manufacturer's parts that all commercial cabs/chassis use. It will also improve maintenance efficiency, thereby reducing time/costs and down-time.

The Windsor rescue boat is almost 15 years old. In GA's experience, these inflatable boats are prone to leaking and sudden deflation and/or rupture once they reach a certain age, the fabric rots. This makes them unreliable and even dangerous to use.

GA recommends that fire apparatus specifications be standardized[44] across the region, by type and class of apparatus.

GA recommends that the Windsor boat be professionally inspected to determine its need for replacement.

GA recommends that a standardized, and coordinated, scheme of unique fire apparatus number identifications be established Region-wide, as follows;

- There be established a coordinated apparatus ID scheme between all the W/WH stations/departments. The current uncoordinated approach detrimentally affects coordination at incidents where stations are working together.
- The ID scheme should reveal the apparatus' primary purpose either through including the purpose in the name (e.g. pumper-31) or through a standard format, similar to what Hantsport has done where IDs ending in 1 are pumpers. This will improve coordination at incidents where apparatus from different stations are working together.

Incident Responses

GA was provided, and analysed, incident response data from January 2014 through to December 2018. The provided data was incomplete and many key indicators, valuable for statistical analysis and program development, were missing.

GA recommends that steps be immediately taken to establish a robust internal data collection protocol for all incidents, not just fires, including;

[44] See **The Value of Fire Apparatus Standardization** on page **218**.

- The gathering of all key benchmarks as required by the NS Fire Marshal, and according to best practices,[45] and as needed for fire department's internal programs related to; staffing needs, training needs, apparatus needs, equipment needs, performance times, safety and health, costs and cost recovery, fire safety education, fire investigation, code compliance, liability, and preplanning for performance and business continuity;
- instruction to the Fire Dispatch contractor on data to be benchmarked by their communicators;
- the purchase of a good data records (RMS) software;
- providing firefighters access to computers at every station;
- the training of firefighters in how and what data to collect;
- the maintenance of oversight of data collected for the purposes of ensuring data collection occurs, data error checking, and data analysis;
- the immediately filing of fire reports with the provincial Fire Marshal's office after every fire call, as required by legislation.

GA, attempted an analysis of incident data using the provided incident data, which was largely provided by the fire dispatching contractor Valley Communications. Fire Chiefs were also requested to provide missing data for all incidents reported as fires for the years 2014-2018. Some additional information was provided.

The following tables are summaries of the analysed data on incidents during that time span.

Valley Communications does not separate page-outs for Three Mile Plains from Brooklyn, so the data is largely entangled for both stations. For fire incidents, those that occurred in TMP's home district (based on incident address) are identified in an abbreviated table below. It should be

noted that in the majority of these fire incidents it was a joint Brooklyn/TMP response. This joint use of resources helps ensure sufficient personnel and equipment are provided.

For each station in the tables below, totals are shown for each category line (left side buff cells) and for each year column (buff cells across the top). Pale green cells show the proportional breakdown of incidents.

[45] There are some good benchmarks for data collection. The NFPA 900 series is extremely comprehensive, the Ontario Fire Marshal's *Standard Incident Report* (SIR) addresses all incident types (which is important) and is an excellent example of an effective system.

There appears to be a pretty clear upward trend in total incident numbers across the five years of data that was examined. There is no clear indicator of the driver for this increase, and GA advises caution in deriving too much inference from annual changes, as in our experience annual statistics can be significantly variable year over year. Longer term trends are a better indicator coupled with regression analysis.

What can be clearly seen is the impact on the 2016 decoupling of Windsor from providing fire services into West Hants that shows most clearly in the Windsor, Brooklyn numbers, and to a lesser degree on Hantsport.

At the end of the tables is a summarization for the entire region.

FIGURE: TABLE OF INCIDENT DISPATCHES BY STATION

Category	Totals	2014	2015	2016	2017	2018	By station
WINDSOR	**858**	**251**	**229**	**123**	**136**	**119**	
Fires	**153**	59	42	33	7	12	17.8%
Pre-Fire Conditions	**292**	88	69	39	52	44	34.0%
Rescues	**141**	50	51	12	18	10	16.4%
Hazards	**28**	5	7	5	8	3	3.3%
Assists	**104**	12	9	19	33	31	12.1%
MFR	**125**	33	43	13	18	18	14.6%
N/A	**15**	4	8	2		1	1.7%
HANTSPORT	**825**	**135**	**149**	**165**	**185**	**191**	
Fires	**161**	27	21	45	30	38	19.5%
Pre-Fire Conditions	**116**	11	12	29	34	30	14.1%
Rescues	**144**	16	18	41	35	34	17.5%
Hazards	**22**	3	7	3	4	5	2.7%
Assists	**151**	7	3	24	51	66	18.3%
MFR	**229**	70	88	23	30	18	27.8%
N/A	**2**	1			1		0.1%

Category	Totals	2014	2015	2016	2017	2018	By station
SOUTH WEST	**139**		**6**	**51**	**54**	**28**	
Fires	**35**		2	18	5	10	25.2%
Pre-Fire Conditions	**15**		1	11	1	2	10.8%
Rescues	**16**			6	6	4	11.5%
Hazards	**2**		1	1			1.4%
Assists	**45**		1	4	36	4	32.4%
MFR	**24**		1	9	6	8	17.3%
N/A	**2**			2			1.4%
BROOKLYN	**1,709**	**204**	**213**	**408**	**444**	**442**	
Fires	**298**	37	39	98	65	61	17.4%
Pre-Fire Conditions	**148**	10	17	41	44	36	8.7%
Rescues	**305**	33	29	73	82	88	17.8%
Hazards	**28**	1	2	10	10	5	1.6%
Assists	**244**	5	17	28	96	98	14.3%
MFR	**672**	114	106	152	146	154	39.3%
N/A	**14**	4	3	6	1		0.8%
THREE MILE PLAINS							
Fires	**83**		2	26	25	30	
Pre-Fire Conditions							
Rescues		Remaining data is combined with Brooklyn					
Hazards							
Assists							
MFR							
N/A							
SUMMERVILLE	**401**	**77**	**67**	**80**	**90**	**87**	
Fires	**72**	20	17	13	13	9	18.0%
Pre-Fire Conditions	**14**	5	3	1	3	2	3.5%
Rescues	**22**	3	1	7	6	5	5.5%
Hazards	**2**			2			0.5%
Assists	**55**		10	12	22	11	13.7%
MFR	**231**	46	35	44	46	60	57.6%
N/A	**5**	3	1	1			1.2%

FIGURE: INCIDENT DISPATCHES, ALL WWH STATIONS

WWH All Stations	3,932	667	664	825	909	867	
Fires	**719**	143	121	205	120	130	18.3%
Pre-Fire Conditions	**585**	114	102	121	134	114	14.9%
Rescues	**628**	102	99	139	147	141	16.0%
Hazards	**82**	9	17	21	22	13	2.1%
Assists	**599**	24	40	87	238	210	15.2%
MFR	**1,281**	263	273	241	246	258	32.6%
N/A	**38**	12	12	11	2	1	1.0%
Variation vs. Average:	786.4	-15.2%	-15.6%	+4.9%	+15.6%	+10.2%	

Details on Incident Types

For the sake of convenience, the 61 incident types that Valley Communications uses have been grouped into six groups, as shown in the above tables. The N/A group is not actually a group, but represents incidents that were not categorized; i.e. are of an uncategorized or unknown type. The following is a summary of the incident types that GA has assigned to each group. These type descriptions are as assigned by Valley Communications when they dispatch firefighters to incidents.

FIGURE: INCIDENT TYPE GROUPINGS

Group	Incident Type
Fires	Bales of hay, chimney fires, commercial vehicle fire, flammable liquid fire, grass/brush, passenger vehicle fire-car/van, power lines down/arcing, power pole on fire, structure-barn/warehouse, structure-commercial, structure-industrial/factory, structure-other, structure-residential/house/garage/shed, transformer on fire, trash/garbage bin fire, vehicle fire-other, woods/trees
Pre-Fire Conditions	Commercial fire alarm, electrical, electrical appliance, investigation, other alarm, residential fire alarm, smoke condition
Rescues	Building collapse, commercial/industrial accident, confined space, grain bin/silo, multi-casualty event, MVA-confirmed entrapment/unknown, MVA-no entrapment, off-road vehicle, other rescue, persons trapped, residential accident, vehicle extrication, water/ice rescue, water rescue
Hazards	CO gas-carbon monoxide, CO2 gas, flood, fuel spill-diesel, fuel spill-gas, other gasses-ammonia/chlorine/etc., other response, other spills, propane, public assistance, suspicious odour, toxic chemical spill
Assists	Assistance to another fire department, assistance to other agencies, assistance to police, mutual-aid to the scene, stand-by at another station, stand-by at own station
MFR	Assistance to EHS, lift assist, medical

MFR (medical first response) incidents consist of two contributors; lift assists and medical responses in support of the EHS system (i.e. ambulance). Lift assists are calls to assist residents who have fallen and cannot get up. These are a very small contributor to the total numbers, about 4% of MFR calls overall.

MFR is the most prevalent type of incident that the W/WH fire services attend, at 32.6% overall. That varies from station to station; from as low as 14.6% (Windsor) to as high as 57.6% (Summerville). In large measure these variations are due to the choice of Response Level that the individual fire department has chosen.

EHS defines these response levels as follows;

FIGURE: EHS ASSIGNED RESPONSE LEVELS FOR VOLUNTEER FIRE DEPARTMENTS

Level 1	Do Not Notify my department/agency for medical calls.
Level 2	Only notify my department/agency if requested by the responding paramedics.
Level 3	Notify my department/agency for "Time Critical" emergency calls only, as determined by EHS Communications Officer.
Level 4	Notify my department/agency for all emergency calls in our community.
Level 5	Notify my department/agency for cardiac arrests, motor vehicle collisions and lift assists only.
Level 6	Notify my department/agency if requested by the responding paramedics and for all cardiac arrests and motor vehicle collisions.

The choice of level has an impact on the fire department, the number of incidents generated by MFR calls, and the overall activity level of the station. The following table shows which station is providing what level of MFR service.

FIGURE: CURRENT CHOSEN LEVELS FOR MFR RESPONSE

Station	Level	Description	Incident Number Impacts
Windsor	**5**	Life threatening medical conditions/situations, plus assistance to mostly senior citizens in distress	Lower incident number impact while ensuring notification of life-threatening incidents. Will generate non-emergency incidents for lift assistance of people who have fallen.
Hantsport	**6**	Life threatening medical conditions/situations	Lowest incident number impact while ensuring notification of life-threatening incidents
South West	**4**	Life and not-life threatening medical conditions/situations, plus assistance to mostly senior citizens in distress	Highest incident number impact. If the ambulance is responding then an incident is generated for the fire service. Incidents will be only about 20-30% critical life threatening.
Brooklyn	**4**	Life and not-life threatening medical conditions/situations, plus assistance to mostly senior citizens in distress	Highest incident number impact. If the ambulance is responding then an incident is generated for the fire service. Incidents will be only about 20-30% critical life threatening.
Three Mile Plains	**5**	Life threatening medical conditions/situations, plus assistance to mostly senior citizens in distress	Lower incident number impact while ensuring notification of life-threatening incidents. Will generate non-emergency incidents for lift assistance of people who have fallen.
Summerville	**4**	Life and not-life threatening medical conditions/situations, plus assistance to mostly senior citizens in distress	Highest incident number impact. If the ambulance is responding then an incident is generated for the fire service. Incidents will be only about 20-30% critical life threatening.

From stakeholder interviews there is a range of opinion on the provision of MFR services. Some firefighters do not like them and others feel the contribution to the community is of value. Some chiefs feel it is an essential service and others feel it is burning out their firefighters and changes are needed to avoid alerting more firefighters than necessary for these types of incidents calls. There is undoubtedly some costs associated with these incident calls, integrated into existing budgets.

Fires and Pre-Fire Conditions together represent the largest number of incident types for all stations, collectively (33.2%). This is particularly so in the more urban stations (Windsor,

Hantsport) where the selected lower MFR level generates fewer medical incident calls. South West is the anomaly in this case.

The two incident groups (fire/pre-fire) are lumped together in this analysis because all fires transition through a pre-fire condition before they become a fire, so they are often linked.

One possible exception is false fire alarm incidents. Of the 585 pre-fire conditions incidents in the last five years, 374 (64%) were associated with commercial/residential/other alarm system triggers. It is very likely that a lot of these alarm system incidents were not associated with an actual fire/pre-fire event, but were due to malicious, mistaken, maintenance, and environmental causes. Some alarms would certainly have identified some genuine pre-fire conditions; for example, motorized equipment failing in an HVAC system that triggers a smoke detector connected to an alarm system; undetected a fire would have resulted.

In the GAs' experience the percentage of fire alarm system false alarms is of concern to the fire departments. In Windsor, which has 57.8% (216) of the alarm system generated incidents, there is a false alarm by-law which penalizes owners of buildings where there are excessive false alarms.

GA recommends that a Region-wide False Fire-Alarm by-law be developed and enforced.

Enforcement reduces the number of false alarms and; benefits occupants who can become inured to alarms sounding and ignore them in a real fire, reduces costs for fire departments by reducing incident volumes (by incentivizing the reduction in false alarms), and allows some cost recovery, and reduces frustration/complacency on the part of firefighters.

With a total of 719 fire incidents of all types, fire incidents represent the second largest group of incidents, after MFR. Responding to fires is a core component of a fire department's reason for being. There are a few main drivers of these numbers which the following table identifies. Some types have been combined in the following table since they are, semantically, the same broad type of incident.

FIGURE: PREDOMINANT FIRE INCIDENTS BY TYPE

Type	Number	%
Structure-Residential + Chimney	147+134 = 281	39.1%
Grass/Brush + Woods/Trees (aka Wildland fires)	107+45 = 152	21.1%
Power Lines Down/Arcing + Power Pole on Fire	74+30 = 104	14.5%
Passenger Vehicle Fire/car/van	68	9.5%
All others	114	15.9%
	719	
Breakdown by Fire Station	***Residential/Chimney***	***Wildland***
Windsor	55	24
Hantsport	80	35
South West	18	5
Brooklyn	64	44
Three Mile Plains	28	Inc Brooklyn
Summerville	32	18

The data shows that over the last five years the leading location for fires is in or associated with dwellings. Not all of these incidents likely had an active fire, some would have been reported in error. This includes data potentially includes single family, multi-family, attached, semi-detached homes, apartments, flats, and both owned and rental dwellings. Dwelling fires are the leading type of fires Nationally.

Rescues appears to be a group that is increasing. Almost all rescues are motor vehicle accident (MVA) type related. During this same five-year period there were seven water rescues reported. The following tables shows what might be an upward trend; further years' data is needed to verify.

FIGURE: RESCUE TYPES

Type	2014	2015	2016	2017	2018	Totals
MVA-Confirmed Entrapment/ Unknown	55	45	56	63	71	**290**
MVA-No Entrapment	47	47	79	82	69	**324**
	102	**92**	**135**	**145**	**140**	**614**

FIGURE: MVA RELATED INCIDENT DISTRIBUTIONS (2014-18)

Station	Number	%
Windsor	135	22.0%
Hantsport	141	23.0%
South West	16	2.6%
Brooklyn/Three Mile Plains	302	49.2%
Summerville	20	3.3%
	614	

Assists as a group are almost totally related to mutual-aid between the four-fire departments (and six stations) inside W/WH. About 75 (12.5%) were actually outside the Region. Mutual-aid either involves travelling to the scene of the incident, or providing stand-by at the station of a fire department who has provided resources to the scene. The following table shows the mutual-aid data;

FIGURE: MUTUAL-AID DISTRIBUTION, MUTUAL-AID GIVEN

Station	2014	2015	2016	2017	2018	Totals	%
Windsor	12	7	18	33	30	**100**	17.7%
Hantsport	7	2	21	47	65	**142**	25.1%
South West			4	35	4	**43**	7.6%
Brooklyn/TMP *	5	17	28	93	96	**239**	42.3%
Summerville		7	7	17	10	**41**	7.3%
	24	**33**	**78**	**225**	**205**	**565**	

* Brooklyn station #1 responses into station #2's (TMP) area have been classified as mutual-aid responses.

Assistance incidents that involve intra-regional incidents actually do not represent unique W/WH incidents; they are an appendage to a pre-existing Regional incident. In that sense, they distort the number of actual incidents, and instead they represent the number of fire department page-outs. In other words, over the five-year period of data, the total number of discrete incidents is less than the 3,932-number suggested by the Valley Communications statistics. The total number of discrete incidents is more closely represented as 3,393.[46]

[46] Valley Communications reported they made 3,932 incident pages, minus the 539 internal mutual-aid calls (i.e. 614 -75).

Incident Responses by Community, Growth

Examining incident numbers by community is necessary for the projection of potential changes in incident response demand.

FIGURE: RESPONSES BY COMMUNITY, 2014-18

Community	Station	2014	2015	2016	2017	2018	Totals	%	Properties in Community	Annual[47] Response Rate
Ardoise	Brooklyn	19	11	19	29	35	**113**	**3.3%**	586	3.9
Ashdale	Brooklyn		1	2	7	2	**12**	**0.3%**	48	5.0
Avondale	Brooklyn	3	2	5	13	6	**29**	**0.8%**	167	3.5
Belmont	Brooklyn	4	3	7	3	11	**28**	**0.8%**	131	4.3
Brooklyn	Brooklyn	52	47	46	54	34	**233**	**6.7%**	449	10.4
Ellershouse	Brooklyn	22	18	30	25	25	**120**	**3.5%**	378	6.3
Five Mile Lake	Brooklyn						**0**	**0%**	19	0
Greenhill	Brooklyn	11	10	14	6	8	**49**	**1.4%**	135	7.3
Hillsvale	Brooklyn	5	1	3	6	3	**18**	**0.5%**	121	3.0
Mantua	Brooklyn	1	1	1	11	3	**17**	**0.5%**	37	9.2
McKay Section	Brooklyn	9	3	7	8	4	**31**	**0.9%**	131	4.7
Miller Creek	Brooklyn						**0**	**0%**	1	0
Mosherville	Brooklyn	6	8	3	8	8	**33**	**0.9%**	78	8.5
Newport Corner	Brooklyn	14	19	24	14	23	**94**	**2.7%**	166	11.3
Poplar Grove	Brooklyn	9	2	9	4	11	**35**	**1.0%**	96	7.3
Scotch Village	Brooklyn	9	20	18	16	12	**75**	**2.2%**	252	6
Union Corner	Brooklyn	10	13	20	17	14	**74**	**2.1%**	179	8.3
Upper Burlington	Brooklyn	6	14	10	11	21	**62**	**1.8%**	178	7
Woodville	Brooklyn	4	7	4	2	8	**25**	**0.7%**	90	5.6
Bishopville	Hantsport	14	3	4	9	2	**32**	**0.9%**	58	11
Falmouth	Hantsport	25	48	45	103	63	**284**	**8.2%**	1,195	4.8
Hants Border	Hantsport	25	29	16	15	17	**102**	**2.9%**	100	20.4
Hantsport	Hantsport	43	63	26	28	28	**188**	**5.4%**	595	6.3
Leminster	Hantsport	3	3	8	9	3	**26**	**0.7%**	139	3.7
Mount Denson	Hantsport	13	5	12	27	10	**67**	**1.9%**	355	3.8
Upper Falmouth	Hantsport	2	15	16	21	31	**85**	**2.4%**	469	3.6
Mill Section	South West	4		9		6	**19**	**0.5%**	48	7.9
Panuke Lake	South West						**0**	**0%**	7	0
Upper Vaughan	South West	2	8	19	9	21	**59**	**1.7%**	207	5.7
Vaughan	South West	9	10	33	20	37	**109**	**3.1%**	877	2.5
Wile Settlement	South West	1	1	5	3		**10**	**0.3%**	71	2.8
Bramber	Summerville	18	12	11	5	11	**57**	**1.6%**	308	3.7
Centre Burlington	Summerville	14	8	12	9	14	**57**	**1.6%**	215	5.3
Cheverie	Summerville	9	13	16	20	11	**69**	**2.0%**	333	4.1
Kempt Shore	Summerville	5	7	5	8	12	**37**	**1.1%**	150	4.9
Lower Burlington	Summerville	14	10	8	9	10	**51**	**1.5%**	150	6.8
Riverside	Summerville	1		3	2	5	**11**	**0.3%**	83	2.7
Summerville	Summerville	10	3	12	12	12	**49**	**1.4%**	180	5.4
Garlands Crossing	TMP	8	12	8	18	22	**68**	**2.0%**	445	3.1

[47] This rate is expressed as the average annual number of incidents per 100 properties occurring over the five years of data in the table. The overall average rate for all of W/WH is shown at the bottom of the table, and is 5.2 incidents per 100 properties.

Community	Station	2014	2015	2016	2017	2018	Totals	%	Properties in Community	Annual[47] Response Rate
Gypsum Mines	TMP	2	5	3	3	2	**15**	**0.4%**	62	4.8
Martock	TMP	7	5	6	13	8	**39**	**1.1%**	267	2.9
Newport Station	TMP	3	9	10	9	3	**34**	**1.0%**	239	2.8
St. Croix	TMP	11	16	27	20	30	**104**	**3.0%**	244	8.5
Sweets Corner	TMP	9	6	4	7	7	**33**	**0.9%**	111	5.9
Three Mile Plains	TMP	23	23	24	40	37	**147**	**4.2%**	816	3.6
Wentworth Creek	TMP	4	4	9	3	4	**24**	**0.7%**	99	4.8
Windsor Forks	TMP	7	4	6	16	11	**44**	**1.3%**	239	3.7
Lakelands	Uniacke		1	2			**3**	**0.1%**	2	30
Cambridge	Walton	5	7	1	5	2	**20**	**0.6%**	180	2.2
Cogmagun	Walton	3		15	11	5	**34**	**1.0%**	97	7
Pembroke	Walton	1	2	2	4		**9**	**0.3%**	95	1.9
Walton	Walton	1		3	3	5	**12**	**0.3%**	71	3.4
Curry's Corner	Windsor	7	8	4	10	10	**39**	**1.1%**	146	5.3
Windsor	Windsor	103	78	108	106	95	**490**	**14.1%**	1,436	6.8
	Totals:	**590**	**598**	**714**	**811**	**762**	**3,475**		**13,331**	**Avg. 5.2**

Note: In the above data, strict interpretation of the data as a reliable indicator of fire risk in the community should be undertaken with caution. The incident numbers in the table include responses to all incident types, including responses to motor vehicle accidents (MVA) on transiting highways (e.g. Highway-101) as well as mutual-aid[48] call-outs. In communities with few properties, even a small number of incidents can calculate to a large rate.

SERVICE DEMAND GROWTH

Population

Growth in population and consequently housing growth is usually the largest driver for increases in service demand for fire departments. Service demand means the number of incidents that occur annually. Incident numbers are largely driven by population size, and secondarily by travellers and visitors; in other words, by people.

[48] See the section on mutual-aid responses starting on page **165** of this report.

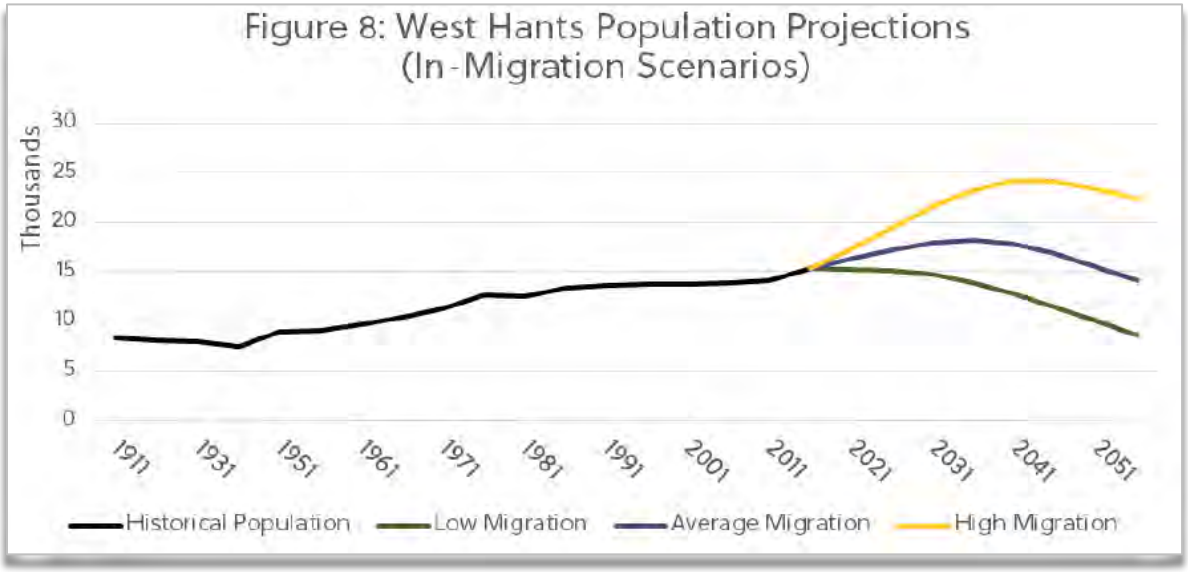
Population projections[49] by West Hants Planning and Development Department show that a significant increase in West Hants population is unlikely over the next 10 years. See the chart from the Population Report that follows on page **168**.

One extreme of the projections actually shows a decline in population by 2031, which is just beyond the threshold of our projection mandate. There is, unfortunately, a several-hundred-% difference between the lower and upper projections.

The chart's "average" projection for 2031 shows a modest population increase to 18,120 which is up almost 2,800 (+18%) from the 15,350 reported by StatsCan in 2016. After 2031 the population is projected, in this version also, to level off and decline.

The most optimistic scenario shows a population increase to as high as 24,166 (+57%) by 2041; before then declining. All three projection scenarios predict a declining population, over the long term, starting at or before 2041.

FIGURE: WEST HANTS POPULATION PROJECTION CHART



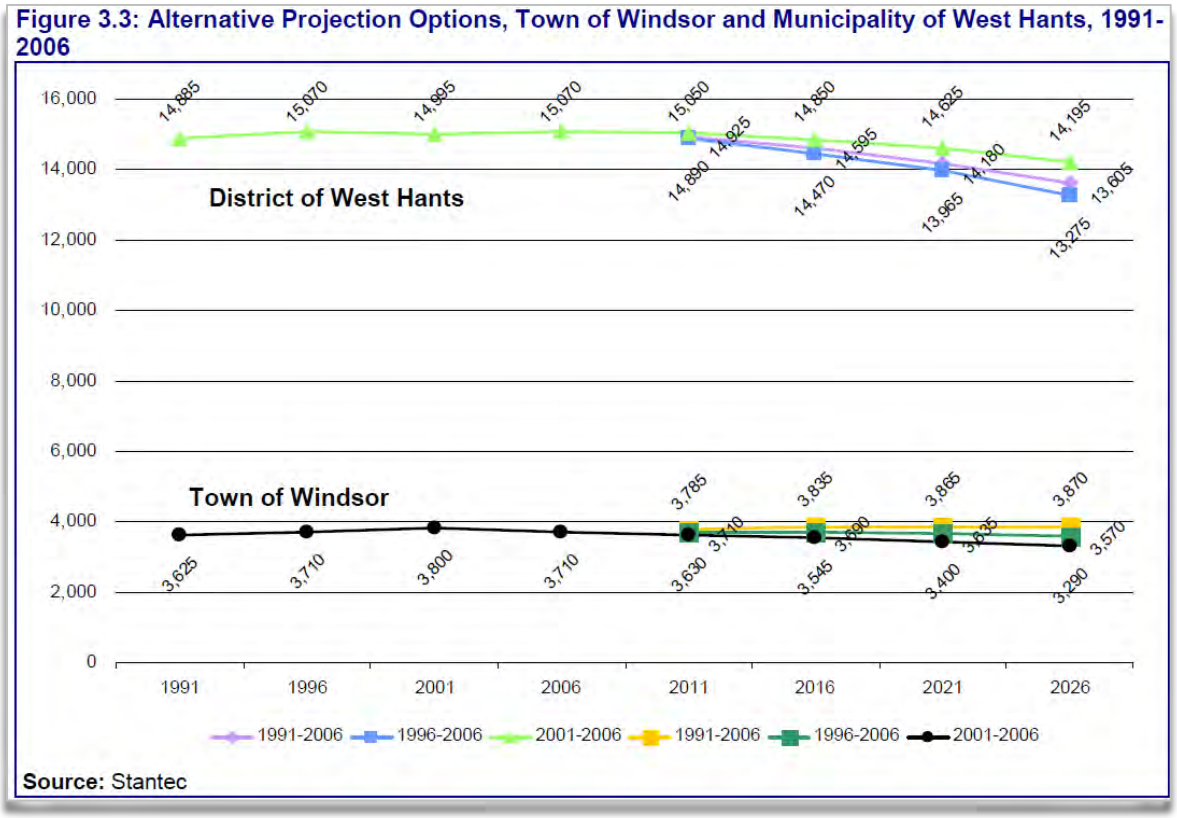
[49] West Hants Planning and Development Department, Background Report: Population, March 2018, page 8.

A further study[50] by Stantec, done in 2010, shows a less optimistic population projection for West Hants, and includes the Town of Windsor as well as West Hants. See the chart on page **169**.

In this chart, the population for West Hants is projected to be below 14,000 by 2026 while the Windsor population holds flat. This Stantec study is relatively consistent with the West Hants study, done 8 years later, in that growth projections for the Region appear to be relatively flat.

For the Town of Windsor, StatsCan[51] reports that between 2011 and 2016 the population of Windsor contracted 3.6%, down from 3,785 in 2011 to 3,648. This actual data corresponds well to the median prediction on the Stantec chart, six years after it was written.

FIGURE: STANTEC POPULATION PROJECTION CHART



[50] Windsor Integrate Community Sustainability Plan, 2010, page 3.21

[51] https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?B1=All&Code1=1208002&Code2=12&Data=Count&Geo1=CSD&Geo2=PR&Lang=E&SearchPR=01&SearchText=Windsor&SearchType=Begins&TABID=1

Planned Growth Areas, West Hants

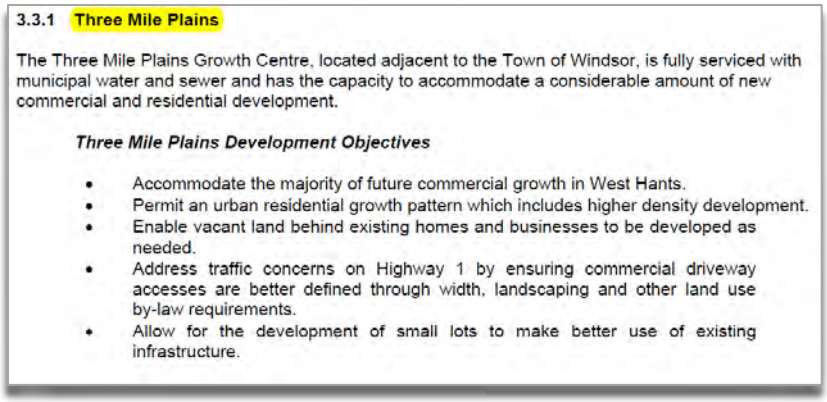
West Hants in their updated Municipal Planning Strategy[52] (WHMPS) has established growth goals for West Hants as follows;

> *"3.3 Growth Centres*
>
> *Growth Centres are intended to accommodate most of the future non-rural development which will occur in West Hants, thereby relieving development pressure from non-renewable resource lands. It is expected that a full range of municipal services, including water and sewer, recreation facilities, street lights and sidewalks, will eventually be provided in these communities as they become necessary. Concentrated development makes the provision of such services more economical. Because of the expense involved in constructing, extending and maintaining municipal water and sewer infrastructure, these services will be provided only in the two existing Growth Centres of* ***Three Mile Plains*** *and* ***Falmouth****, as well as the* ***Windsor-West Hants Joint Industrial Park***." {emphasis added}

Significantly, from a fire protection point of view, these areas of preferred growth are adjacent to the Town of Windsor. Having development in a more concentrated area contributes to fire protection planning efficiency.

Three Mile Plains

For Three Mile Plains, West Hants had identified some specific development goals, as shown in the accompanying snapshot from the WHMPS document;



3.3.1 Three Mile Plains

The Three Mile Plains Growth Centre, located adjacent to the Town of Windsor, is fully serviced with municipal water and sewer and has the capacity to accommodate a considerable amount of new commercial and residential development.

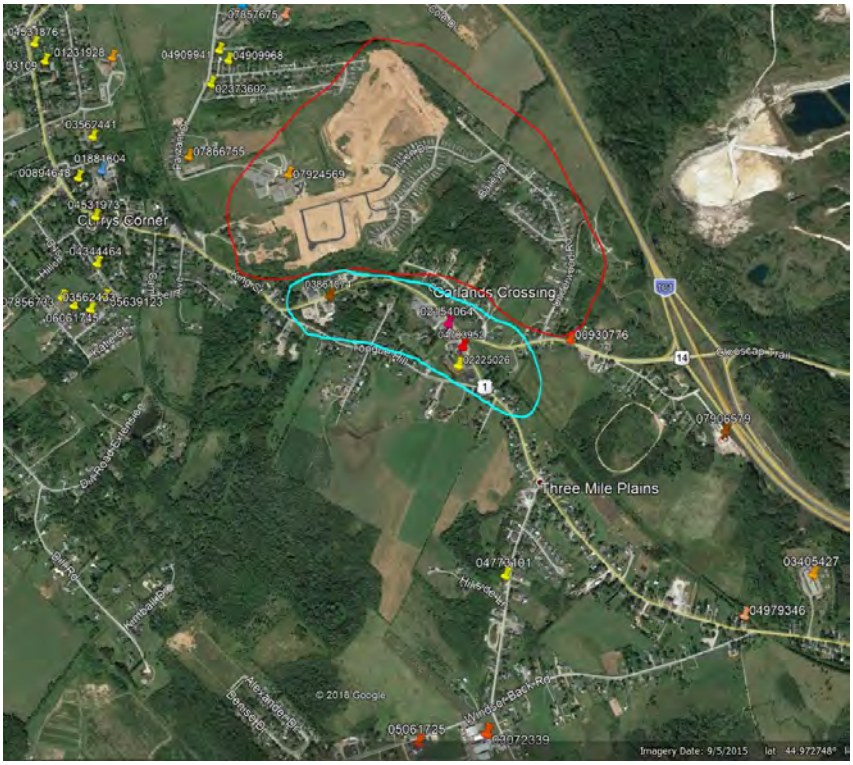
Three Mile Plains Development Objectives

- Accommodate the majority of future commercial growth in West Hants.
- Permit an urban residential growth pattern which includes higher density development.
- Enable vacant land behind existing homes and businesses to be developed as needed.
- Address traffic concerns on Highway 1 by ensuring commercial driveway accesses are better defined through width, landscaping and other land use by-law requirements.
- Allow for the development of small lots to make better use of existing infrastructure.

[52] Municipality of the District of West Hants, Municipal Planning Strategy, May 13, 2008, updated December 25, 2018.

The area where residential development is primarily occurring is called Garlands Crossing. A snapshot of the Garlands Crossing area from Google Earth shows where development is currently occurring. The red circled area is residential development. This image is from 2015 and many more homes have been constructed than the image shows. The teal coloured area is an existing area of commercial buildings.

There is also a new fire station in that area, called the Three Mile Plains (TMP) station throughout this study. The red stick pin, with PIN number ending in 776 is the fire station.



The accompanying graphic from the WHMPS shows the TMP designated commercial core;



Falmouth

In Falmouth, residential growth has also been observed. The WHMPS had identified some specific development goals, as shown in the following snapshot from the report;

Falmouth Development Objectives

- Provide for the development of Falmouth as a predominantly residential community, with a defined growth boundary based on the Municipality's ability to provide necessary services.
- Accommodate rural lifestyle activities to the extent that such activities are compatible with a moderate density of residential development.
- Monitor the extension of services and, when necessary, limit service extension to ensure the capacity of the municipal sewer and water systems is not exceeded.
- Encourage street design in new residential developments that separates local traffic from through traffic.

A 2015 Google Earth snapshot shows some of the Falmouth growth areas. The red circle is current residential development and the teal colour is part of designated commercial area.





This accompanying graphic from the WHMPS more clearly shows the designated Falmouth commercial hub.

If population/residential and accompanying commercial growth does occur in West Hants, it is likely to be in the two designated growth centres as described above.

Windsor

In 2010 Windsor commissioned Stantec to produce the ICSP[53] study. The main focus of recommendations seemed to be the renewal/improvement of infrastructure and services, and the enhancement of lifestyle and natural assets of the Town. Redevelopment of existing vacant industrial lands was a priority as well as enhanced cooperation with West Hants, and others. Regarding municipal population growth, the ICSP made the following comments;

Stantec

TOWN OF WINDSOR INTEGRATED COMMUNITY SUSTAINABILITY PLAN

Potential Municipal Planning Strategy Changes

March 17, 2010

ICSP Goal/Action(s)	MPS Status	Future Considerations
Attract young adults and families 1. Encourage affordable, quality residential development. 2. Maintain related services, particularly schools. 3. Enhance recreation options.	The MPS recognizes that population in Windsor is aging but does not contain any policy directly addressing the encouragement of population growth.	No change.

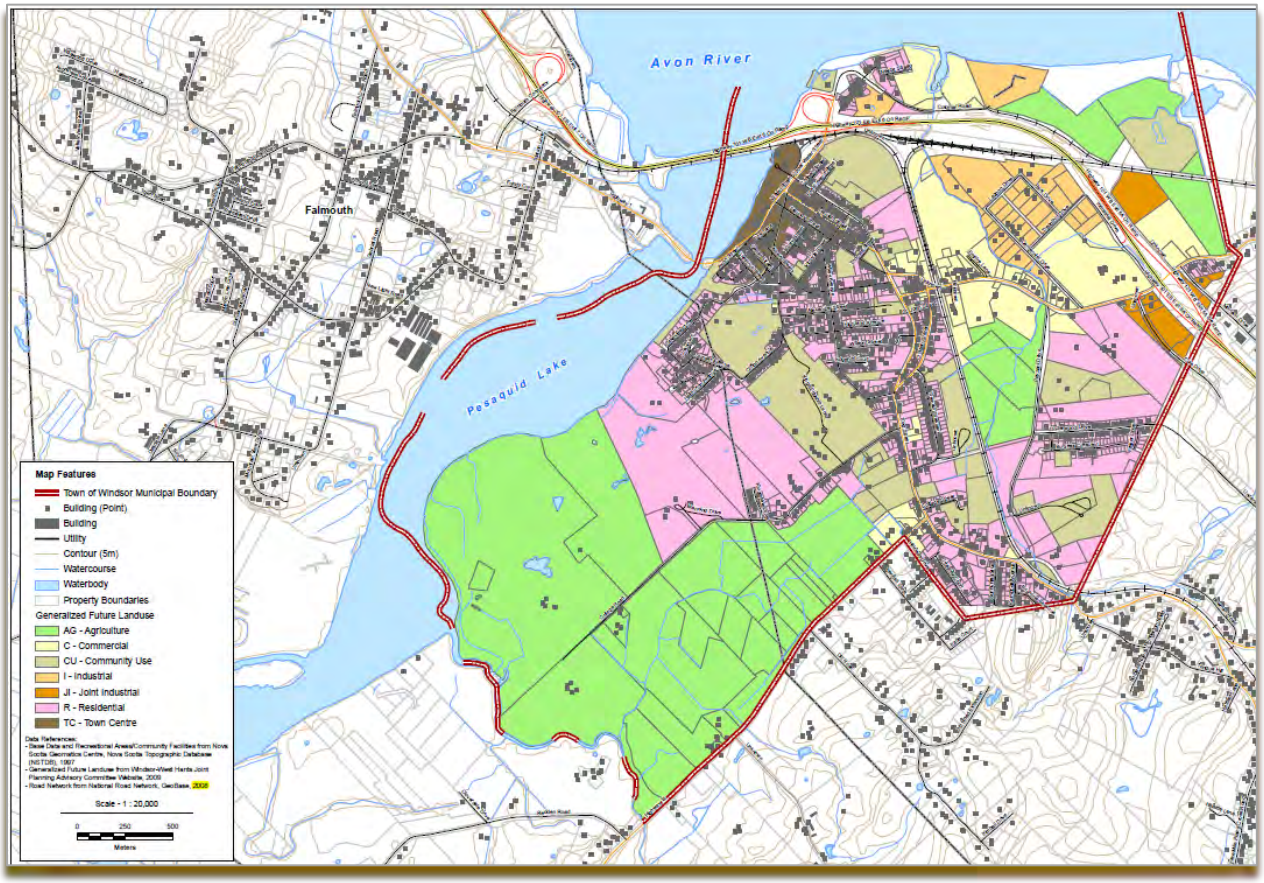
The above does not seem to reflect a focus on the part of the Town of Windsor in 2010 towards residential growth. This idea is supported by several other focus areas in the ICSP.

There are, however, still significant undeveloped and designated residential areas and infill space within the Town boundary that could support significant residential development, if such were to occur.

The space for residential growth is shown in pink on the accompanying land-use planning map snapshot from the ICSP.

[53] Town of Windsor Integrated Community Sustainability Plan, March 17, 2010

FIGURE: WINDSOR LAND USE MAP



Conclusion, Population Growth Service Demands

It is GA's conclusion that there is land available for residential growth. However, population projections do not support any significant long-term population growth. It is therefore likely that population growth will be small within the ten-year span of interest for this fire services review.

However, residential construction may continue as it has for the past few years, but it is likely that this construction will be mainly for rehousing of downsized families, some new to the area, which is a common occurrence in many communities where the average number of persons per household is slowly declining as the population ages and children leave the home, and as senior partners pass-on.

Modern home construction does not attract as many calls for fire services as does older construction. New codes, techniques, and materials are less prone to fire events. However, as the population ages, it can be expected that ambulance service calls will increase. If the fire department continues to support EHS in the provision of pre-hospital emergency health care, then it can be expected that the proportion of medical related calls will continue to climb.

With most of any population increase happening in and around Windsor, the impact of any growth will be felt by the closest fire stations. These are located in Windsor and in Garlands Crossing.

GA recommends that the Windsor and Three Mile Plains stations be appropriately resourced to deal with any population and residential growth that creates increased service demand.

With the "average" projected population[54] increase of 18% applied to the growth areas in West Hants, and also applied to Windsor, the following chart shows potential impacts on annual incident volumes by 2031. An increase for Brooklyn is applied, at 4.5%, as it is a designated Village in the WHMPS with modest growth supported. Hantsport is not included since housing starts there are low and population numbers have been stable/contracting.

FIGURE: SELECTED COMMUNITY HISTORIC INCIDENT NUMBERS AND POTENTIAL RESIDENTIAL GROWTH

Community	2014	2015	2016	2017	2018	Totals	%[55]	2031 (projected annual)
Brooklyn	52	47	46	54	34	**233**	**6.7%**	**36**
Curry's Corner	7	8	4	10	10	**39**	**1.1%**	**12**
Falmouth	25	48	45	103	63	**284**	**8.2%**	**74**
Garlands Crossing	8	12	8	18	22	**68**	**2.0%**	**26**
Three Mile Plains	23	23	24	40	37	**147**	**4.2%**	**44**
Wentworth Creek	4	4	9	3	4	**24**	**0.7%**	**5**
Windsor	103	78	108	106	95	**490**	**14.1%**	**112**
Sub-total:	**222**	**220**	**244**	**334**	**265**	**1,285**	**37.2%**	**313**
W/WH Totals, all communities:	**586**	**598**	**705**	**811**	**756**	**3,456**		

[54] Expressed in the Planning and Development Department Population Background Report.

[55] Percentage of the Region's 3,456 incident volume total for the five years of data shown.

For this projection it is assumed that the increase/growth would occur proportionally to all communities, although in fact this is unlikely. However, with the exception of Brooklyn, all the above communities are closest to the TMP and Windsor fire stations, so fluctuation amongst the growth communities is irrelevant from an impact perspective.

The salmon column titled 2031 shows the increase applied to the 2018 annual totals for each community. It should be noted that the annual projected numbers for 2031 are completely or nearly within the annual variations already seen for each community, and for the annual totals for these communities. This suggests that there is currently the capacity/ability to service these projected incident numbers.

DEVELOPMENT GROWTH, FIRE SERVICE CAPABILITY

The development of large commercial, industrial, and residential facilities can increase the demand for service capability. In this circumstance, service capability means the ability of the fire service to mitigate the incidents that occur in buildings larger or with more complex risks than they are currently equipped to handle.

For example; the development of high-rise[56] apartment buildings can place a high demand on manpower, processes, training, and technology for the fire department. This is especially so if the fire department has no prior experience with such buildings. This would be the case in W/WH where there buildings heights are typically 3-4 stories, and the tallest are churches.

To mitigate fire incidents in new development that is outside of the capability envelop of the fire service requires specialized equipment, specific procedures, diligent fire safety enforcement, and usually higher staffing numbers on-scene at an incident. The municipality does have a significant degree of control over allowing these types of development, and consideration of the impact on the fire services and the costs of increasing capability should be part of municipal development plans.

[56] High-rise buildings are buildings that are 6 stories and above in height.

West Hants Planning and Development Department reports[57] that it is unlikely that big box retailers and power centres[58] will be developing in W/WH, without a larger population to attract them. Such a development would be outside the current capability of the fire departments.

Industrial and resource-based development is reportedly[59] not booming in West Hants. Permits and values have been low. A Windsor-West Hants shared industrial park is the preferred location for industrial development, and there are currently a few industries located there, although none are very large. The number of commercial development permits is trending downward, although the value of these may be upwards.

Growth in the commercial, industrial, and resource sectors is unlikely to increase substantially over the next 10 years. It is therefore unlikely that an increase in fire services capability will be driven by extraordinary development.

GA recommends that the new Regional government carefully consider potential impacts on fire service capability with every new industrial, large commercial, or large residential planning application. The fire service should not be opposed to such developments, but must speak clearly about needs and plan accordingly for any such large-scale development.

[57] West Hants Planning and Development Department, Background Report: Economic Development, March 2018, page 16.

[58] IBID; in 2010 power centres had an average of 25 tenants, including several big-box retailers.

[59] West Hants Planning and Development Department, Background Report: Industry and Resource, March 2018, page 4.

COMMUNITY FIRE RISK FACTORS

Risk can be simply described as a combination of incident frequency and incident consequences. The best predictor of incident frequency is statistics, i.e. the fire experience in the community. The assumption is that unless something is done proactively to change the root causes of fires, then they will continue to occur at a similar frequency.

Incident consequences are often limited to the persons directly involved (i.e. a family's home), but consequences can also impact the community at large. A significant fire in a major employer can result in negative economic consequences to the community through job loss, damage to infrastructure, loss of viability for suppliers, and loss of tax base. These consequences can also be social as the community may lose hope in a secure future, former workers may be forced to seek employment elsewhere, often outside the community, and sadness over the loss of a long-established bastion.

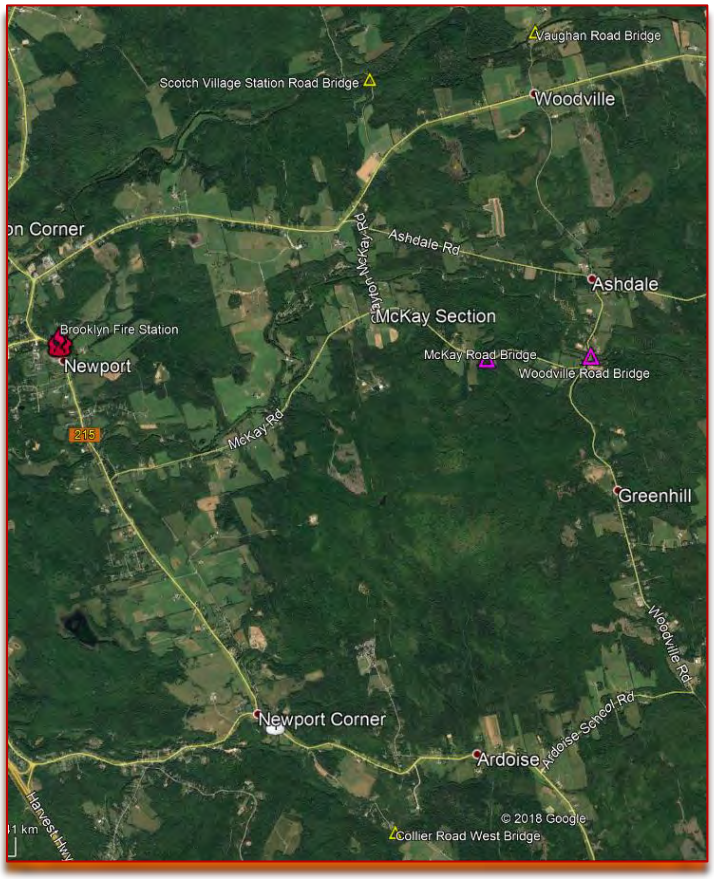
The current role of the Regional fire departments in addressing community fire risk is mainly in responding to incidents and attempting to mitigate the consequences of fires that are already in progress. There are a number of factors that affect the efficiency and effectiveness of this role. These will be addressed in the following section.

Bridges

Access to incidents by the fire department occurs along public roads. Fire apparatus ca be large and heavy, and restrictions in the roads can determine the route used to travel to the incident. Bridges are one difficulty for fire apparatus.

GA issued to the fire departments a request for information on restrictive bridges. The query returned information on seven bridges, as identified by the fire departments, with weight restrictions which might limit transit by the heaviest fire apparatus. Two of these bridges are avoided by the fire departments for that reason. One of theses bridges was noted as a private bridge of unknown capacity.

- Cogmagun Road bridge across the Cogmagun River, not posted but 20 Tonnes advised maximum (Summerville FD).
- Benny Muckle Road, private single lane bridge of unknown capacity (about 5.5 km east of Bramber) (Summerville FD).
- McKay Section Road, single lane bridge posted 20 Tonnes, rated as poor condition, avoided.
- Vaughan Road, Woodville, single lane bridge posed as 20 Tonnes, rated as good condition.



- Scotch Village Station Road, single lane bridge posed as 20 Tonnes, rated as good condition.
- Woodville Road, Ashdale/Greenhill, single lane bridge posed as 20 Tonnes, rated as fair condition, avoided.
- Collier Rd. West, Newport Corner, single lane bridge posed as 20 Tonnes, rated as poor condition, not avoided since it is the only access.

The accompanying Google snapshot shows the bridges in the Brooklyn response district.

GA recommends that there be response plans developed to ensure that all personnel Region-wide are well aware of bridge restrictions where fire apparatus cannot cross. This is particularly important for fire stations in other fire districts who may be contributing pumpers, tankers, or aerial apparatus to assist at a fire in another jurisdiction. A typical pumper weighs 25 Tonnes, a

tanker weighs 30+ Tonnes, and an aerial weighs 35 Tonnes, and an aerial-platform typically weighs over 40 Tonnes.

Rural Water Supply Infrastructure

Rural water supplies are used to provide a source of firefighting water in areas of the Region where there is no public water supply and fire hydrants. These sources can also be significantly useful where there are fire hydrants, during very large fires, where the public water supply is not able to cope with required flow rates or total water demands.

Fire Underwriter Survey recognizes[60] approved alternative water supplies (i.e. not municipal hydrant systems) for properties if the water supply point is within 2.5 km by road for commercial risks and 5 km by road for residential risks. Essentially, this means that dry-hydrants or static drafting locations should be available within those distances to most if not all properties in the Region, according to their type of property.

GA issued a request to the fire departments for information on their established rural water supply sources. The rural water supply query returned information on 18 rural water supply sites;

- seven dry-hydrants on a lake/river/pond,
- one dry-hydrant on a cistern,
- one wet-hydrant gravity fed from a pond,
- two private water systems, and
- seven drafting sites on a lake/pond/river.

All of the identified sites were rated excellent to good, except one that was rated adequate. The information revealed that not every site is tested[61] and flowed/maintained regularly. One site is established in downtown Windsor and will be useful in supplementing the Town's water supply in a large fire or during water interruption.

[60] Fire Underwriters Survey, Alternative Water Supplies for Public Fire Protection, an Informative Reference Guide for use in Insurance Grading.

[61] National Fire Protection Association, NFPA-1142, Standard on Water Supplies for Suburban and Rural Fire Fighting.

NFPA-1142 is the standard for rural water supplies. The standard requires that dry-hydrants be inspected and maintained at least quarterly and flow tested at least annually, and that records be kept of all maintenance and testing. It also requires that all static water sources be equipped with a dry-hydrant.

Although there are a number of rural water sources established, the number is insufficient to provide adequate coverage for all populated areas of the Region.

GA recommends that dry-hydrants be installed at all planned rural water supply points in the Region. Water supply points should be established within 5 kilometers by road to all hamlets and clusters of residential housing, and within 2.5 kilometers to all commercial risks. All dry-hydrants should be developed in accordance with the requirements of NFPA-1142, and should also be maintained in accordance with the standard.

GA recommends that good records of all dry-hydrant maintenance, inspections, and testing should be kept as protection against liability and for reference and pre-planning purposes.

GA recommends that all dry-hydrants or other static water sources that are established on private property be accompanied by an executed agreement defining rights, duties, and liabilities.

Residential Fire Risk

STATISTICS CANADA RESIDENTIAL DATA

Statistics Canada[62] provides the following information for the Region;

line	Item	Windsor		West Hants		W/WH	%		Hantsport[63]	
1	Population 2016	3,648		15,368		**19,016**			1,124	
2	Total private dwellings	2,367		7,175		**9,542**			519	
3	Private Dwellings occupied by usual residents[64]	2,214	93.5%	6,426	89.6%	8,640	90.5%		494	95.2%
4	Population density, persons per km^2	500.0		12.4					528.2	
5	Land area, km^2	10.5	0.8%	1,244	99.2%	1,255			2.13	
6	Single detached homes	1,310	59.3%	5,750	89.4%	7,060	81.7%		385	78.6%
7	Apartment in building five or more stories	5	0.2%	0	0.0%	5	0.1%		0	0.0%
8	Semi-detached house	115	5.2%	65	1.0%	180	2.1%		10	2.0%
9	Row house	45	2.0%	25	0.4%	70	0.8%		10	2.0%
10	Apartment or flat in a duplex	40	1.8%	55	0.9%	95	1.1%		20	4.1%
11	Apartment in a building fewer than five stories	575	26.0%	165	2.6%	740	8.6%		65	13.3%
12	Other single-attached house	15	0.7%	10	0.2%	25	0.3%		0	0.0%
13	Moveable dwelling	105	4.8%	360	5.6%	465	5.4%		0	0.0%
14	Household sizes; 1 person	765	34.5%	1,470	22.9%	2,235	25.9%		140	28.3%
15	2 person	780	35.2%	2,700	42.0%	3,480	40.3%		185	37.4%
16	3 person	320	14.4%	1,035	16.1%	1,355	15.7%		95	19.2%
17	4 person	250	11.3%	865	13.5%	1,115	12.9%		55	11.1%
18	5 or more person	100	4.5%	355	5.5%	455	5.3%		20	4.0%
19	Number persons in private households	4,815	91.7%	15,345	99.9%	**20,160**	97.8%		1,115	99.2%
20	Average household size	2.2		2.4					2.3	
21	Owned dwellings	1,260	56.4%	5,540	86.2%	6,800	78.5%		380	75.2%
22	Condominium dwellings	45	2.0%	30	0.5%	75	0.9%		0	0.0%
23	Rented dwellings	930	41.6%	855	13.3%	1,785	20.6%		125	24.8%
24	Occupied private dwellings by construction period. 1960 or before	835	37.3%	1,910	29.7%	2,745	31.7%		280	55.4%
25	1961 – 1980	535	23.9%	1,860	28.9%	2,395	27.6%		130	25.7%
26	1981 – 1990	335	15.0%	905	14.1%	1,240	14.3%		25	5.0%
27	1991 – 2000	175	7.8%	785	12.2%	960	11.1%		35	6.9%
28	2001 – 2005	50	2.2%	305	4.7%	355	4.1%		25	5.0%
29	2006 – 2010	165	7.4%	375	5.8%	540	6.2%		0	0.0%
30	2011 – May 2016	145	6.5%	290	4.5%	435	5.0%		10	2.0%
31	Occupied private dwellings - major repairs needed	195	8.7%	670	10.4%	865	10.0%		35	6.9%

[62] https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?B1=All&Code1=1208002&Code2=12&Data=Count&Geo1=CSD&Geo2=PR&Lang=E&SearchPR=01&SearchText=Windsor&SearchType=Begins&TABID=1

[63] Hantsport was dissolved on July 1, 2015, after which it became an integral part of West Hants. Hantsport numbers are included in the West Hants and W/WH total numbers. They are shown here for reference.

[64] From StatsCan: "'Private dwelling occupied by usual residents' refers to a private dwelling in which a person or a group of persons is permanently residing."

Dwellings are defined by the National Building Code: "*Dwelling unit means a suite operated as a housekeeping unit, used or intended to be used by one or more persons and usually containing cooking, eating, living, sleeping and sanitary facilities.*"

An examination of the above data leads to a few observations related to fire protection.

- The percentages shown in the salmon coloured analysis column refer to the data (uncoloured cells) to their immediate left, and refer to totals in that column only. For example; line 3 for Windsor, 93.5% of the 2,367 total private dwellings are occupied by usual residents.
- The green total column in the W/WH (Windsor West Hants) column is the sum of the Windsor and West Hants data columns.
- Line 3: Of the 9,542 private dwellings, 9.5% (900 dwellings) are not occupied permanently. These are either seasonal, vacant, or housing transients. The occupancy rates are lower in West Hants than in either Windsor or Hantsport. Vacant buildings are a hazard to the community and firefighters.
- Line 4: The average population density in Windsor and Hantsport is more than 40 times that it is for West Hants. Denser populations are cheaper to service but are more susceptible to devasting fires that affect multiple buildings/occupancies.
- Line 6: The percentage of single detached homes in the region is high at 81.7% overall, but this is very much skewed towards West Hants. In Windsor the percentage is much lower at 59.3%. A fire or similar incident in a home in Windsor is 40% more likely to affect more than one dwelling. Consequently the fire risk is higher.
- Line 7: Although there is apparently one building that is 5-stories or taller in Windsor, all residential buildings in the region are 4-stories or lower. Five stories is classified as a mid-rise building; while 4-stories or less are low-rise buildings and can be laddered by the longest ground ladders.
- Line 23: Region-wide 20.6% of households live in rented accommodation. This is particularly so in Windsor, where 41.6% of households are in rental accommodations. The insurance industry claims that only about half of renters carry fire insurance. Fires in rental dwellings can be even more devastating to residents without insurance.
- Line 25: In Hantsport 55.4% of the occupied residential building stock (505 units) was built in or before 1960. Older buildings are more prone to fires since they have older utilities and systems.
- Lines 28-30: Since 2001 only 35 of these new dwellings have been built in Hantsport.
- Line 31: Shows that region-wide almost 10% of dwellings are in need of major repairs. Fire occurrences can increase in under-maintained structures.

The residential fires are the main risk for fire occurrences in most communities. They are also the main risk for injuries, and deaths, both of civilians and of firefighters.

According to national statistics[65] for Canada;

> *"Fires in residential properties accounted, on average, for 69% of all structural fires and 79% of all structural fire deaths. ... Homes representing one/two family dwellings, apartments and mobile homes accounted for 82% of all fires in residential properties*

[65] Fire Losses in Canada Year 2007 and Selected Years, Wijayasinghe, September 2011, presented to the Canadian Council of Fire Commissioners and Fire Chiefs, http://www.ccfmfc.ca/stats.html

and 83% of all residential fire deaths. …. In Canada, home fires accounted for 30% of all fires and 67% of all fire deaths."

As shown on the chart on page **164**, and partially repeated below, in the Region residential fires are the leading occupancy where fires are occurring. In the Region, according to the statistics received, the occurrence of residential fires (at 39.1% of all fire incidents) is above the national average of 30%.

FIGURES: REGIONAL DWELLING FIRES

Type	Number	%
Structure-Residential + Chimney	147+134 = **281**	39.1%
Breakdown by Fire Station	***Residential/Chimney***	
Windsor	55	
Hantsport	80	
South West	18	
Brooklyn	64	
Three Mile Plains	28	
Summerville	32	

Dwelling Fires	2014	2015	2016	2017	2018	Total
Combined	61	57	69	45	49	281
Chimney	26	17	38	29	24	134
Structure	35	40	31	16	25	147

The following table shows statistics from Windsor relating to all reported structure fire losses. One civilian and one firefighter injuries were reported for the five years. Both injuries occurred at residential fires. No fire loss amounts or injuries were reported by the other fire departments.

FIGURE: STRUCTURE FIRE LOSSES (WINDSOR)

Fires (Windsor)	2014	2015	2016	2017	2018	Total	# incidents
Residential	$131,500	$91,000	$76,500	$5,000	$6,000	$310,000	**281**
Barn/Warehouse	$0	$380,000	$0	$0	$0	$380,000	**25**
Commercial	$0	$0	$1,600,000		$1,500	$1,601,500	**15**
Industrial/Factory					$0	$0	**1**
Other	$100	$0	$0	$0		$100	**18**
	$131,600	**$471,000**	**$1,676,500**	**$5,000**	**$6,500**	**$2,291,600**	**340**

From the limited statistics available it is clear that in W/WH the risk of fire is greatest in residential properties. There is no breakdown on responses to residential fires by building type; i.e. single detached, semi-detached, row, multi-unit, owned, rented, number of stories, number of units, etc. Such a breakdown is very useful in better understanding the underlying risks associated with each building type, and can assist in determining fire prevention priorities.

GA recommends that complete fire statistics be collected and records kept, including all information requested by the NS Fire Marshal for inclusion in the provincial database. Records retention rules generally do not require retention of such data beyond five or seven years. It is further recommended that fire statistics be kept at least 15 years in order for trends to be clearly seen and analysed.

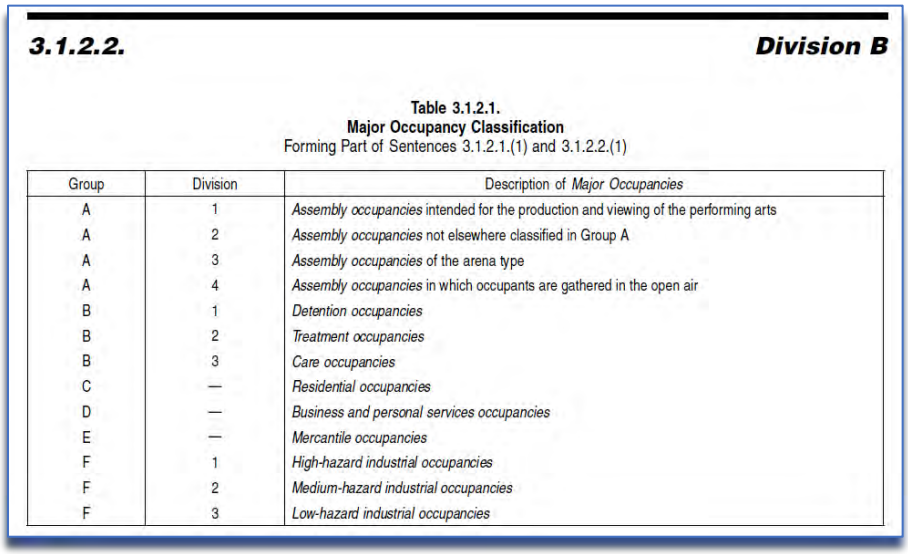
Fires in other property types are not as frequent as residential fires. However, even from the Windsor data, it can be clearly seen that fires in commercial and industrial properties can be of high loss values. The Windsor data shows that almost all of the commercial loss in the five years of data is attributable to a single fire in a low-rise apartment building on King Street.

Fires in commercial/mercantile/industrial buildings can be much more demanding to combat than fires in typical dwellings. They are generally larger fuel loads, larger in area and height, often require specialized equipment like aerial ladder apparatus, have limited access, and have more hidden spaces in which fire can spread. Additional occupants can add to the pressure on the firefighters to perform rescues and to search for persons who might be inside. The risk per incident to firefighters is much higher at these larger building fires than it is in a single-family residence.

Large Building Fire Risks

The National Building Code[66] (NBC) categorizes every building or part of building (occupancy) according to its Major Occupancy Classification. The accompanying table shows these classifications. For some examples of this;

- schools are classified as A2,
- the shopping mall is an E,
- a nursing home is a B2, and
- both single family residences and apartment buildings are classified as C.



3.1.2.2. **Division B**

Table 3.1.2.1.
Major Occupancy Classification
Forming Part of Sentences 3.1.2.1.(1) and 3.1.2.2.(1)

Group	Division	Description of *Major Occupancies*
A	1	*Assembly occupancies* intended for the production and viewing of the performing arts
A	2	*Assembly occupancies* not elsewhere classified in Group A
A	3	*Assembly occupancies* of the arena type
A	4	*Assembly occupancies* in which occupants are gathered in the open air
B	1	*Detention occupancies*
B	2	*Treatment occupancies*
B	3	*Care occupancies*
C	—	*Residential occupancies*
D	—	*Business and personal services occupancies*
E	—	*Mercantile occupancies*
F	1	*High-hazard industrial occupancies*
F	2	*Medium-hazard industrial occupancies*
F	3	*Low-hazard industrial occupancies*

The major reason for this classification system is to identify common fire safety concerns, and therefore common fire safety measures/requirements. This method carries over into the National Fire Code (NFC) and is used for identifying building inspections and Code enforcement requirements. Within each classification Group there are also special rules for specific types of occupancies. For example; even though a private family house and a 20-unit apartment building are both classified as a C occupancy, there are different fire safety requirements for both of them. So the occupancy classification isn't the whole story.

For firefighters, building classification tells them about the built-in fire protection systems and construction measures. It also informs on the risks and the needs to pre-plan for an incident at that location. For example; a fire in a B2 is probably at a nursing home or a hospital. Such a fire has the potential to be very challenging with many persons to evacuate or rescue. Many nursing homes are old and not sprinklered. Therefore, fires can be fast moving and residents are slow moving. Staffing numbers at the nursing home, during the overnight, may not be sufficient to evacuate all patients in a timely manner without assistance from firefighters and other first

[66] National Building Code of Canada, 2015 edition

responders. If firefighters assist with searching and rescuing, then firefighting is delayed because of limited staff within the first few critical minutes. The fire may then progress and threaten more people, etc. Knowledge in advance is valuable.

In the above example, it seems obvious that firefighters would be aware of a nursing home in their community. However that may be, firefighters are not necessarily aware of all the converted old homes, that used to be large single family, 2-3-story residences, and that now contain several rented rooms and/or apartments. These types of C occupancies are prone to serious fires and search and rescue is very challenging.

In an effort to identify some of the risks associated with the existing building stock, property data from Windsor and West Hants was analysed and some of the properties were classified in accordance with the NBC. Although W/WH was unable to provide an already populated database with this information, GA was able to manually classify 294 of the properties in the database out of the 600 top-valued assessment properties. Past fire inspections and building permit data assisted in identifying some of these properties. This limited data will be referred to in analysis that follows in this report.

Assessments and Property Counts

The total assessed value of all property in W/WH is $1.6B. There are 13,335 properties. According to the address of the properties, thereby identifying the community, the following shows approximately how the properties are currently distributed to the fire departments and their associated assessment values. Kings or East Hants properties are not included in the following table.

Fire Department	Properties	Value	%
Windsor	1,582	$333,228,500	21%
Hantsport	2,911	$397,645,000	25%
South West	1,210	$126,156,700	8%
Brooklyn	3,242	$352,598,900	22%
Three Mile Plains	2,522	$273,877,100	17%
Summerville	1,419	$78,890,600	5%
Uniacke and District	2	$15,200	0%
Walton Shore	443	$32,434,600	2%
Unclassified	4	$170,800	0%
Totals:	**13,335**	**$1,595,017,400**	

The above distribution is based on the current fire districts.

The assignment of occupancy classifications allowed GA to observe the distribution of risks in the communities, and by current fire station district. The following table shows this distribution. The C classifications shown are for multi-unit buildings and do not include any single-family residences. The following data is not a complete capture of the occupancies that should be assigned their classifications. That data does not apparently currently exist. Please see the previous page for a description on how this was done.

FIGURE: DISTRIBUTION OF IDENTIFIED OCCUPANCIES

Station	A	B	C	D	E	F
Windsor	30	8	33	11	8	6
Hantsport	25	2	20	4	1	17
South West	9				1	1
Brooklyn	28		8	3	6	14
Three Mile Plains	18	1	8	3	8	28
Summerville	9		1	1		3
Uniacke						
Walton Shore	3					2
Totals:	**107**	**11**	**62**	**22**	**21**	**57**

Windsor in particular, and Hantsport to a lesser degree, appear to be the business, apartment, and service centres in the Region. Windsor and Brooklyn have the bulk of buildings associated with halls, schools, and/or restaurants (A classification). Windsor has most of the care and treatment facilities (B classification), multi-unit rental accommodations (C classification), and personal service and business (D classification).

Three Mile Plains has a large industrial base because the joint Windsor/West Hants industrial park (Wentworth Creek) falls into Three Mile Plains' response district; but there is still a lot of risk in Hantsport.

More so than detached dwelling fires, fires in the above identified occupancies have the potential for significant community impact. Such fires can also be challenging for the fire department. Fortunately, occurrence rates are relatively low.

Community Fire Risk Profile

A risk profile chart is useful in visually highlighting various risk factors. The following table identifies risk factors that influence firefighting tactics, manning, apparatus, and equipment needs. Every community/fire department will have a few occurrences of almost everything in the following table. However in this table, the ✕ indicates where the factor is often or usually a governing factor in a fire/rescue incident.

FACTOR	Windsor	Hantsport	Southwest	Brooklyn	TMP	Summerville
Older building stock (prone to fire development, pre-Code, combustible construction)	✕	✕				
Higher incident volumes (simultaneous calls more possible)	✕	✕		✕		
Large area occupancies (special tactics, equipment)	✕	✕				
Employment occupancies (economic impact)	✕	✕			✕	
Population density (high, more people at risk)	✕	✕				
Building density high (i.e. exposures to other buildings)	✕					
Conflagration potential (contiguous blocks)	✕					
Converted homes (apartments, rooming/boarding, difficult fires)	✕	✕				
Apartment buildings (many residents impacted)	✕	✕				
High Hazard use occupancies (F, firefighter/community hazards)		✕			✕	
Vulnerable person occupancies (B, occupants fragile)	✕					
Large Assembly occupancies (special tactics, equipment)	✕	✕			✕	
Buildings above 3-stories in height (too tall for ground ladders)	✕	✕				
Travel times long (fire development with time)		✕	✕	✕		✕
Bridge restrictions (heavy vehicles cannot cross)				✕		✕
Wildland -Urban Interface (homes in the woods at risk)			✕	✕		✕
Recreational waterways (water/ice rescue demand)	✕		✕			✕
Rural water supply predominant (tanker shuttle relay needed)			✕	✕		✕
Highway (100+kmph) (high speed MVC, hazard for firefighters)	✕	✕		✕	✕	
Growth area, changes in district (keeping up with changes)	✕			✕	✕	
High required fire flow incidents (pumper relays needed)	✕	✕			✕	
High staff demand incidents (large responses, multi-stations)	✕	✕				

Windsor's response district, and to a lesser degree Hantsport's, both exhibit typical characteristics of an urbanized fire risk environment. In urban areas, especially older ones, fire departments must be prepared for fires that are; difficult to extinguish, large, that can consume entire blocks, difficult to access, that cost the community anxiety, lost businesses, lost housing.

Pumpers, strong water systems, multiple ground ladders, aerial ladders, as well as sufficient staff to operate all of these and to fight fires in several buildings simultaneously is what urbanized firefighting environments demand. These fires can extend for several days, so depth of resources is also important.

Brooklyn has high incident[67] volumes, but this is somewhat distorted. If you look at the combined fire and pre-fire incident numbers, they are virtually the same as Windsor's combined totals. The records also show that Brooklyn has high numbers of rescue incidents, virtually all of which are MVCs, with about 20% being on Highway-101. Windsor's rescue responses dropped significantly and Brooklyn's jumped about the same amount after the Windsor response boundary changeover in 2016. With a regionalized service this should partly rebalance.

Brooklyn also has a high number of region-internal mutual-aid incidents, to other fire-district's fires. Brooklyn also carries the highest MFR incident load of any Regional fire department, due to their election to respond to every ambulance incident in their territory. Brooklyn is a busy station, but its core-service incident demand is similar to Windsor's.

Brooklyn and Summerville's response districts exhibit all the characteristics of a rural fire risk environment. Travel distances are long, water supply is established through tanker shuttles, occupancies are widely spaced, there are likely some wildland/urban interface issues. There are a few larger occupancies; e.g. churches, farm buildings, isolated commercial/industrial, schools, and etc. The primary fire risk is residential.[68]

Rural fire environments require pumpers for fire attack and tanker operations, tankers to transport water, ground ladders, and off-road vehicles for wildland fire incidents.

South West is also a rural fire risk environment, but they have very few larger occupancies. What they do have in abundance is cottages and year-round occupied homes built in the woods. South West's major challenge is long access on smaller roads to remote areas, winter weather challenges, wildland/urban interface issues, and the potential for a wildland fire to threaten numbers of residents and homes, with limited escape roads.

Three Mile Plains is essentially in a suburban fire risk environment. They are located in a housing growth area. Congestion and population density are higher than the rural areas of the Region, but lower than Windsor/Hantsport. They do have responsibility for most of the industrial park and are in proximity to Highway-101.

Three Mile Plains close proximity to Windsor makes them an ideal partner to supply the additional equipment and manpower resources needed to deal with fires in Windsor's urban environment.

[67] Reference the Figure: Table of Incident Dispatches by Station starting on page **159** of this chapter.

[68] See **Residential Fire Risk** starting on page **182**.

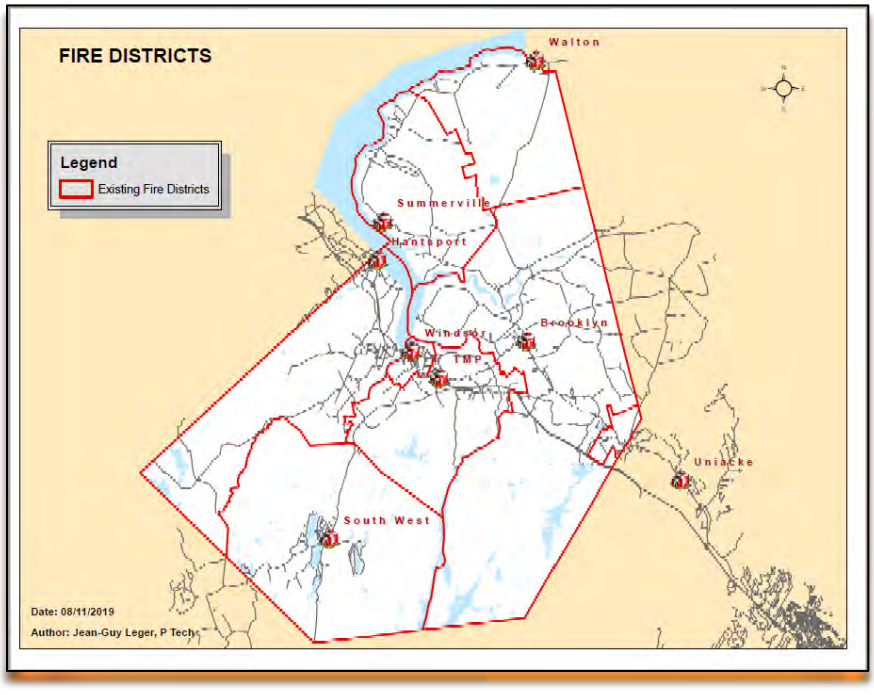
FIRE DISTRICT REVISIONS

Current Fire Districts

The fire districts in existence when this Fire Services Review was commissioned reflect decisions made after the withdrawal of fire protection services by Windsor Fire Department; previously Windsor fire department responded into large parts of West Hants Regional Municipality. From a more recent perspective, that of a consolidated municipality, these existing fire districts are not optimum and require adjusting for efficiency and effectiveness.

The determination of fire districts should be based on a seemingly simple principal. For any incident the closest appropriate resources should be sent first. Appropriate means a resource (fire apparatus, manpower, equipment, knowledge, etc.) that can and will be used to mitigate the situation.

FIGURE: EXISTING FIRE DISTRICT MAP



The existing response districts were based on responding to fire incidents. Windsor's fire district was the Town boundary. For West Hants, the assigned fire districts divided up the municipal area amongst the five West Hants fire stations, plus the Walton Shore fire department, and the Uniacke and District fire department. These last two provided coverage of areas within West Hants although they are actually located in East Hants.

For West Hants, with Windsor being in the middle this caused some challenges in drawing the response maps. Road network and obstacles affected the fire districts boundaries.

Revising Fire Districts

GA was tasked with redrawing the fire district response map, this time including all six W/WH fire stations, and considering the potential contributions of Uniacke and Walton Shore departments. The objective was optimized fire response districts with all resources considered.

GA utilized a map-based computer simulation program. GA estimated travel times over the existing road networks; from each existing fire station to all parts of the new Region. Road speed-limits, congestion, grades, traffic, obstacles, and fire apparatus capabilities were accounted in the simulations. The estimates were then compared against historical response times to emergency incidents, and adjustments made as necessary.

Response Factors

It is desirable to achieve the best response-times possible to reports of emergency incidents. This is particularly so in circumstances of life or property threatening incidents. Fires are one such incident type.

FIGURE: NFPA-1710 FIRE PROPAGATION CURVE

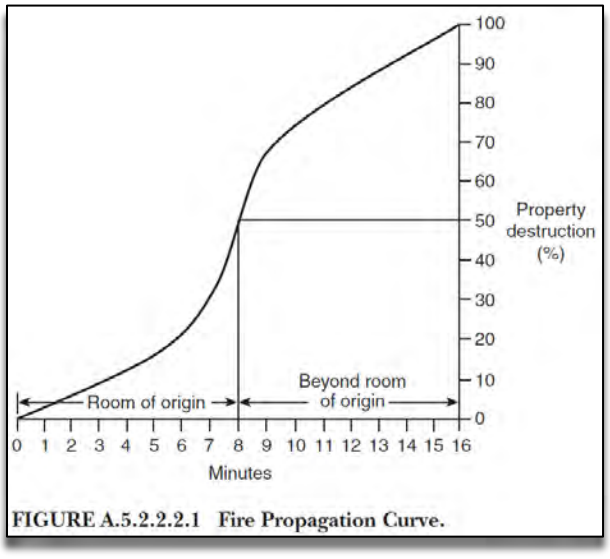
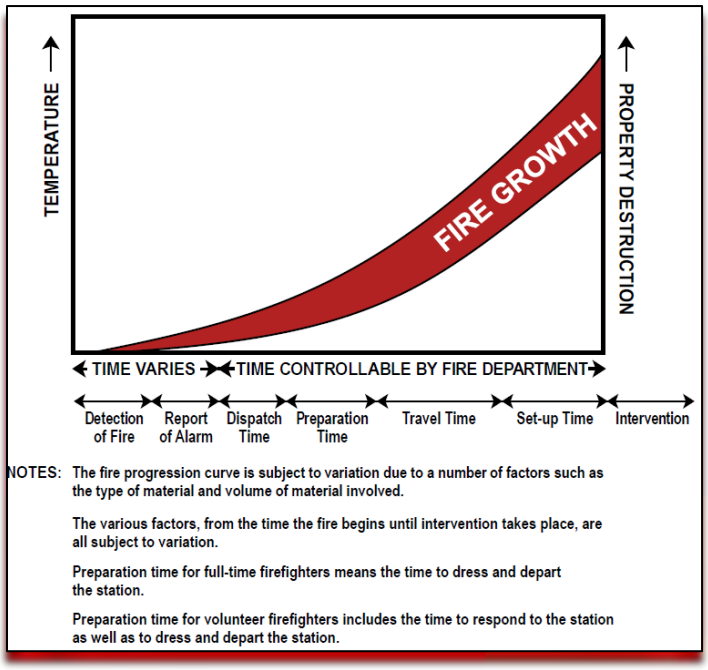


FIGURE A.5.2.2.2.1 Fire Propagation Curve.

Fire grows over time. All fires start small, and grow (if unchecked) until such time as they run out of fuel. In a structure, there are other factors involved as well. Particularly the availability of oxygen. This means that in a closed building, an unchecked fire will consume all the available oxygen, and thereby slow down its growth, until such time as additional oxygen is introduced by opening doors/windows or by fire burning through part of the structure. Survivability of persons inside is unlikely by this point.

The time at which the fire department starts to respond to the fire is not at time zero on the Fire Propagation Curve. Several other processes must occur first.

FIGURE: FIRE PROGRESSION AND RESPONSE CURVE



This timeline chart illustrates these processes. Someone, or a detection system, must discover the fire. The fire discovery must be transmitted to a 9-1-1 call-centre, or alarm monitoring agency. The fire department dispatch centre must be informed. The dispatch centre must page the volunteer firefighters to respond to their fire station. The volunteers must prepare and respond to the station and get into their personal protective equipment. Sufficient personnel must be available to man the fire apparatus as appropriate, typically at least four persons.

The travel-time response portion of the entire response-time sequence then begins. Firefighters travel to the incident location in the fire apparatus. When they arrive, they must set-up by getting organized and understanding the situation, make a plan, deploy equipment and staff to address the emergency. For a fire this means (in part) deploying hoses and charging them with water, and gaining entry to the building. At that point, fire suppression/intervention starts. Thereafter, the fire is expected to be mitigated, i.e. the curve levels off and diminishes. Sometimes if insufficient resources or tactics are applied, the fire continues to grow.

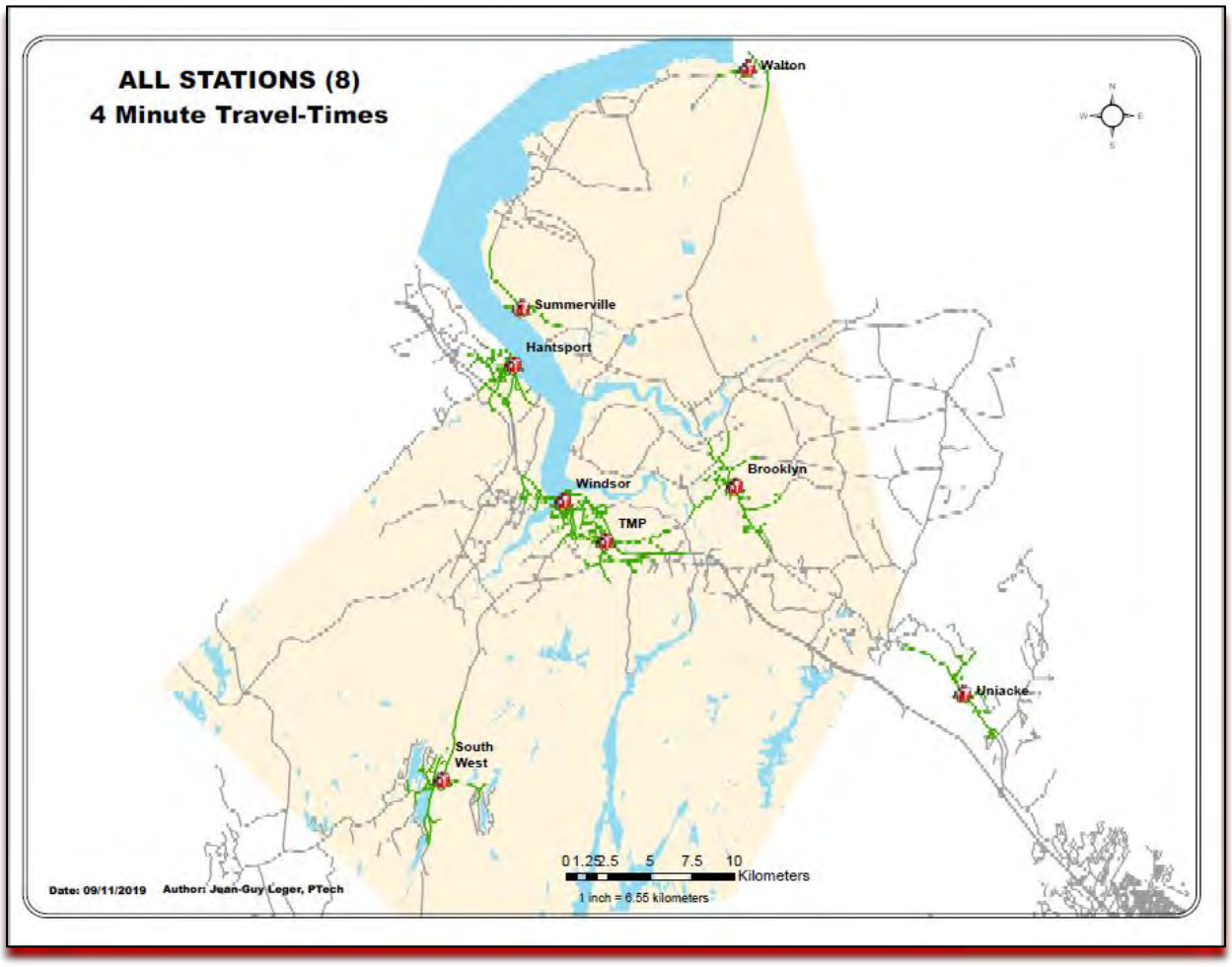
Firefighters, might however not start fire suppression right away. The first arriving crew may be committed to victim search and rescue instead, in which case the fire continues to grow.

Travel-time can be a big component of the above response-time sequence. Therefore, identifying efficient fire station response districts based on travel-times is important.

Travel-Time Details

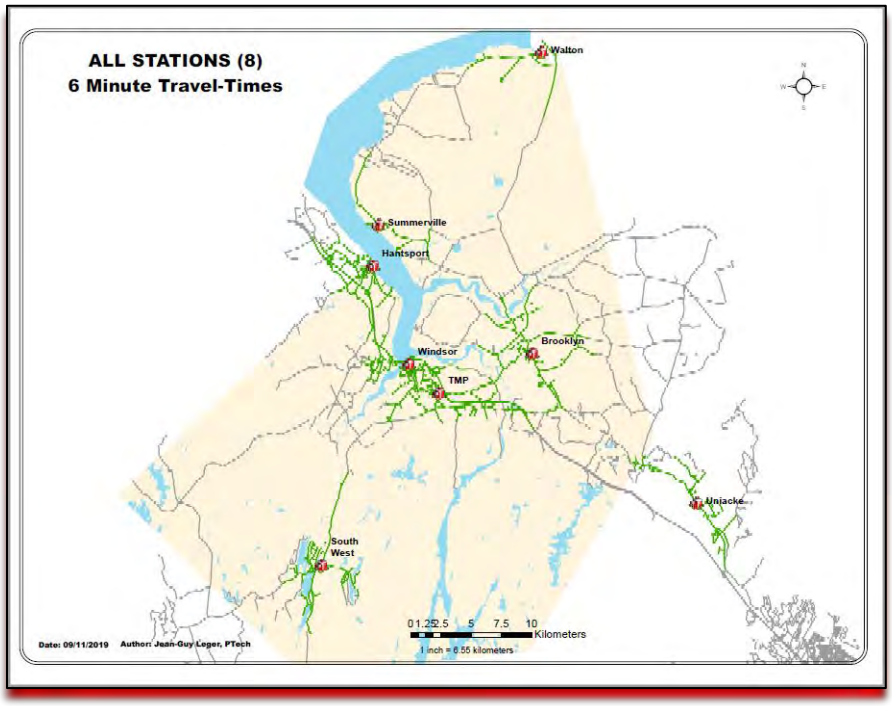
Travel-time predictions from the various existing stations was calculated by GA and revealed the following. Maps were produced that show estimated distances travelled in 2-minute intervals; i.e. at 4, 6, 8, and 10 minutes of travel-time.

FIGURE: 4-MINUTES TRAVEL-TIME



The green colours on the road segments represent how far fire apparatus are predicted to travel in 4 minutes after leaving the fire station.

FIGURE: 6-MINUTES TRAVEL-TIME



The green colours on the road segments represent how far fire apparatus are predicted to travel in 6 minutes after leaving the fire station.

FIGURE: 8-MINUTES TRAVEL-TIME

The green colours on the road segments represent how far fire apparatus are predicted to travel in 8 minutes after leaving the fire station.

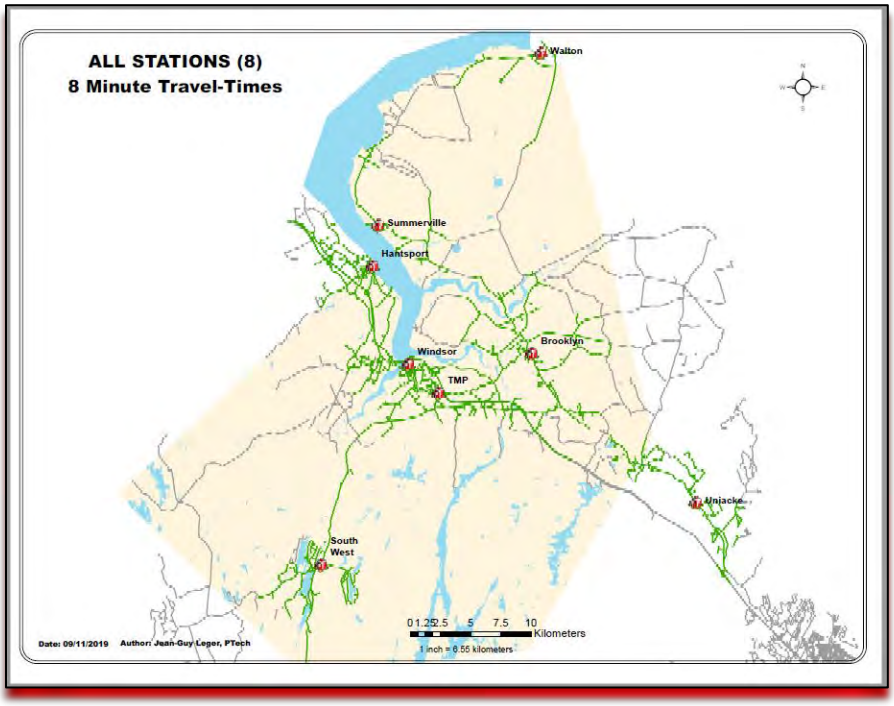
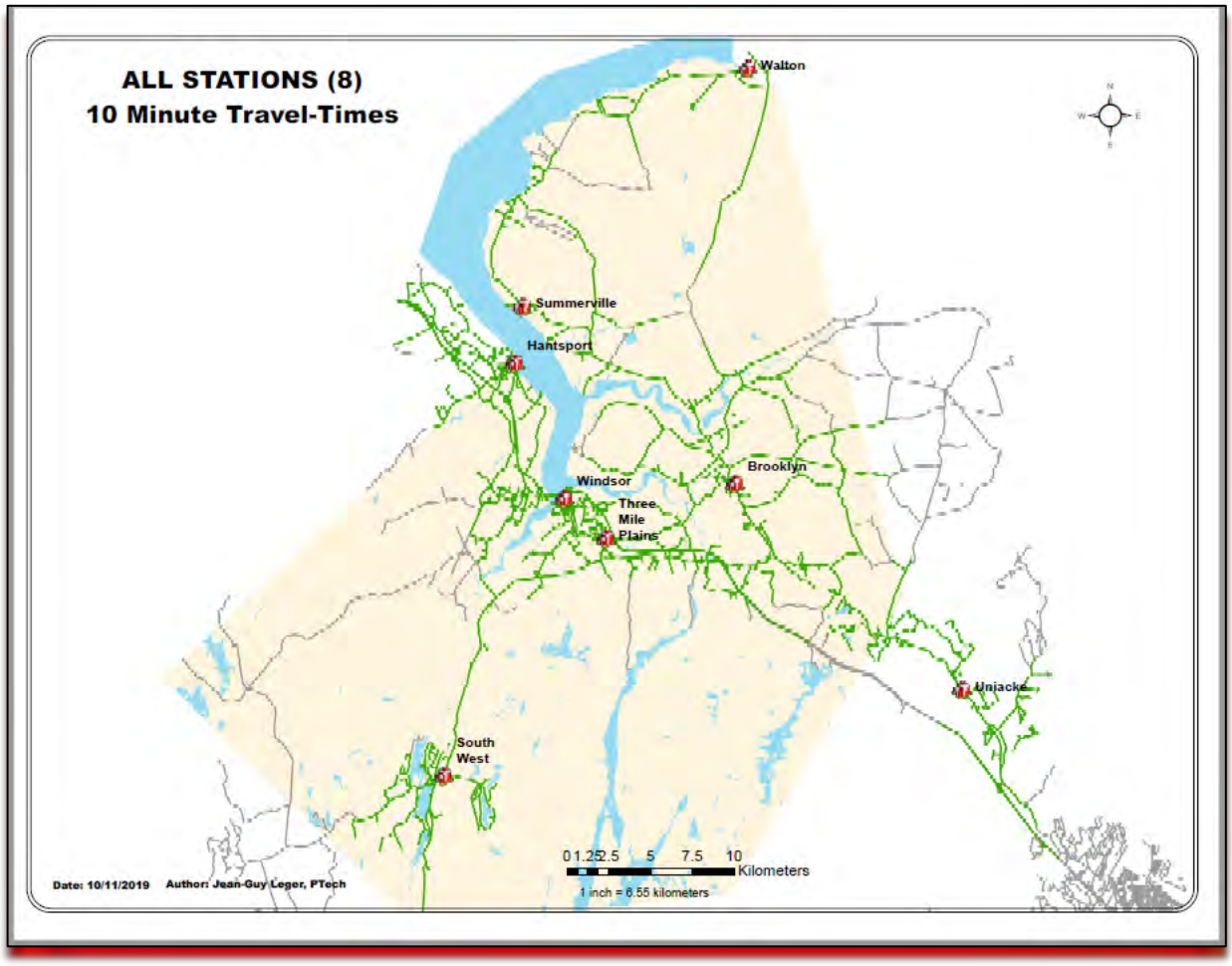


FIGURE: 10-MINUTES TRAVEL-TIME

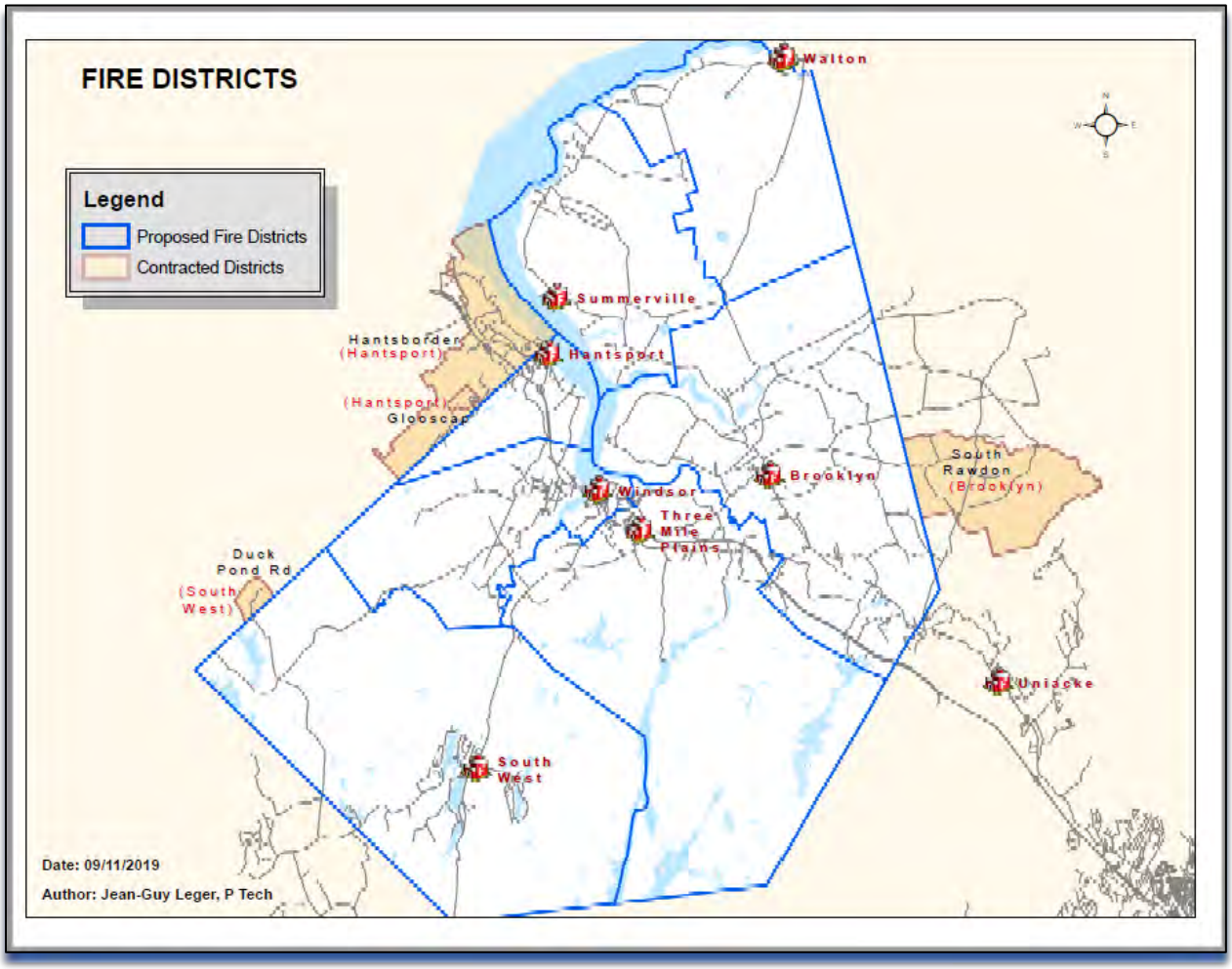


The green colours on the road segments represent how far fire apparatus are predicted to travel in 10 minutes after leaving the fire station.

Revised Fire Districts

GA recommends, based on the travel-time predictions, the following fire station response districts.

FIGURE: RECOMMENDED FIRE DISTRICT MAP



In the recommended fire district map, please note the following clarifications;

- Contracted districts are areas where W/WH fire departments are currently offering emergency response services under contract, outside of the W/WH boundaries.
- These contract areas include portions of Kings County assigned to Hantsport station and noted as Hantsborder on the map. Also included is the Glooscap first nations territory.
- Also included in Hantsport's current coverage is Duck Pond Road (Black River Lake) area in the south west of the municipality.

- Brooklyn currently provides contract services into the area of East Hants known as South Rawdon.

GA recommends that where Uniacke previously responded into the east Ardoise area that this arrangement not continue. Analysis revealed that the travel-time to that area is virtually the same for both Brooklyn and for Uniacke. The additional complication, cost, and inefficiency of managing an additional fire service in that sparsely occupied area does not contribute measurably to potential outcomes.

GA recommends that the Duck Pond Road - Black River Lake area be serviced from the South West fire station.

STANDARDS FOR PROVISION OF APPARATUS AND MANPOWER

NFPA-1720, BENCHMARKS

NFPA-172069 is the recognized standard for volunteer fire departments providing fire and rescue services. The standard recommends[70] the following staffing and response time objectives;

Ref. Obj.	Demand Zone	Demographics	Minimum Staff to Respond	Response Time (minutes)	Meets Objective(%)
A	Urban area[71]	>386 people/km^2	15	9	90% of responses
B	Suburban area	193-386 people/km^2	10	10	80% of responses
C	Rural area	<193 people/km^2	6	14	80% of responses
D	Remote area[72]	Travel distance ≥ 12.9 km	4	Distance determined	90% of responses
E	Special risks	As determined by AHJ[73] policy	Based on risk	AHJ determined	90% of responses

GA recommends that the following first-response objective staff/time benchmarks for each of the following communities be established; in accordance with the recommended revised fire districts.

Community	Response Station	Ref. Obj.	Community	Response Station	Ref. Obj.	Community	Response Station	Ref. Obj.
Ardoise	Brooklyn	*C, D*	Upper Burlington	Brooklyn	*C*	Summerville	Summerville	*C*
Ashdale	Brooklyn	*C*	Woodville	Brooklyn	*C*	Curry's Corner	Three Mile Pl.	*B*
Avondale	Brooklyn	*C, D*	Bishopville	Hantsport	*D*	Garlands Crossing	Three Mile Pl.	*B*
Belmont	Brooklyn	*C*	Hants Border	Hantsport	*C*	Gypsum Mines	Three Mile Pl.	*C*
Brooklyn	Brooklyn	*C*	Hantsport	Hantsport	*A*	Martock	Three Mile Pl.	*C*
Ellershouse	Brooklyn	*C*[74]	Mount Denson	Hantsport	*C*	Newport Station	Three Mile Pl.	*C*
Five Mile Lake	Brooklyn	*D*	Leminster	South West	*D*	St. Croix	Three Mile Pl.	*C*
Greenhill	Brooklyn	*C*	Mill Section	South West	*C*	Sweets Corner	Three Mile Pl.	*C*
Hillsvale	Brooklyn	*D*	Panuke Lake	South West	*D*	Three Mile Plains	Three Mile Pl.	*B, C*
Lakelands	Brooklyn	*D*	Upper Vaughan	South West	*C*	Wentworth Creek	Three Mile Pl.	*B, C*
Mantua	Brooklyn	*C*	Vaughan	South West	*C*	Windsor Forks	Three Mile Pl.	*C*
McKay Section	Brooklyn	*C*	Wile Settlement	South West	*C*	Cambridge	Walton Shore	*C, D*
Miller Creek	Brooklyn	*C*	Bramber	Summerville	*C, D*	Cogmagun	Walton Shore	*D*
Mosherville	Brooklyn	*D*	Centre Burlington	Summerville	*C*	Pembroke	Walton Shore	*C*

[69] National Fire Protection Association; NFPA-1720 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments.

[70] Areas and distances converted to kilometers from miles.

[71] Population densities (StatsCan): Windsor (2011) 500 / km^2, Hantsport (2011) 528.2 / km^2, West Hants (2006) 11.2 / km^2

[7272] With relative accuracy, these areas can be quickly identified in the Fire District maps as areas which are beyond the 10-minute travel times from rural fire stations. See **Figure: 10-Minutes Travel-Time** on page **196** of this chapter.

[73] AHJ = authority having jurisdiction.

[74] Large areas of this community district, and there are other districts as well, are unpopulated or very sparsely populated and those areas would be categorized as D, or even inaccessible except by boat or bush road/trail. The referenced response objective for Ellershouse (in this example) is for the populated and road accessible portion of the community district.

Community	Response Station	Ref. Obj.	Community	Response Station	Ref. Obj.	Community	Response Station	Ref. Obj.
Newport Corner	Brooklyn	*C*	Cheverie	Summerville	*C*	Walton	Walton Shore	*C*
Poplar Grove	Brooklyn	*C*	Kempt Shore	Summerville	*C*	Falmouth	Windsor	*B*
Scotch Village	Brooklyn	*C*	Lower Burlington	Summerville	*C*	Upper Falmouth	Windsor	*C*
Union Corner	Brooklyn	*C*	Riverside	Summerville	*C*	Windsor	Windsor	*A*

Effectively, the first four NFPA-1720 response objectives apply to some part of the new Regional Municipality.

GA recommends that for planning purposes related to staffing, apparatus, and public information that these response objectives be implemented.

With an assumed 25% average attendance rate to incident calls, which is in several of the fire departments policies for recognition for full honourarium, the following volunteer numbers would need to be recruited, trained, equipped and be on the fire stations' active duty rosters; i.e. capable of providing first response firefighting service to incidents.

These following numbers are not the total number of volunteers needed to mitigate the incident, these are just the first arriving contingent, who must arrive at the scene within the response time objective. Total numbers required at the incident for mitigation will exceed the first response numbers.

FIGURE: ACTIVE VOLUNTEERS REQUIRED ON-ROSTER TO MEET FIRST RESPONSE OBJECTIVES

Station	Minimum Station Roster	Influential Objective
Windsor	60	*A*
Hantsport	60	*A*
South West	24	*C*
Brooklyn	24	*C*
Three Mile Plains	40	*B*
Summerville	24	*C*
Totals:	**232**	

Achieving these active numbers will be challenging, and exceed the current complements. In addition, note that the 25% response attendance is an average estimate. There will be times during weekdays when that percentage number will not be met.

Part of the solution is to immediately co-page appropriate stations for fire incidents especially during times/days when volunteer turn-out numbers are expected to be low.

GA recommends that the Regional fire department develop Run-Cards to specify when and where certain types of incidents occur that the appropriate closest stations and appropriate resources are simultaneously dispatched. Simultaneous dispatch should occur for all fire/suspected fire events in all response areas. Simultaneous dispatch should occur for all other incidents, other than MFR incidents, in all Rural and Remote areas.

FIRE UNDERWRITERS SURVEY; TABLE OF EFFECTIVE RESPONSE

The Fire Underwriters Survey (FUS) uses a *Table of Effective Response* to match fire risks in the community with their requirements for fire apparatus for initial response to the incident, and also for the total response for incident mitigation; including required fire-water flow rates (RFF) and fire apparatus needs.

FIGURE: FUS TABLE OF EFFECTIVE RESPONSE

Table 7.2-1 Fire Underwriters Survey - Table of Effective Response

The following Table aids in the determination of Engine and Ladder Company distribution and total members needed. It is based on availability within specified response travel times in accordance with the fire potential as determined by calculation of required fire flows, but requiring increases in availability for severe life hazard.

RISK RATING	BUILDING DISTRICT EXAMPLES	FIRE FLOW		INITIAL RESPONSE TO ALARMS		1st DUE	2nd DUE	1st DUE	TOTAL AVAILABILITY NEEDED			
		L/min X1000	Approx. Igpm Range	Engine Companies	Ladder Companies	Engine Company, Minutes	Engine Company, Minutes	Ladder Company, Minutes	Engine Companies.		Ladder Companies	
									No.	Min.	No.	Min.
1 (a)	Very small buildings, widely detached buildings.	2	400	1	0	7.5	-	*9	1	7.5	*1	9
(b)	Scattered development (except where wood roof coverings).	3	600	1	0	6	-	*7.5	1	6	*1	7.5
2	Typical modern, 1 - 2 storey residential subdivision 3 - 6 m 10 - 20 ft. detached).	4-5	800-1,000	2	0	4	6	*6	2	6	*1	6
3 (a)	Close 3 - 4 storey residential and row housing, small mercantile and industrial.	6-9 10-13	1,200-2,000 2,200-2,800	2 2	1 (if required by Hazards)	3.5 3.5	5 5	*4 *4	2 3	5 6	*1 *1	4 4
3 (b)	Seriously exposed tenements. Institutional. Shopping Centres Fairly large areas, fire loads, and exposures.	14-16 17-19	3,000-3,600 3,800-4,200	2 2	1 1	3.5 3.5	5 5	4 4	4 5	7 7	1 **1	4 4
4 (a)	Large combustible institutions, commercial buildings, multi- storey and with exposures.	20-23 24-27	4,400-5,000 5,200-60,00	2	1	2.5 2.5	4 4	3.5 3.5	6 7	7.5 7.5	2 2	5 5
4 (b)	High fire load warehouses and buildings like 4(a).	28-31 32-35	6200-6800 7000-7600	3	1	2.5 2.5	3.5 3.5	3.5 3.5	8 9	8 8	3 3	7 7
5	Severe hazards in large area buildings usually with major exposures. Large congested frame districts.	36-38 39-42 43-46	7,800-8,400 86,00-9,200 9,400-10,000	3	3	2 2 2	3.5 3.5 3.5	2.5 2.5 2.5	10 12 14	8 9 9	4 5 6	7.5 8 9

To use this table effectively it is necessary to correlate occupancies (buildings) with their level of risk. FUS does that through calculating required fire flows (RFF). However, that is not the whole story, and does not speak to total manpower needs for mitigation.

MATCHING RESOURCE DEPLOYMENT AND RISK

The Ontario Fire Marshal's office (ON-OFM) developed a workbook for benchmarking a fire department's staffing needs at fire incidents. The workbook identified various *Effective Response Levels*, that correlated with different fire incident risk levels. This incident risk level approach is similar to the FUS Risk Rating. The workbook then identifies *Fireground Critical Tasks*, including standard tasks at all fire incidents, and those that are common at more complex (higher risk/challenge) incidents. The task list generates fireground staffing required to perform the tasks. The process was called Matching Resource Deployment and Risk[75] (MRDR).

Combining the requirements of the FUS table with the tasks and manning matrix of the MRDR workbook will provide a fuller picture of the resourcing needs at any size fire incident. The following snapshot shows the generic critical task list.

FIGURE: FIREGROUND CRITICAL TASKS

Fireground Critical Tasks
Incident Command
Pump Operator
Attack Line (Confine & Extinguish)
Additional Pump Operator(s)
Additional Attack Line (Confine & Extinguish) + Backup
Search and Rescue
Initial Rapid Intervention Team (IRIT)
Ventilation
Water Supply - pressurized
Water Supply - non-pressurized
Forceable Entry Team
Utility Control
Laddering (Ground Ladders)
Laddering (Aerial or elevating device operator)
Exposure Protection
Incident Safety Officer
Accountability
Entry Control
Rehabilitation
Salvage
Lighting
Directing Occupants
Scribe
Sector Officers
Air Management (air refilling station, etc.)
Logistics Officer
Administrative and/or Finance Officer
Planning Officer
Evacuations (large scale)
Public Information Officer
Overhaul
Additional Firefighters

The firefighters assigned to tasks on the MRDR list are scalable, meaning that different incidents and different occupancy circumstances can require assigning different numbers of staff to tasks as needed. For example; *Additional Pump Operator(s)* will vary depending on how many pumpers are required at the incident. The number of pumpers will increase as the amount of RFF demand increases, and etc.

Generally, pre-planning of specific occupancies will identify these needs beforehand.

GA developed two scenarios. One for a fire in a hydranted area (urban/suburban) and the other for a fire in a rural area (tanker-shuttle). Manpower needs will escalate with

[75] Ontario Fire Marshal's Office, Operational Planning: An official Guide to Matching Resource Deployment and Risk, January 24, 2011.

the need to shuttle water, as will the need for additional pumpers and for tankers to source and deliver that water. In fact, there is a practical/logistical limit to how big a fire can be successfully mitigated, and it's a lower limit in a rural setting due to water supply issues.

Fire in a Hydranted Area

FIGURE: STAFFING & FIRE FLOW RANGES IN AN URBAN/SUBURBAN SETTING

Fireground Critical Tasks	Low Risk		Moderate Risk		High Risk		Extreme Risk	
	LERL	UERL	LERL	UERL	LERL	UERL	LERL	UERL
Incident Command	1	1	1	1	1	1	1	1
Pump Operator	1	1	1	1	1	1	1	1
Attack Line (Confine & Extinguish)	2	2	2	2	2	2	2	2
Additional Pump Operator(s)	0	0	0	1	2	3	4	5
Additional Attack Line (Confine & Extinguish) + Backup				4	4	8	8	12
Search and Rescue			2	4	2	6	2	8
Initial Rapid Intervention Team (IRIT)			4	6	8	10	12	14
Ventilation		2	2	2	2	4	2	8
Water Supply - pressurized		1	1	1	1	1	1	2
Water Supply - non-pressurized								
Forceable Entry Team						1		1
Utility Control		1	1	1	1	1	1	1
Laddering (Ground Ladders)		2		2		4		6
Laddering (Aerial or elevating device operator)	0	0	1	2	2	3	4	5
Exposure Protection				4	2	6	2	6
Incident Safety Officer				1	1	1	1	1
Accountability			1	1	1	1	1	1
Entry Control				2	1	4	2	4
Rehabilitation				1	1	1	2	2
Salvage				2	2	2	2	2
Lighting						2	1	2
Directing Occupants					1	4	2	4
Scribe					1	1	1	1
Sector Officers					1	4	2	4
Air Management (air refilling station, etc.)							1	2
Logistics Officer					1	1	1	1
Administrative and/or Finance Officer							1	1
Planning Officer				1	1	1	1	1
Evacuations (large scale)					1	1	1	1
Public Information Officer					1	1	1	1
Overhaul								
Additional Firefighters								
Incident Staffing Totals:	4	10	16	39	41	74	59	100

Table of Effective Response (FUS)

Risk Rating	Fire Flow in USA gpm							
1(a)	400	400						
1(b)	600	600						
2	800	1,000						
3(a)			1,200	2,800				
3(b)					3,000	4,200		
4(a)					4,400	6,000		
4(b)							6,200	7,600
5							7,800	10,000

Referring back to **Figure: FUS Table of Effective Response** on page **236** we are reminded of the descriptions for the Risk Ratings. In the above table, the RFF amounts in the blue section,

corresponding to each Risk Rating, are placed under the corresponding column in the MRDR matrix above.

The following table will equate the MRDR risk columns with the FUS Risk Ratings.

FIGURE: FUS - MRDR CROSS REFERENCE

FUS Risk	MRDR Risk	Examples of Occupancies
1(a)	Low	Unattached garage or shed, small farm out building. At least 10 meters to exposures.
1(b)	Low	Cottages or small homes not in a subdivision, not with wood shingles.
2	Low	Typical residential housing, bungalow, 2-story, 2-4,000 sqft in area, 10-20 feet separation.
3(a)	Moderate	Large residential, townhouses, single story motels, corner store, rural service garage, smaller-medium sized community hall or church, Victorian homes, single-story schools.
3(b)	High	2-4 story apartment or senior complex, nursing homes, hospital, shopping centre, bus garage, large schools, large agricultural structures, factories.
4(a)	High	Large timber framed residential school complex, large century churches, big box general merchandise store, old timber-framed school, large hay-barn.
4(b)	Extreme	Building supply warehouse (large), general merchandise warehouse (large), shipping terminal (large)
5	Extreme	Paper mill, knitting mill, large clothing mill, downtown Windsor with crowded mixed commercial/residential timber-frame construction.

The table on page **236** provides both the required fire flows (RFF) and manning needs. The variation between the Lower and the Upper Effective Response Level (LERL/UERL) in the manning portion of the table provides allowance for specific occupancy conditions when pre-planning for a response to the occupancy. The RFF changes also.

The next step is to determine the number of pumpers and aerial apparatus that are needed to provide the RFF in the table. The FUS Table of Effective Responses makes recommendations, but these are minimums. The capacities of the water-pumps in the pumpers that are responding is critical.

In the following table, the average pumper capacity is set at 1,500 Imp gallons per minute (IGPM). The average capacity of the current fleet of fire apparatus equipped with fire pumps is 1250 Igpm. The table does not include the number of pumpers needed to do relay-pumping from distant hydrants. This requirement can almost double the total number of pumpers needed, depending on the water supply situation.

FIGURE: REQUIRED PUMPERS & AERIALS

	Low Risk		Moderate Risk		High Risk		Extreme Risk	
	LERL	UERL	LERL	UERL	LERL	UERL	LERL	UERL
Incident Staffing Totals:	4	10	16	39	41	74	59	100

Table of Effective Response (FUS)

Risk Rating	Fire Flow in USA gpm							
1(a)	400	400						
1(b)	600	600						
2	800	1,000						
3(a)			1,200	2,800				
3(b)					3,000	4,200		
4(a)					4,400	6,000		
4(b)							6,200	7,600
5							7,800	10,000

Apparatus Needs for Manning and Fire Flow

Pumers Required:

AVG Capacity
1,801 USgpm
6,818 lpm
1,500 lgpm

(110% capacity not accounted)
Standard pumper capacity:

* FOR A HYDRANT SERVICED AREA
Note: if area is NOT serviced by hydrants, then additional pumpers will likely be needed for water sourcing, relaying, etc.

Attack* PUMPERS								GROUP
1	1							1(a)
1	1							1(b)
1	1							2
		1	2					3(a)
				2	3			3(b)
				3	4			4(a)
						4	5	4(b)
						5	6	5

Aerials required:

TOEB	GA Recommendation LERL	GA Recommendation UERL
0	0	0
0	0	0
0	0	1
1	1	2
1	2	2
1	2	3
1	3	4
3	4	6

AERIALS								GROUP
0	0							1(a)
0	0							1(b)
0	1							2
		1	2					3(a)
				2	2			3(b)
				2	3			4(a)
						3	4	4(b)
						4	6	5

Based on the above table calculations, the number of attack pumpers needed can range between one and six, and the number of aerials varies between zero and six, depending on the fire risk of the involved occupancy. Additional pumpers will likely be needed to relay pump from distant hydrants or other water sources. Likewise, the actual incident can indicate higher or lower numbers of aerials needed.

The number of fire apparatus operators needed is reflected in the MRDR table on page **237**, not including relay pump operators.

Fire in a Rural Area

The entire exercise was repeated for a fire in a rural area without hydrants. In this case water supply is dependent on pumpers drafting from a water source, filling tankers who deliver the water to the fire area and dump it into dump-tanks, where another pumper takes the water and relays it to the attack pumper who is near the fire building. Typical for rural fires, access driveways require the attack pumper to leave the public road and enter the fire property.

FIGURE: STAFFING & FIRE FLOW RANGES IN A RURAL SETTING

	Low Risk		Moderate Risk		High Risk		Extreme Risk	
Fireground Critical Tasks	LERL	UERL	LERL	UERL	LERL	UERL	LERL	UERL
Incident Command	1	1	1	1	1	1	1	1
Pump Operator	1	1	1	1	1	1	1	1
Attack Line (Confine & Extinguish)	2	2	2	2	2	2	2	2
Additional Pump Operator(s)	2	2	4	8	10	14	19	24
Additional Attack Line (Confine & Extinguish) + Backup				4	4	8	8	12
Search and Rescue			2	4	2	6	2	8
Initial Rapid Intervention Team (IRIT)			4	6	8	10	12	14
Ventilation		2	2	2	2	4	2	8
Water Supply – pressurized		1	1	1	1	1	1	2
Water Supply – non-pressurized	2	2	4	7	9	11	16	20
Forceable Entry Team						1		1
Utility Control		1	1	1	1	1	1	1
Laddering (Ground Ladders)		2		2		4		6
Laddering (Aerial or elevating device operator)	0	0	1	2	2	3	4	5
Exposure Protection				4	2	6	2	6
Incident Safety Officer				1	1	1	1	1
Accountability			1	1	1	1	1	1
Entry Control				2	1	4	2	4
Rehabilitation				1	1	1	2	2
Salvage				2	2	2	2	2
Lighting						2	1	2
Directing Occupants					1	4	2	4
Scribe					1	1	1	1
Sector Officers			1	1	1	4	2	4
Air Management (air refilling station, etc.)							1	2
Logistics Officer					1	1	1	1
Administrative and/or Finance Officer							1	1
Planning Officer			1	1	1	1	1	1
Evacuations (large scale)					1	1	1	1
Public Information Officer					1	1	1	1
Overhaul								
Additional Firefighters								
Incident Staffing Totals:	8	15	26	54	58	96	90	139

The required fire flow (RFF) rate table does not changed whether the occupancy is hydrant protected or requires a rural water supply. It is determined by the occupancy that is burning. The objective is control and extinguishment.

What does change is the water supply chain. There is a need to provide pumpers and tankers to provide the RFF. This requires additional staff, and these are reflected in the above MRDR table.

The additional pumpers and tankers are shown in the following tables.

FIGURE: REQUIRED WATER SUPPLY PUMPERS AND TANKERS

				Low Risk		Moderate Risk		High Risk		Extreme Risk		
				LERL	UERL	LERL	UERL	LERL	UERL	LERL	UERL	
			TANKER SHUTTLE OPERATIONS									
Tankers Required:	**5.0**	km	one way distance from fire to water source	TANKERS								GROUP
Tanker net capacity (Igal)	**2,200**	Igal (Liters)	(10,001)	2	2							1(a)
Tanker handling time dump site	**0.5**	min	park, ready/retract chute(s), open/close dump(s), pull away	3	3							1(b)
Tanker Unloading time	**2.0**	min	water flow time	5	6							2
Tanker travel time to fill site	4.4	min at	**68 kmph average speed**			7	16					3(a)
Tanker handling time fill site	**0.5**	min	park, attach/detach hose, open/close valves, pull away					17	24			3(b)
Tanker Refill time	**2.5**	min	make pressure, flow water, reduce pressure, stop flow					25	34			4(a)
Tanker travel time back to fire	5.0	min at	**60 kmph average speed**							35	43	4(b)
Deliver Rate calculated	**148**	Igpm	**Water average delivery rate per tanker**							44	56	5
i.e.	177	USgpm										
i.e.	671	lpm										
			Dump Sites (at Fire)	ADDITIONAL PUMPERS (relay) with DUMP SITES NEEDED								GROUP
	14.9	min	TOTAL cycle time per tanker	1	1							1(a)
	2.5	min	tanker time at dump site	1	1							1(b)
				1	1							2
	9.4	min	tanker transit time (both ways)			2	3					3(a)
	6.0		max theoretical number of tankers needed to service dump site					3	4			3(b)
								5	6			4(a)
										6	8	4(b)
										8	10	5
			Fill Sites (Source)	ADDITIONAL PUMPERS (source) with FILL SITES NEEDED								GROUP
				1	1							1(a)
				1	1							1(b)
	3.0	min	tanker time at fill site	1	2							2
	5.0		max theoretical number of tankers per fill site			2	4					3(a)
								4	5			3(b)
								5	7			4(a)
										8	9	4(b)
										9	12	5
			Tanker Shuttle Operations	TOTAL PUMPERS NEEDED (Tanker Shuttle)								GROUP
Total Apparatus Needs:				3	3							1(a)
- pumpers, Table 8			Table numbers includes following pumper functions	3	3							1(b)
- tankers, Table 6			- Attack pumpers	3	4							2
- aerials, Table 4			- Water relay pumpers (dump site)			5	9					3(a)
			- Water source pumpers (static source)					9	12			3(b)
								13	17			4(a)
										18	22	4(b)
										22	28	5

In the above figure are four tables. The top table calculates the number of tankers required to deliver the RFF. A tanker's ability/rate of water delivery is based on the maximum allowed FUS travel distance for a residential fire risk (5 kilometers). The tanker volume capacity is set at 2,200 Imperial gallons[76] for these calculations and some assumptions about handling and travel time are made. These assumptions come from the consultant's experience for a highly efficient tanker shuttle operation. Shorter distances and more efficient tankers will lower times and increase delivered water.

[76] Currently there are 7 tanker/pumpers in the fire fleet, average tank capacity is 2,500 Igal. Only one is set up for high efficiency tanker shuttle rapid water dumping; i.e. side dumping.

The second table calculates the number of required dump sites (near the fire) and a corresponding number of pumpers to move the water to the attack pumper(s). The third table calculates the number of fill sites and corresponding pumpers needed to draft water and fill tankers.

The bottom table sums up the pumper resource needs, including the number of attack pumpers previously determined.

It is GA's opinion that it is impractical to depend on a tanker shuttle to fight a fully-involved rural fire that is above FUS Risk Rating 3(a) at the MRDR UERL level. The ability to effectively coordinate as many as 16 tankers and commensurate pumpers would be rare. Typically in these cases, exposure protection of other structures becomes the objective in a defensive strategy.

GA recommends that for potential large fire risk occupancies in rural areas, that adequate on-site water supplies be provided by the owner, such that relay pumping from draft can replace or strongly supplement water shuttled by tankers. These sites should be large all-weather access ponds meeting NFPA-1142.

RECOMMENDED FRONT-LINE STAFFING AND EQUIPMENT

GA recommends the following staffing complement of active volunteer firefighters for each station, and the recommended fleet of fire apparatus.

Windsor:

Highest normally expected risk 4(a), possible 5 (downtown conflagration)

ACTIVE Volunteer Firefighters	Pumpers	Pumper-Tankers	Aerials	Rescues	Utility	Other
60	2	1	1 (110 ft)	1, Regional Heavy Rescue Support	1	1, Regional personnel transporter

Windsor currently has a boat and a tracked off-road vehicle (RTV). Water rescue events are rare, but the risk to firefighters without a boat is considerable, especially on a body of water the size of Pisquid Lake. With the revised response districts, it is likely that Windsor firefighters will make good use of the RTV in rural areas.

Hantsport:

Highest normally expected risk 3(b), possible 5 (CKF)

ACTIVE Volunteer Firefighters	Pumpers	Pumper-Tankers	Quint	Rescues	Utility
60	1	1	1 (75 ft)	1, Regional SCBA Support	1

South West

Highest normally expected risk 2, possible 3(a) (small stores)

ACTIVE Volunteer Firefighters	Pumpers	Pumper-Tankers
24	1	1

Brooklyn

Highest normally expected risk 3(b), possible 4(a) (large church)

ACTIVE Volunteer Firefighters	Pumpers	Pumper-Tankers	Rescues	Utility	Other
40	2	1	1, Regional Command Support	1	RTV

Three Mile Plains

Highest normally expected risk 3(b), possible 4(b) (building supply with exposures)

ACTIVE Volunteer Firefighters	Pumpers	Pumper-Tankers	Aerials	Utility
40	1	1	1, (100 ft platform)	1

Summerville

Highest normally expected risk 3(a), possible 3(b) (farm complex)

ACTIVE Volunteer Firefighters	Pumpers	Pumper-Tankers	Rescues	Utility	Other
24	1	1	1, Regional mass-casualty Support	1	Boat, RTV

Changes in Assessments and Property Counts, Revised Fire Districts

There are 13,335 properties in W/WH. The revised fire districts proposed will change the distribution of protected properties, by fire station, from the existing distribution as estimated on page **187**.

According to the address of the properties, thereby identifying the community, the following shows approximately how the properties are will be distributed to the fire departments. Note that Hantsport numbers do not include the areas in Kings County, nor are East Hants properties protected by Brooklyn.

Fire Department	Current Properties	Revised Properties	Revised Value	%
Windsor	1,582	3,100	$562,755,300	35%
Hantsport	2,911	1,108	$129,443,800	8%
South West	1,210	1,349	$135,545,000	9%
Brooklyn	3,242	3,244	$352,614,100	22%
Three Mile Plains	2,522	2,668	$303,163,200	19%
Summerville	1,419	1,419	$78,890,600	5%
Uniacke and District	2	0	$0	0%
Walton Shore	443	443	$32,434,600	2%
Unclassified	4	4	$170,800	0%
Totals:	**13,335**		**$1,595,017,400**	

Also affected is the distribution of identified major occupancies, as follows.

FIGURE: DISTRIBUTION OF IDENTIFIED OCCUPANCIES, REVISED FIRE DISTRICTS

Station	A	B	C	D	E	F
Windsor	38	9	35	14	8	14
Hantsport	14	1	14	1	1	9
South West	11				1	1
Brooklyn	28		8	3	6	14
Three Mile Plains	19	1	12	3	8	28
Summerville	9		1	1		3
Uniacke						
Walton Shore	3					2
Totals:	**107**	**11**	**62**	**22**	**21**	**57**

APPARATUS RECOMMENDATIONS

REPLACING FIRE TRUCKS

A review of the current state of major fire department assets in W/WH shows a need to replace vehicles (fire apparatus) on a regular schedule that meets needs and best practices. NFPA-1911[77] recommends;

> *"In the last 10 to 15 years, much progress has been made in upgrading functional capabilities and improving the safety features of fire apparatus. Apparatus more than 15 years old might include only a few of the safety upgrades required by the recent editions of the NFPA fire department apparatus standards … It is recommended that apparatus more than 15 years old that have been properly maintained and that are still in serviceable condition be placed in reserve status; be upgraded in accordance with NFPA-1912; and incorporate as many features as possible of the current fire apparatus standard (see Section D.3). This will ensure that, while the apparatus might not totally comply with the current editions of the automotive fire apparatus standards, many of the improvements and upgrades required by the current editions of the standards are available to the fire fighters who use the apparatus."*

NFPA-1911 goes on to say that the original purchase of good quality, with good ongoing maintenance, and periodic upgrading to keep pace with safety and function improvements, can extend apparatus serviceable life somewhat.

[77] National Fire Protection Association; NFPA-1911, Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles, 2017 edition; Annex D.1.

The other major arbiter of fire apparatus age and condition is the Fire Underwriters Survey (FUS), who published[78] the following guidance table;

Table 1 Service Schedule for Fire Apparatus For Fire Insurance Grading Purposes

Apparatus Age	Major Cities [3]	Medium Sized Cities [4]	Small Communities [5] and Rural Centres
0 – 15 Years	First Line Duty	First Line Duty	First Line Duty
16 – 20 Years	Reserve	2nd Line Duty	First Line Duty
20 – 25 Years [1]	No Credit in Grading	No Credit in Grading *or* *Reserve [2]*	No Credit in Grading *or* *2nd Line Duty [2]*
26 – 29 Years [1]	No Credit in Grading	No Credit in Grading *or* *Reserve [2]*	No Credit in Grading *or* *Reserve [2]*
30 Years +	No Credit in Grading	No Credit in Grading	No Credit in Grading

[1] All listed fire apparatus 20 years of age and older are required to be service tested by recognized testing agency on an annual basis to be eligible for grading recognition. (NFPA 1071)

[2] Exceptions to age status may be considered in a small to medium sized communities and rural centres conditionally, when apparatus condition is acceptable and apparatus successfully passes required testing.

[3] Major Cities are defined as an incorporated or unincorporated community that has:
- *a populated area (or multiple areas) with a density of at least 400 people per square kilometre; AND*
- *a total population of 100,000 or greater.*

[4] Medium Communities are defined as an incorporated or unincorporated community that has:
- *a populated area (or multiple areas) with a density of at least 200 people per square kilometre; AND/OR*
- *a total population of 1,000 or greater.*

[5] Small Communities are defined as an incorporated or unincorporated community that has:
- *no populated areas with densities that exceed 200 people per square kilometre; AND*
- *does not have a total population in excess of 1,000.*

FUS is the organization that conducts detailed surveys of municipal fire protection capabilities for the purposes of recommending fire protection grades to the insurance industry. FUS recommendations are highly regarded as a consistent yardstick for comparison to past and future capabilities in fire protection, and their conclusions (ratings) can affect fire insurance costs for individual property owners.

It is clear that both NFPA and FUS consider 15 years as the maximum front-line serviceable age of fire apparatus. However, FUS does recognize that low incident volumes, quality purchases, and good maintenance, proved by testing, can extend the front-line serviceable age to 20 years, followed by up to 5 years in reserve for smaller communities. Front-line means that the apparatus is relied on to be a mainstay for fire protection. Reserve means that it is not so relied on, but can periodically step into a front-line role when needed (e.g. as a maintenance spare).

[78] Fire Underwriters Survey/OPTA, Technical Bulletin, Insurance Grading Recognition of Used or Rebuilt Fire Apparatus, 2014.

GA recommends that the following replacement schedule be adopted for the purposes of determining fire apparatus suitability for continued service.

RECOMMENDED SERVICE LENGTH FOR FIRE APPARATUS

Type	Condition	Max Age	Service
Pumper	Purchased to NFPA-1901 standard, certified and periodically tested in accordance with FUS/ULC	20 years	First-line duty
Pumper	Purchased to NFPA-1901 standard, certified and periodically tested in accordance with FUS/ULC	25 years	Reserve use
Aerial/Quint	Purchased to NFPA-1901 standard, certified and periodically tested in accordance with FUS/ULC	20 years	First-line duty
Aerial/Quint	Purchased to NFPA-1901 standard, certified and periodically tested in accordance with FUS/ULC	25 years	Reserve use
Rescue	Purchased to appropriate portions of NFPA-1901 standard	25 years	First-line duty
Rescue	Purchased to appropriate portions of NFPA-1901 standard	30 years	Reserve use
Utility vehicles	Light duty chassis	15 years	First-line duty
Utility vehicles	Light duty chassis	20 years	Reserve use
All other vehicles/apparatus	RTV, rescue boat, trailers, etc.	Case-by-case basis	First-line duty or reserve

GA is recommending the following numbers and types of **first-line duty** fire apparatus allocations. These numbers can be accomplished through attrition as current apparatus age-out.

RECOMMENDED FIRST-LINE DUTY FIRE APPARATUS AND ASSIGNMENT

Station	Pumper	Pumper/Tanker*	Quint	Aerial	Rescue	Utility	RTV	Boat
Windsor	2	1	0	1	1	2	1	1
Hantsport	1	1	1	0	1	1	0	0
SWH	1	1	0	0	0	0	0	0
Brooklyn	2	1	0	0	1	1	1	0
TMP	1	1	0	1	0	1	0	0
Summerville	1	1	0	0	1	1	1	1
Totals:	8	6	1	2	4	6	3	2

GA is further recommending that two older (no longer first-line) pumpers and a tanker be kept serviceable as maintenance reserves. The purpose of reserves is to temporarily replace apparatus that are out of service for a day or more. They will also remain available for major incidents.

GA recommends that a reserve pumper be placed in Brooklyn and Windsor stations, and the reserve Tanker be placed in Summerville.

Two new apparatus types have been introduced in the above recommendation table in comparison to the table[79] of current apparatus.

The term Pumper-Tanker is a better description of the apparatus recommended to replace the current Tanker apparatus. In truth, all current tanker apparatus are equipped with a large pump.

GA recommends that replacement Tanker apparatus also include all components necessary to qualify as a pumper and a tanker. This includes little to no significant change from the current apparatus in some cases, but in other cases means the inclusion of adequate equipment and hose carrying capacity.

GA recommends a standardized vehicle specification be used Region-wide. Standardized apparatus descriptions are included in **Appendix IX; Standardized Fire Apparatus Features** starting on page **377**.

The second new apparatus type is the Quint. The Quint is a combination of a pumper that is outfitted with an aerial ladder device. An example is shown in the photo to the right.



A quint is fully functional as a pumper, with similar capabilities to the recommended Standard Regional Pumper. It can also serve as an aerial apparatus when needed since it is outfitted with a 75-foot aerial device. This apparatus will address the need for quick access to an aerial in Hantsport's urban/industrial environment. It also has the pumping capacity of a second pumper

[79] See **Figure: Current Apparatus Inventory** starting on page **154**.

when needed. It will be an additional aerial available in Windsor, or elsewhere in the Region, at incidents involving larger or complex buildings, or for exposure protection.

THE VALUE OF FIRE APPARATUS STANDARDIZATION

The following is intended to provide some insight into areas where performance, safety, economy, and effectiveness can intersect in a standardized fire apparatus specification format; a format that can generate savings through bulk purchasing and streamlined maintenance, as well as improved operability for firefighters.

First, a review of the current fire fleet. Major components installed in the current fire fleet are as follows;

- Fire pumps; Hale is the most common fire pump manufacturer (8), Waterous is next (6), followed by Darley (3) and Pierce (1).
- Engines; Cummins is the most common diesel engine manufacturer (12), Detroit is next (5, but three of these are obsolete engines in trucks that need immediate replacement due to advanced age), followed by International (4), CAT (3, but CAT has left the truck engine business), and Mercedes (1, which was only, and is no longer, available in Freightliner chassis).
- Chassis custom; Pierce is the most common *Custom* cab/chassis manufacturer (4), E-One is next (3), followed by American LaFrance (2, no longer in business and both overdue for replacement), and King-Seagrave (1, no longer in business and overdue for replacement).
- Chassis commercial; Freightliner is the most common heavy/medium truck Commercial cab/chassis manufacturer (5), tied with International, and followed by Ford (2) and Peterbilt (1).

The significance of the above information is that there is a large variety of pump, chassis, and engine manufacturers currently in the fire fleet. This strongly suggests that there is an opportunity for standardization of fire apparatus specification and purchasing between the four existing fire departments and internally within each. This standardization will reduce inefficiencies in servicing and repair. Reducing the variety of apparatus specifications will facilitate consolidation of servicing for these vehicles, thereby gaining an advantage of economies of scale from commonality of parts and consolidated knowledge.

There are significant advantages in purchasing, serviceability, and costs, to say nothing of in-depth knowledge accumulation, when a standardized chassis/cab, pump, and powertrain is used for all vehicles of a class in a fleet. Such advantages will surface in cost of ownership with lower parts stock costs and more efficient servicing; thereby reducing service time/cost, with consequent reduction in down-time, and better preventive maintenance knowledge.

Cost savings in purchasing can be achieved with a common specification across multiple vehicles. It then becomes possible to establish multi-year, multi-vehicle contracts, from multiple provider choices; contracts that can attract better pricing and reduce municipal administrative time.

GA recommends that specifications for the major classes of fire apparatus be standardized across all stations in the new regional municipality. This will generate savings in total cost of ownership for the municipality.

The standard apparatus specification should include a standard make and model of fire pump, which is a major component of most fire apparatus, and is a major maintenance cost component and cause of down-time. Based on the existing fleet, it is clear that Hale is the predominant pump manufacturer. Hale is a highly reputable pump manufacturer and makes an excellent and reliable product. Hale is probably the most widely specified fire pump in North America.

The Hale Qmax family of pumps offers capacity scalability to suit various needs of the new Regional fire service. The recommended standardized version (for pumpers) is the Hale Qmax rated at 1250 Imp gpm. This pump will produce flows well in excess of its rating, provided there is adequate horsepower to drive the pump and adequate water supply. Horsepower will be addressed by our recommendation on engines.

For aerial devices, the ability to produce a maximum volume water stream from the top of the aerial ladder requires a larger pump due to friction and height losses. For that application, the Qmax in the 1750 Imp gpm rating is recommended.

The standard apparatus specification should also include a standard make and model of engine. Based on the existing fleet, it is clear that Cummins is the predominant engine manufacturer. Indeed, it is one of only a couple choices left in the truck market. Cummins is a highly reliable and fuel-efficient engine manufacturer with excellent power availability, and a choice of power models. Cummins is a standard offering in most fire truck chassis.

In the Regional fire service, there is a need for three different Cummins engines, with different horsepower and torque capabilities. For pumpers and tankers, the Cummins X12-500 is

recommended. This engine is powerful enough to get all the available water flow from the recommended pump and will move these heavy vehicles down the road with good hill climbing and highway performance.

For aerial apparatus, the Cummins X15-605 is recommended. This engine has slightly higher horsepower and significantly more torque. Aerial apparatus are significantly heavier than pumpers and have larger auxiliary power demands from large hydraulic systems that operate the aerial device. The more powerful engine is needed to ensure adequate performance.

Rescue style trucks are generally smaller and lighter and should be based on a commercial chassis. The smaller Cummins ISL9-450 is recommended for this service.

It is desirable that the cab/chassis also be standardized. There is justification for both custom cab/chassis as well as commercial cab/chassis.

The current trend for heavy fire apparatus (pumpers, tankers, aerials) is to specify custom cab/chassis models that are specifically designed for the fire service vocational application. These heavy fire apparatuses incorporate pumps, foam systems, heavy electrical and hydraulic draws, complex electrical systems and other specialized features (e.g. aerial devices). Custom chassis have the advantage over commercial platforms in several ways.

Custom chassis are designed for higher horsepower engines than are available in the commercial chassis, that are suitable for fire service application. Where the apparatus is intended to be stationary and demanding high power output from its engine (i.e. pumping/aerial), engine heat dissipation is a major concern. Custom fire apparatus cab/chassis are specifically designed for this application, whereas commercial cab/chassis are specifically not designed for this application.

In commercial chassis the engine selection is limited, for example the Freightliner M2-106 chassis model is not available with the larger Cummins engines (X12), and neither is the International HV chassis. The Freightliner uses a Detroit engine for higher horsepower applications. The International uses a MANN engine from Europe. Both chassis offer the Cummins ISL9 engine.

Custom chassis are prewired and equipped for fire apparatus applications. Commercial chassis are not, and require significantly more work (time/cost) and materials (cost) on the part of the fire body manufacturer to integrate the chassis with the fire service body, mechanical, electrical, compressed air, and hydraulic systems. The purpose-built aspect of the custom chassis assures a more suitable and reliable final constructed vehicle for pumpers, pumper-tankers and aerials.

Large aerial devices are only available on custom chassis, due to the need for stronger and stiffer frames and specialized systems that integrate into a purpose-built chassis. The chassis and aerial are designed together as an integrated machine.

Having illuminated the value of custom chassis above, there is one difficulty with using custom chassis. It may restrict who the municipality can purchase their fire apparatus from. There are a few manufacturers of custom chassis, and almost all limit their availability for use by independent fire apparatus (body) builders. For those manufacturers, to buy their chassis you must also buy their entire apparatus.

This is not necessarily a bad thing if the manufacturer offers quality apparatus at competitive pricing that meets the municipality's needs, and will continue to do so into the future. In that case, the municipality must be satisfied at a sole source supplier process. Brooklyn/Three Mile Plains is the best example of this, currently operating three custom chassis and one commercial chassis apparatus built by Pierce. Hantsport also has one Pierce custom and SW-Hants one Pierce commercial apparatus.

GA was able to identify nine custom fire-chassis builders in North America;

- **Pierce** (USA-Wisconsin): captive chassis for their own apparatus builder, with a wide range of apparatus types. In Canada has exclusive contract with Maximetal (QC) to build for the Canadian market.
- **Sutphen** (USA-Ohio): captive chassis for their own apparatus builder, with a limited range of apparatus types.
    - Sutphen has sold some chassis to SVI (USA-Colorado) who specializes in rescue and wildland trucks, strategically filling a gap in Sutphen's product lineup

- **E-One** (USA-Florida): captive chassis for their own apparatus builder, with a wide range of apparatus types.
- **KME** (USA-Pennsylvania): captive chassis for their own apparatus builder, with a wide range of apparatus types.
- **Ferrara** (USA-Louisiana): captive chassis for their own apparatus builder, with a wide range of apparatus types.
    - E-One, KME, and Ferrara are all owned by the REV Group
- **HME Aherns-Fox** (USA-Michigan): captive chassis for their own apparatus builder, with a wide range of apparatus types.
- **Seagrave** (USA-Wisconsin): captive chassis for their own apparatus builder, with a range of apparatus types, limited rescue options.
    - Seagrave has sold some chassis to two large independent builders that we know of;
        - SVI (USA-Colorado) who specializes in various role rescue type and wildland trucks, strategically filling a gap in Seagrave's product lineup; and
        - Rescue-1 (USA-NJ) who specializes in various rescue type trucks, strategically filling a gap in the Seagrave product lineup in the eastern states.
    - Both those independent builders predominantly use Spartan chassis.
- **Rosenbauer** (USA-South Dakota): captive chassis for their own apparatus builder group, with a very wide range of apparatus types.
- **Spartan** (USA-Michigan): available chassis for their own and independent apparatus builders. They are primarily a custom chassis builder in many markets with a wide range of chassis types. Spartan also builds complete fire apparatus with a range of apparatus types.

In GA's opinion, without standardizing on the custom chassis manufacturer, it is possible that over time the Regional fire service could conceivably have up to nine different custom chassis manufacturers in the fleet; each significantly different from each other.

One challenge is that all but one of the manufacturers listed above restricts access to their chassis, with most providing them only to their own integrated apparatus builder network or to strategic partners. These owned/contract builders take the chassis and construct the body, install major components like the pump and piping, the water tank, electrical systems, hydraulic systems, air systems, storage systems, and paint and prep the entire vehicle. Standardizing on one of these restricted access chassis could mean being forced to forgo the competitive purchasing process for the balance of the apparatus. With the chassis representing only from ¼ to ⅓ of the total cost of the entire fire apparatus, this could be a concern.

The one exception is the Spartan custom chassis. Although there are surprisingly no Spartan custom chassis currently in the current Regional fire service's inventory, it would make sense to explore standardizing on Spartan as the custom chassis of choice for the majority of the fleet. The advantage is that Spartan markets their custom chassis to the large as well as small independent apparatus builders all over the world. Many of these builders are in Canada as well as in the USA. It is a very competitive market.

For the above reasons, we recommend standardizing on the Spartan Gladiator chassis, medium 4-door (MFD) cab, with 10 inch raised roof and galvanized frame. The galvanized frame is an exclusive Spartan feature that protects the single weakest point affecting a chassis' lifespan, chassis corrosion. This is another reason for considering Spartan.



Standardizing on Spartan would have several advantages. It would lower the overall cost of ownership as noted above. It would also open-up the municipality's choices for purchasing from independent fire apparatus builders across Canada and the USA, of which there are a significant number of choices. In this way, the features wanted in the fire apparatus are available through a competitive bidding process, in addition to the value of standardization of all major components.

In Canada there are the following well-known builders who, except for Maximetal, all build on Spartan chassis;

- **Lantz** (Port Williams, NS): Long noted for their very high-quality rescue trucks and tankers; they also build pumpers. Sells direct to municipalities (no dealer overheads).
- **Metalfab** (Centreville NB): Builds pumpers, tankers and rescue trucks. Sells through dealers.
- **Fort Gary** (Winnipeg, MB): Builds pumpers, tankers and rescue trucks. Sells through dealers.
- **Carl Thibault** (Pierreville, QC): Builds pumpers, tankers, aerials, and rescue trucks. Sells through dealers.
- **Maximetal** (Saint-Georges, QC): Builds pumpers, tankers and rescue trucks. Sells through dealers. Also has exclusive strategic access to Pierce chassis in Canada.
- **Dependable** (Brampton, ON): Builds pumpers, tankers and rescue trucks. Sells direct. Dealer for Spartan aerials.
- **Hub** (Abbotsford, BC): Builds pumpers, tankers and rescue trucks. Sells through dealers.

  …
- There are also across Canada a number of smaller firms (smaller than those mentioned above) who build fire apparatus for their regional market.
- Buyers also have access to a large number of USA fire truck manufacturers who build on Spartan chassis. Some are available through Canadian fire truck dealers. Access to service and support becomes a critical factor in making these out-of-country purchases.

For other needed Regional vehicles, specifically rescue style vehicles, the most common fire service chassis used is the Freightliner M2-112, with a raised roof crew-cab. Based on local preferences, some other commercial brands are sometimes used for medium/heavy fire trucks (e.g. International, Ford, Volvo, Peterbilt). Only Freightliner, Ford, and International offer production crew-cabs, and only Freightliner offers a raised roof crew-cab that provides the required space for firefighters, similar to that available in smaller custom cabs. The Freightliner has become ubiquitous in this service, and almost every fire apparatus builder offers fire trucks constructed on this chassis.

We recommend the Freightliner M2 chassis as the standard commercial chassis used for lighter duty fire apparatus in the municipality; in a 2-door (as shown), or preferably a crew-cab with raised roof format so the crew does not need to ride in the box. The specific application is variable.



Standardization of major components on fire apparatus has other benefits as well.

Standardization helps to ensure that all assigned drivers are familiar with all fire apparatus in the fleet, not just the ones they normally operate. It reduces training time and effort. Skills learned on one apparatus are directly applicable to another. This reduces the risk of incidents and improves operator skill levels and performance outcomes. It also simplifies the ability to relieve the apparatus operator (at long duration incidents) by any trained operator, even one who is not familiar with that specific apparatus, but who is trained and experienced with other members of the apparatus family.

When apparatus are removed from service for repairs, the replacement spare apparatus will be highly similar to the one being repaired, which improves the effectiveness and efficiency of the use of the spare apparatus. Training will not be required before the *foreign* apparatus can be utilized safely; training and familiarity that is often overlooked.

The integration of standardized apparatus will take upwards of 20 years to completely achieve as attrition drives the replacement of older apparatus. Some vehicles in the current fleet are only a few years old. However, there are also a significant number of apparatus in need of replacement almost immediately; and that will get the process started. Failure to standardize will continue and exacerbate the uncoordinated nature of apparatus purchasing, with all its downsides.

There is yet another initiative possible and recommended that is associated with standardized apparatus. Training and effectiveness for all firefighters is further simplified and enhanced if

along with standardized fire apparatus there is a move to standardized the configuration of equipment carried on the trucks, i.e. what and where.

Although this initiative is simplified when all apparatus are configured the same way, this process can start sooner, even with the current fleet. The benefit is that a firefighter from one station, working at an incident scene alongside a vehicle from another station, will know what and where to find the needed equipment on virtually any apparatus. This speeds operations in time-critical situations.

Although complete standardization of equipment placement is the panacea and cannot be 100% accomplished due to differences in current apparatus, there is much that can be accomplished since most apparatus have similar layouts.

Starting on page 268 are outlines of standard features recommended for all Regional fire apparatus. They are by no means a full specification suitable for the purchase of fire apparatus. More detail on local needs and desired features/standards is required to ensure that a high quality, reliable, and good value apparatus is purchased that will meet the needs and expectations of the purchaser.

There will always be the need to accommodate local needs based on specific risks in the community. Some adjustment in detailed specification may be needed from one standard apparatus to another, one fire district to another. However, these accommodations should not include the major components recommended, but may impact some more minor details.

See **Appendix IX; Standardized Fire Apparatus Features** starting on page **377** for a list of recommended standardized features for fire apparatus.

THE VALUE OF MAJOR EQUIPMENT STANDARDIZATION

There are a number of important types of equipment that are critical to the delivery of, in particular, fire and rescue services. This equipment is used frequently, in all stations, and by virtually every firefighter, on an as need basis. They are all important for life safety, both for the firefighter and for the public being served.

Currently there is significant variety between stations on this equipment. This is an issue for equipment exchangeability, for example with placing Regional spares in service while front line equipment is being serviced. Every station must either go short when equipment is out of service, or have their own inventory of spares. The first-choice downgrades service and tends to result in excess equipment being purchased to avoid that occurrence, which is needlessly expensive.

It is an issue for group purchasing as well, where best pricing can come from the largest volume purchases, and multi-year contracts. It is also a training issue. For instance, at a large incident where firefighters from different stations are working together, there is an issue with understanding how another station's equipment works, if you have not enough of the equipment the firefighter is familiar with at hand.

The equipment that should be strongly considered for standardization across all stations I the Region are as follows.

Self Contained Breathing Apparatus (SCBA)

Currently Windsor is in the final stages of purchasing SCBA manufactured by MSA. It is GA's understanding that all other stations use SCBA manufactured by Scott. There are some significant differences between these manufacturers, so much so that no Chief would consider allowing a firefighter to wear an SCBA that the firefighter was not thoroughly trained on. Misuse can literally kill the firefighter.

At a fire the masks and air tanks (bottles) of SCBA are commonly switched out, either when the SCBA is passed on to another firefighter, or much more commonly when the air bottle is changed for a full one. Air bottles cannot be exchanged between SCBA brands. To do so (if

possible) violates the approvals for the SCBA and creates a large liability if the SCBA is related to an injury.

In order to support fire operations, any regional resource configured for such a use (e.g. Hantsport Rescue 31) would need to carry twice as many $1,600 air bottles than might otherwise be necessary (some of each brand), even if there was space to do so.

GA recommends that the Regional fire service strike a committee to investigate a standard brand and model series of SCBA with which to outfit all fire stations in the Region. Consideration should be given to the types of SCBA being used by mutual-aid partners as well, but in any case the SCBA used Regionally should be standardized.

GA recommends that every structural firefighter be provided with his/her own personal SCBA face mask. Provision of a properly fitting mask is necessary to achieve a pass in annual legislated quantitative Fit-Testing. A variety of mask sizes and models is usually necessary to achieve Fit Test performance.

Hydraulic Extrication/Rescue Equipment

Currently there is a mixture of Holmatro conventional hydraulics, Hurst conventional hydraulics, and Hurst eDraulic hydraulic rescue/extrication equipment in service. There may be other types that GA is not aware of. Conventional means the cutters/spreaders/rams are operate through hoses pressurized by a gasoline powered pump that generates the hydraulic force/pressure.

Conventional hydraulics are heavy, take up a lot of compartment space, and are high maintenance; with hoses that easily kink or cut, a pump/motor unit that requires fuel, an engine that must be exercised regularly, and small engine repair/service annually at least.

The multiple brand/type units in service are also a training challenge that only firefighters trained and familiar with that specific piece of equipment can operate safely.

GA recommends that the Regional fire service standardize on Hurst eDraulic hydraulic extrication/rescue equipment, and phase in replacement of the current equipment that is not eDraulic.

GA recommends that all fire stations be equipped with eDraulic Combi-Tools and that Windsor station be equipped with a set of heavy hydraulic jaws, cutters, and rams such that Windsor can provide Regional Heavy Rescue support to all stations. Details on the specific eDraulic equipment that is recommended is on page **291** of this report.

Bunker Gear (firefighter PPE)

Bunker gear is expensive and is certified for use for only ten years. It consists of a firefighter's coat ad trousers, gloves, balaclava, boots and helmet. Typical per firefighter costs are around $2,000. Annual purchasing of some or all bunker gear components will occur annually. Significant savings can be obtained if all PPE is standardized across the Region and central purchases are made.

Bunker gear coats and trousers must be worn as a set. The coat from one make and model cannot be interchanged with another. Every make and model is designed to fit together precisely. Mixing will get firefighters injured and create large liability risks. With standardized PPE it is possible to purchase a coat or a pair of trousers if the other component is damaged. It is also possible to utilize spare gear to replace a damaged item if it is all the same make/model of PPE.

GA recommends that the Regional fire service immediately strike a committee to determine bunker gear needs and to test manufacturers' offerings, and to settle on one make. one model, one colour, and on standard features.

GA recommends that Proposals from vendors of the selected manufacturer be entertained and that a multi-year contract be negotiated with the vendor, allowing the DPS/FC to requisition PPE from the vendor at contract prices on an annual basis.

Gas Detection

Gas detection devices are manufactured by several firms and each offers various features. From a training perspective it is advantages that every fire station use the same make and model of multi-gas detector except for the need for one specialized unit for Haz Mat incidents or fire investigation. In this way any trained firefighters will be able to effectively use any gas detector.

GA recommends that the Regional fire service standardize on one make and model of general use multi-gas detector for the fire stations.

Hose

GA did not inventory the hose in use at the fire stations, but did notice there is a great variety. There is a tendency to purchase hose on the misunderstanding that all hose is the same. It most certainly is not. Hose must be purchased by make and model based on thorough evaluation of performance and value (life cycle cost). It is much cheaper if bought in bulk Region wide. By doing this it will be possible to purchase high performance, long lasting hose at competitive prices. Never buy hose based on price alone.

Different hose has different performance characteristics. One important one is the pressure loss per length when flowing water. The higher the loss the higher the pump operator must push his pump. With mixed or unknown hose connected together it is impossible to get the pump pressure right. This affects available water flow rates, and can result in firefighter injury or unnecessary fire loss.

GA recommends that the Regional fire service strike a committee to evaluate all the available makes and models of hose in the utilized sizes. The evaluation should include performance factors of weight, friction loss, kink resistance, abrasion resistance, liner separation, grip, quality, availability, construction, quality control at the factory. After ranking then price should be evaluated for those makes/models that have tied in the evaluation. Once selected that make/model should become standard for future purchases.

Thermal Imaging Cameras

Similar SCBA and hydraulic extrication equipment, firefighter training and competence are critical in the use of Thermal Imaging Cameras (TIC). Every TIC make/model operates differently, and mistakes can be very costly in firefighter health and safety as well as in property loss and liability. A firefighter who fails to understand what the TIC is telling him can mistake a dangerous high heat condition and lead to a firefighter injury or entrapment by overtaking fire. A

firefighter who does not understand how to calibrate the TIC may bot spot a hot spot, resulting in the fire department returning again to a rekindle, and potential lawsuit.

GA recommends that the Regional fire service strike a committee to evaluate the available makes and models of thermal imaging cameras. The evaluation should include all recognized performance factors. Testing of demonstration equipment should be involved. Standardization on future purchases of TICs should be based on the successful candidate, and be phased into all stations.

FIRE STATION FACILITIES AND FUTURE NEEDS

STATION LOCATION

An area to be protected by a proposed station is the most important factor in determining fire station locations. Some areas in the community will contain higher risk potential than others, i.e. those containing primarily business, industrial, mercantile, institutional, and multi-family residences. In some cases, it may not be desirable to locate a station in a high-risk area. The station should therefore be located within a reasonable response distance on the perimeter of the high-risk area. Distribution should provide a concentration of response equipment for response into a high-risk area without depleting other areas of the community (draw down) should a second incident occur.

In other areas of the community with equal risk throughout, such as residential, fire stations should be equidistant from all parts of the area. Where stations are staffed by volunteer fire fighters, consideration must be given to locating the fire stations in or near areas where those fire fighters live and work in order to facilitate quick response. The analysis for the fire station location study consisted of preparing and reviewing various mapping models to facilitate exploring options for fire station locations such that the 4 km, 6 km, 8 km and 10 km travel distances are met for the major growth areas, as well as areas beyond the growth areas where possible. The impact of historical emergency call data and volunteer firefighter residence locations were also considered.

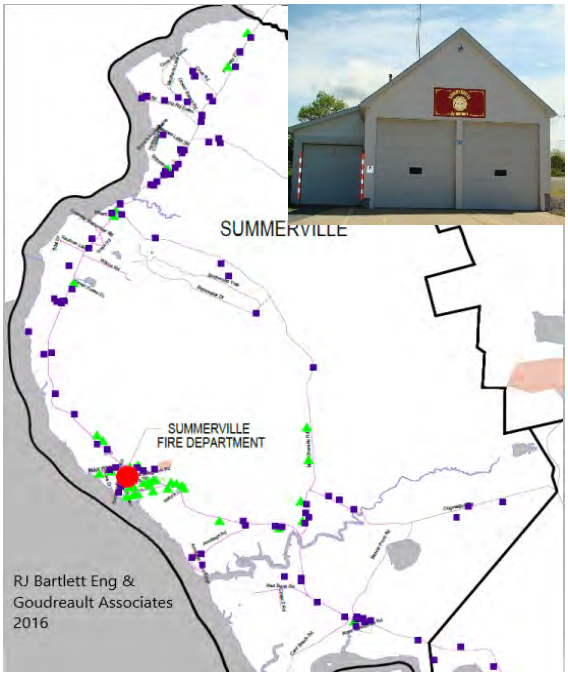
To analyze station locations in particular volunteer staffed stations, as previously stated, the following considerations need to be reviewed and scrutinized.

- Level of Community Risk
- Call volumes by type of incident
- Mutual-aid/Auto aid availability and location
- Road networking and roadway conditions, i.e. bridge capacities and locations
- Community growth or decline
- Population Density
- High value development areas

- Land availability, Municipal or other.
- Flood Zones

Summerville Volunteer Fire Station

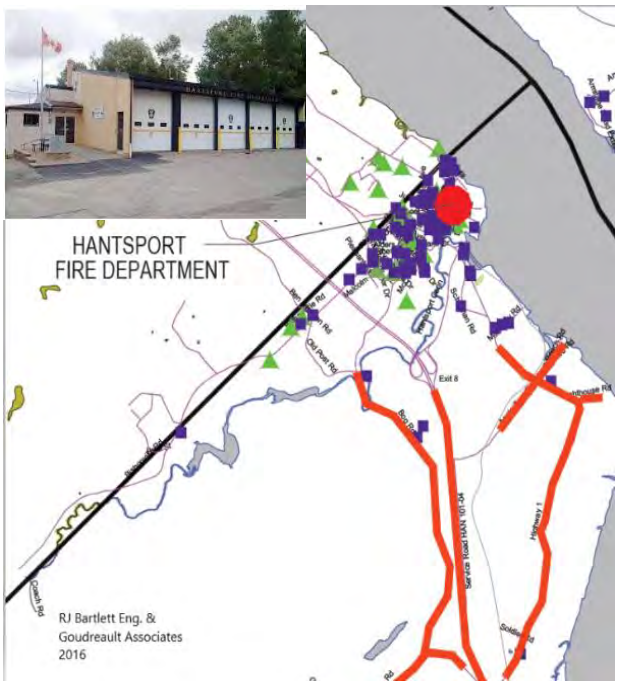
The location for this department's station is ideal. when considering incident locations ■ and the residence locations ▲ of the volunteer responders.



Best practices by the National Board of Fire Underwriters Standards recommends a station location close to and leading into major or secondary thoroughfares. The Summerville Station meets this location standard.

Based upon future development and community growth, over the next decade the location for this station should remain the same.

Hantsport Volunteer Fire Station



This department's station is funded in the 2020 capital budget for replacement.

The question for this station is where to locate it given its area of coverage for Hantsport, Hantsborder and Glooscap First Nations.

The majority of incident locations ■ and the residence locations ▲ of the volunteer responders are very near to the department's current station location.

Previous discussions considered locations in the Mount Denson area and possibly the Hantsport connector to Highway 101 to aid in response to the community of Falmouth.

The main issue with these locations is where the residences of the volunteers are. If either of the Mount Denson or the Hantsport connector were chosen, it would increase response time responding to the station and the high probability that the responders would have to drive away from the emergency to obtain the required apparatus and then return to the incident , which based upon 2016 and current call records, are near the community center.

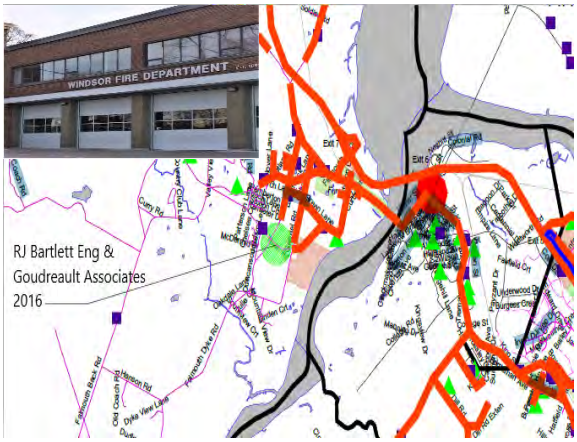
It is recommended that the location for the new Hantsport station remain as close as possible to the densely populated, high-risk area in the center of the community.

Three Mile Plains Station



The Three Mile Plains Fire Station was opened on November 25th, 2017. The location was determined by a previous study based upon the needs at that time. The location allows for easy and quick access to the West Hants Industrial Park and Highway 101.

Town of Windsor Fire Station



The Town of Windsor Fire Station is located in the downtown area of the municipality and is ideally situated for a quick response to the heart of the economic and business engine of the community.

The 2016 map showing the locations of incidents ■ and locations of firefighter's residences ▲ supports the current location of the station, which is ideally situated to quickly respond to not only incidents within the town, but to parts of neighbouring Falmouth. The King Street location also allows for quick access and response to incidents along the Highway 101 corridor.

Community of Falmouth

A previous study provided two possible locations for the community of Falmouth to acquire its own fire station. The recommendation was based upon information at that time indicating the Town of Windsor Fire Department was not in a position to provide first response coverage to the community.

The two options at that time were:

Option A:

A location being in close proximity to Highway 101, Exit 7 which allows for provision of coverage to the Falmouth major growth area.

The Option B:

A Falmouth fire station, located within the Village of Falmouth, approximately 2 km southwest of Highway 101 Exit 7, which would provide coverage to the major growth area as well as an additional area southwest of the major growth area.

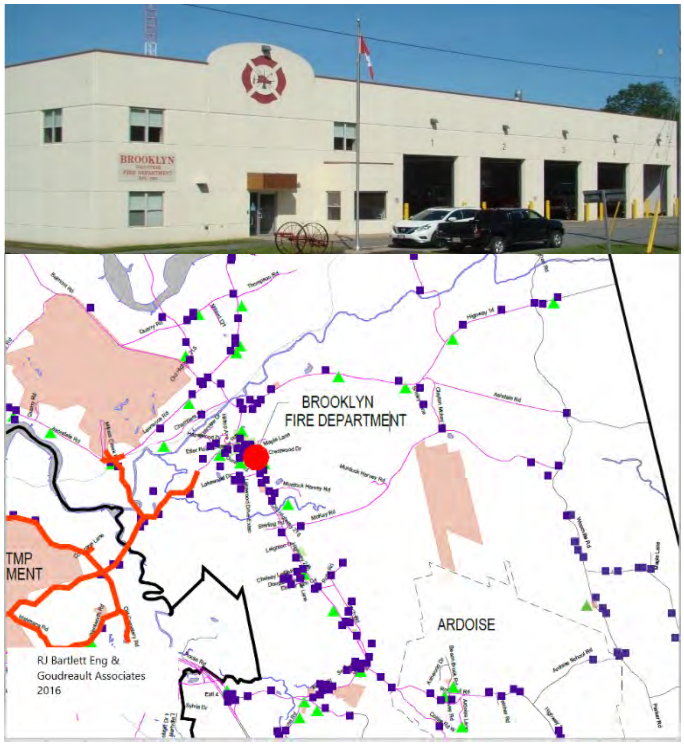
There is a possible third option and that is to relocate the Windsor Fire Station to a location near the Bridge on Evangeline Trail that crosses over from Windsor to Falmouth. However, this moves the Windsor station away from its volunteer base and the high-risk area of the Town.

Current Travel time modeling shown here indicates the coverage available to Falmouth within eight (8) minutes, (green lines on map) from both Hantsport and Windsor stations.



When considering call volume and the number of volunteers residing in the area and with the Windsor and Hantsport Fire Departments being able to provide emergency response to this community in a reasonable response time, a fire station for Falmouth at this time is not being recommended. However, if and when there is a consideration to replace the current Windsor Fire Station or if there is significant growth in Falmouth, a revisit of this recommendation should be conducted.

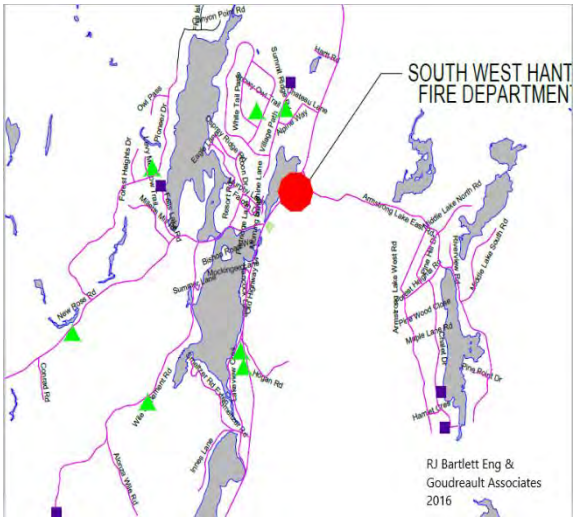
Brooklyn Fire Station



Located on Highway 215, near the intersection of Highway 14, this location provides ample coverage in multiple directions. A good portion of incidents ■ and the location of the residences ▲ of this department's volunteers are near the station's current address. The current station was built in 2009 near the same spot the previous station was located.

The 2016 study was asked to review the Forest Lakes development area and make any recommendations as to the need for a station in that area of the Brooklyn fire coverage district. The recommendation at that time was not to proceed with an additional station but to monitor the growth and if the area develops sufficiently over the years to justify the addition, then revisit the need. The Forest Lake development and area, based upon anecdotal information and an area site visit by the consultants, appears to have stalled. With development in this area being slowed and the majority of the area being forested land, and few volunteers residing in that area, the need for a station at this time is not warranted. If development grows sufficiently enough and the call volume increases, (currently fire incidents in this area average about three per year), then at that time, a revisit of the recommendation should be considered.

Southwest Hants Fire Station



This station is located along Highway 14, near the Armstrong Lake East Road. It is near the high value properties built amongst the heavily forested area and features a helicopter landing pad for medical emergencies and a small training area.

The location of this area is fairly remote from the mainstream stations such as Hantsport, Windsor and Three Mile Plains.



Given its location to the high value residential risk in the area, there is no requirement for relocation of this station for the foreseeable future.

FIRE STATION FACILITIES

Apparatus and Equipment

What type and size of apparatus will be used - current and future?

While the exact size of future equipment cannot be determined twenty or fifty years from now, a mix of large, medium and small equipment can be anticipated. The current mix of equipment includes large, medium, and small pieces of equipment throughout the region. Overcrowding is an issue in three of the stations. This is as a result of fire apparatus standards changing resulting in bigger sized vehicles. and the acquiring needs of various types of equipment more so than what was required in the past. Right sizing is a term that is now made its way into the fire service. It translates into do we really need all of this equipment in this station.

Equipment Bay Configuration

Drive-through bays

Drive-through bays would be desirable to provide additional ease of maneuvering equipment. Discussions with other fire departments have determined that while desirable, they are not essential. Care needs to be given to ensure that the range of response situations can be accommodated without the need of moving equipment out of the way of other equipment. An adequate quantity of bays with strategic stacking of response vehicles can meet the needs of the station without the use of drive through bays. Drive through bays are often not appropriately utilized as designed and thus eliminates the benefit of the extra costs associated with such a configuration.

Current Equipment sizing

The fire departments currently have a mix of mixed small equipment, including ½ ton, ¾ ton vehicles, trailers to tow boats and all-terrain vehicles, medium size pumpers and tankers and rescue trucks, larger sized tankers and aerial devices. These vehicles and their on-board equipment need to be stored out of the elements to protect not only the vehicles but the onboard equipment. The vehicles today are highly sensitive to the elements due to their onboard vehicle

electronics and many microprocessors. Most of the apparatus today as a result of the onboard electronics and air brakes, are required t be continuously connected to 120 V electrical systems and external air compressors.to keep the air brakes fully charged at all times.

The diagrams below will provide a rough estimate of current apparatus sizing of the region's fire departments. The pictograms do not allow for an extended front bumper that often carries fire hose and an inlet for fire hydrant connections. These front bumpers can range from twenty -four (24) to thirty (30) inches) Note: There are no known measurements for the Windsor Fire Department 1984 Snorkel. However, in the proposed, Capital vehicle replacement program it is scheduled for replacement in 2020. It is being recommended that a ladder type of aerial device be acquired. The typical dimensions for a rear mount aerial device are included in the pictograms below.

The average size of a ½ or ¾ ton four door vehicle bumper to bumper is approximately thirteen (13) feet, and an accompanying trailer for an all-terrain vehicle with space for related equipment and fuel ranges from ten (10) to twelve (12) feet. Trailers for RTV/UTVs and Rescue boats average 14 to 16 feet in length. Added together the overall lengths can be twenty-nine (29) or thirty (30) feet.

Typical recommended practices for apparatus space requirements such as the Fire Underwriter Services (FUS) require ten (10) feet of spacing between vehicles in front and rear of the vehicle and from the nearest station wall. The space permits load and unloading fire hose and equipment from the vehicle and permits this to take place simultaneously between vehicles.

Based upon the average overall lengths and widths of the fire apparatus outlined below and the required space around the vehicle, the overall space requirements can be summarized as follows.

Sq. Ft per unit	Med Size Pumper	Med Size Tanker	Large Size Tanker	Aerial Device	Utility Vehicle & Trailer
1000 sq. ft.					
1400 sq. ft					

Apparatus Floor and Miscellaneous Off Floor Service Rooms Sizing

It is no longer permissible, as per NFPA's safety standard *NFPA-1500 Standard on Fire Department Occupational Safety, Health, and Wellness Program,* to have any storage or equipment on the apparatus floor other than the apparatus itself for safety reasons. The square footage presented for apparatus does not include rooms directly off the apparatus floor that are often considered part of the apparatus floor/bay area, rooms such as SCBA compressors, PPE storage, fire hose storage and drying maintenance rooms, equipment storage, laundry rooms, or a decontamination room. Rooms that are necessary for daily operations.

Maintenance, Repair, Storage and Support Space Requirements

The item of greatest concern that has developed over the past many years is that of the rate of cancer in firefighters. Some cancers have been attributed to vehicle exhaust within fire station and the off gassing of contaminated/not properly cleaned PPE (bunker gear). In one station as soon as a person walks through the station's main doors into a public foyer, one can smell the PPE off gassing, while another station the PPE storage is in the training/meeting room of the station adjacent to the facility's kitchen.

Thus, the requirements for isolated and ventilated PPE storage areas directly off the apparatus (Bay) floors.

A fire station facility is more than a truck garage with some storage and a meeting room. In many communities it is the focal point and pride of the community as well as the volunteer firefighters. A reasonably built and maintained station will contribute to retention of volunteers.

There no actual standards for space requirements of fire station but there are recommended guidelines. Fire Underwriters establishes square footage areas per fire units based upon type and size of unit. To assist with determining facility space requirements for fire stations references, established guidelines as per the Whole Building Design Guide (WBDG) a program of the National Institute of Building Sciences and the architect firm of Mitchell Associates Architects NY. This firm has extensive experience in fire station design work and recommendations put forth by F.I.E.R.O. (Fire Industry Education Resource Organization).

The National Fire Protection Association standards, offer requirements for station facilities, as to safety requirements required, but do not offer space requirements for example;

NFPA-1500: Standard on Fire Department Occupational Safety, Health, and Wellness Program

"10.1.2 Fire departments shall provide facilities for disinfecting, cleaning, and storage in accordance with NFPA-1581."

NFPA-1581: Standard on Fire Department Infection Control Program, Chapter 10 addresses Facility Safety

"5.5 Equipment Storage Areas.

5.5.1 Emergency medical supplies and equipment stored in fire department facilities, other than those stored on vehicles, shall be stored in a dedicated, enclosed area to protect them from temperature degradation, contamination, and other physical damage.

5.5.4 Potentially Contaminated Personal Protective Equipment.

5.5.4.1 Potentially contaminated personal protective equipment shall be stored in a dedicated, well-ventilated area or room.

5.5.5 Contaminated Storage.

5.5.5.1 Areas or containers for the temporary storage of contaminated medical supplies or equipment prior to disinfection or disposal shall be separated physically from members in facilities or on vehicles."

Facility Space Guidelines

For this example, the Hantsport fire apparatus floor space requirement was used.

	Required Space	Sq Ft		
Firematics	Total Apparatus Bay	5800		
	Radio Room/Watch Desk	110		
	Parts, Equipment & Tool Storage	200		
	EMS Storage	100		
	Workshop	216		
	Firefighting Agent Storage	300		
	Hose Storage & Drying	250		
	SCBA Maintenance/StorageCompressor	520		
	PPE Storage	340		
	PPE Laundry	219		
	Janitors Closet	64		
	Decontamination/Disinfection	150		
		Subtotal	8,269	
Administration	Entry/Lobby	120		
	Coat Storage	20		
	Rest Rooms (2)	130		
	Conference/Meeting	361		
	A/V and training Storage	80		
	Officers	144		
	District Fire Chief	288		
	Records Storage	90		
		Subtotal	1,233	
Firefighters	Training/Meeting	450		
	Exercise	230		
	Kitchen	200		
	Showers (4 + 2)	324		
	Rest Rooms	271		
		Subtotal	1,475	
Miscellaneous	Houskeeping Storage	50		
	File Server	48		
	Mechanical	270		
		Subtotal	368	
		Total Space Needs		**11,345**

Current Facility Observations

Observations are a as result of station tours and completed surveys. Many of the stations do not comply with NFPA-1500 or 1581. This is understandable given the age and the standards at the time of construction. This same understanding must be applied to the following observations.

- All of the stations within the region do not comply with for the storage of PPE (Bunger Gear). nor do they comply with the same standard for infection control.
- The Summerville and South West fire stations require a vehicle exhaust extraction system.
- Lack of proper maintenance and testing facilities (Many of the stations must place tables in open areas to accomplish maintenance and testing of different types of devices and equipment and some of this takes place in the apparatus floor bays in one particular station this takes place in vehicle wash bays.
- Lack of proper storage areas
- Lack of appropriate cleaning stations for protective equipment, (one station uses buckets)
- Lack of proper workshops
- Multiple uses of areas or equipment that are not designed for multiple purposes.

Some of the observations found may be able to be addressed with properly designed/engineered alterations to current facilities.

Current Fire Stations.

- **Hantsport** fire station: Whereas this station is scheduled for a much-needed replacement, comments on its current condition would be moot at this time.
- **Summerville** fire station: This station was built in 1883, was modified in 2013.
- **Windsor** Fire Station: This station was built in 1962, some modifications occurred in 2019. This station should, with a few modifications, meet address NFPA-1581 requirements, and should service the municipality into the foreseeable future. The only issue is the dimensions of the overhead doors that service the apparatus bays. The overall height of the doors is 11 feet,7 inches. With the newer standards for fire apparatus, particularly aerial devices, require door openings being 14 feet wide by 14 feet high. The current clearance height of the doors makes acquiring an aerial device very challenging. Instead of possibly obtaining a device to meet the needs of the community it may require a device that will fit into the current station door configuration.

GA recommends that an architect familiar with fire station requirements, guidelines and applicable NFPA standards or a construction engineer be acquired to conduct an assessment to determine the feasibility of any required alterations for the Summerville and Windsor fire stations.

Apparatus Floor Space Requirements

A typical volunteer fire station in the region has a minimum of four emergency vehicles needed to service their designated area. Based upon the typical apparatus sizing two scenarios will be presented, one without an aerial device and one with an aerial device. Identified stations will also have a single spare apparatus, either a medium sized tanker or medium sized pumper. All bays will be single depth. If a doubling of vehicles in a single bay is required then a doubling of the square footage is required for that single bay.

The following total square footage for the apparatus floor area is for the ***apparatus only***.

Typical Rural Station – Apparatus Floor Space Only								
Sq. Ft Per Unit	**Med Size Pumper**	**Med Size Tanker 800- 1200 gals**	**Large Size Tanker >1200 gals**	**Reserve Med Sized Tanker**		**Rescue**	**Utility Veh. + Vehicle/Boat & Trailer**	**Sub Total Space sq. ft.**
1000 sf	1	1		1		1	1	5,000
1400 sf			1					1,400
Total	1000	1000	1400	1000		1000	1000	**6.400 sf**
Typical Urban Station Apparatus Floor Space Only								
Per unit Square Feet	**Med Size Pumper**	**Med Size Tanker 800 - 200 gals**	**Large Size Tanker >1200 gals**	**Reserve Medium pumper**	**Rescue Medium**	**Aerial**	**Utility Veh +/Boat & Trailer**	**Total Space Sq. ft.**
1000 sf.	2	1		1	1	0	1	6,000
1400 sf						1		1,400
Total	2000	1000		1,000	1,000	1,400	1,000	**7,400 sf**

Station	Pumper	Pumper /Tanker	Quint	Aerial	Rescue	Utility	RTV	Boat	Current Actual	Truck Total Space
Windsor	2 +1 R	1	0	1	1	2	1	1	5954	8800
Hantsport	1	1	1	0	1	1	0	0	2338	5800
SWH	1	1	0	0	0	0	0	0	1558	2400
Brooklyn	2+ 1R	1	0	0	1	1	1	0	8000	6400
TMP	1	1	0	1	0	1	0	0	3400	3900
Summerville	1	1 +1R	0	0	1	1	1	1	2840	4800
Totals:	8 + 2R	6 +1R	1	2	4	6	3	2		

Projected space needs based upon recommended Apparatus placement.
Needs based upon FUS, other Fire Service Organization Standards/Guidelines and Best Practices
R = Reserve Unit

Storage Needs

What are the present and future storage needs?

Storage is always an issue within any structure. Fire Stations over time require additional storage space as a result in changes to service levels, types of services offered and changes in fire service and safety standards. Currently storage of some fire and medical equipment, limited foam supplies, uniforms, parts and materials for maintenance, response gear, and seasonal items are being stored in the individual stations. Space for storage in the majority of the stations is inadequate to meet the needs. This has added to the overcrowding in the majority of stations. There is a need to provide distinct and appropriately located storage rooms and closets with proper controlled access. It is essential that appropriately designed storage is provided and other purposefully designed functional spaces are not just employed to accommodate ad hoc storage. This could become a safety issue. Recommended storage room types and sizing were provided previously in this chapter.

In a regional concept there is an opportunity to create a central store for bulky items and large volume items. A certain number of stores and equipment will always be required to be retained at the individual stations. In a regional setting, with the possibility of standardized equipment and consumables, a central stores program can assist with any potential bulk purchasing program by permitting bulk storage and drawn as required. Thus, creating savings to all.

A central store should be centrally located, be accessible twenty-four hours per day, be secured and environmentally controlled. Central stores would ideally maintain a reasonable supply of fire hoses of varying sizes, replacement PPE, spare SCBA cylinders and a number of SCBA units, Foam supplies both Class A and Class B, fire department uniforms, safety vests, hard hats, firefighting helmets, gloves, fire boots, batteries, helmet lights and flashlights etc. A complete needs analysis would need to be conducted to determine quantities and type of stores that a central facility should warehouse to meet the needs of the region's fire services.

What type of structure could be used or repurposed as a central store facility? An example of repurposing could be as simple as a designated area within a municipal public works maintenance garage which an area could have a caged off area set aside for the fire department with appropriate security measures, or recycle a smaller municipal structure (a replaced fire station) or garage that would allow for the use of a fork lift, one would be needed for the offloading bulk foam and large delivery of fire hose for example.

If a central stores program is to be put into place then appropriate policies and operating procedures will need to be developed and implemented, to cover all aspects of who has control, who manages and who has access, accounting practices, and large volume purchasing procedures.

Summary

In summary, all fire stations require some space for storage of routinely and frequently used supplies and equipment, supplies such as office supplies, washroom supplies, cleaning and maintenance supplies, limited fire hose and SCBA air cylinders to name a few. With the implementation of a central stores it has the ability to reduce operational costs for each station as a result of the ability to purchase and store in bulk. Due to the nature of certain types of materials that would be of a cost saving benefit if purchased in bulk such as firefighting foam, the central stores facility needs to be environmentally controlled. A bulk store also provides a central location for those once and awhile emergencies that require large volumes of supplies, rather than attempting to travel around the region or outside the region with multiple vehicles to acquire what is needed when time is of the essence.

BUDGETS AND FORECASTS

FINANCIAL ANALYSIS AND BUDGET FORECASTS

CURRENT ANNUAL OPERATING BUDGET

As part of the fire service review, GA was asked to establish benchmarks for the operational and capital budgets. For this purpose, GA examined the budgets for the years 2016/2017 through to 2019/2020; i.e. 4-years of budgets.

Dealing with two different municipal methodologies and with the budgets of three societies proved somewhat challenging. In the end GA chose to take the West Hants approved budget format for the mentioned years, and fit everything into that format. Even that approach was not entirely consistent as the format changed slightly over the years. As a consequence, not everything may be exactly as the original budget authors understood things to be, but the numbers do balance, with the exception of Windsor. GA was able to draw some relevant conclusions as a starting point for a go forward benchmark estimate of the 2020/2021 and 2030/2031 budgets, as mandated.

As mentioned for Windsor, GA was not able to exactly balance the budget estimates with extracted numbers. For example; in the *2019/20 Windsor Operating Budget and Summaries* (as approved March 29, 2019), under budget line 10-022-0000 (on page 15) the rolled-up budget estimate for Fire Protection is stated as $311,950, as shown in the snapshot.

However, from the budget details on pages 23, 24, 25, and 38 of the same budget documents, the expected cost was slightly more, at $340,460. It was a similar situation for the prior years.

Approved March 26, 2019

Budget Summary

TOWN OF WINDSOR - GENERAL
Operating Budget 2019/20

		2018/19 BUDGET	2019/20 BUDGET	$ Variance BUDGET	% Variance BUDGET
	REVENUE				
10-011-0000	Taxes	6,368,550	6,461,460	92,910	1.46%
10-012-0000	Grants in lieu of taxes	138,910	120,460	-18,450	-13.28%
10-013-0000	Services provided to other governments	54,200	55,280	1,080	1.99%
10-014-0000	Sales of services	484,110	462,620	-21,490	-4.44%
10-015-0000	Other revenue from own sources	253,450	241,430	-12,020	-4.74%
10-016-0000	Unconditional transfers from other governments	432,650	432,650	0	0.00%
10-017-0000	Conditional transfers from federal and provincial governments	16,170	26,390	10,220	63.20%
10-018-0000	Conditional transfers from other local governments	100,610	112,630	12,020	11.95%
10-019-0000	Other transfers	68,670	40,000	-28,670	-41.75%
	TOTAL REVENUE	7,917,320	7,952,920	35,600	0.45%
	EXPENDITURE				
10-021-0000	General Government Services				
	Legislative	133,310	132,510	-800	-0.60%
	General administrative	662,230	668,900	6,670	1.01%
	Information Technology Services (IT)	107,740	118,090	10,350	9.61%
	W. B. Stephens Building	86,440	100,620	14,180	16.40%
	Other general government services	119,260	129,640	10,380	8.70%
	Debt and financing charges	71,500	68,900	-2,600	-3.64%
		1,180,480	1,218,660	38,180	3.23%
10-022-0000	Protective Services				
	Police protection	1,055,940	1,092,780	36,840	3.49%
	Law enforcement	84,620	84,590	-30	-0.04%
	Fire protection	391,380	311,950	-79,430	-20.29%
	Fire protection-Water supply and hydrants	319,210	319,210	0	0.00%
	Emergency Measures	24,300	29,260	4,960	20.41%
	Building Inspection Services	81,510	92,100	10,590	12.99%
	Other protection	4,800	5,910	1,110	23.13%
		1,961,760	1,935,800	-25,960	-1.32%

It is possible that allocated costs for fire protection have been misinterpreted; i.e. costs allocated to the Windsor Fire Department. That being said, GA continued on with extracted numbers, understanding that the results possibly overstate the actual costs.

For fire services, like any operation-oriented service, costs are of two main components, fixed and variable.

Fixed costs include debt servicing, equipment purchases, staffing, training, and other costs that reoccur on a regular basis. These costs remain relatively constant regardless of the incident activity levels of the fire department. They are based on the established capacity of the fire department. There are always opportunities to reduce fixed costs, and most cost cutting initiatives are and should be aimed at fixed costs.

Variable costs include items like; fuel for the vehicles and motorized equipment, equipment maintenance, wear & tear related depreciation (or destruction), and expendables such as meals and medical gloves. Variable costs change in accordance with the activity levels of the fire department.

Generally speaking, it is difficult to establish cost cutting initiatives on variable costs. Such initiatives, if attempted, tend to actually affect capacity and can create hazardous conditions for responders. For example; an initiative to reduce the use of firefighting foam can reduce the costs of foam purchases, but will definitely increase the extinguishment time and effort required at incidents where foam use is indicated. It may also generate a secondary incident where firefighters have to re-respond to the original incident to deal with a rekindle; and it is likely that the firefighting foam will then be used, to avoid having to return a third time.

One real potential for variable cost savings is to ensure that purchases of materials and equipment that might be expended are good value. Often this means purchasing good quality materials to start with as well as doing group purchasing.

Based on the consultants' experience GA offers the following specific example; in the early 2000's most American fire hose makers decided to source their fire hose production offshore. This reduced their manufacturing costs substantially, although customers did not necessarily see

these savings. Shortly after, it became quickly noticeable that fire hose was not as durable and was being damaged (and no longer serviceable) at a much faster rate, sometimes at the first fire. An investigation into alternatives discovered a Canadian made hose that was marginally more expensive (about 5%) but was extremely durable, and also offered better performance characteristics. This hose was subsequently purchased as the fire department standard, and the annual cost of fire hose replacement decreased.

Annual Operations Budget Analysis

The annual fire department budgets include accounts for the Windsor, Brooklyn, Summerville, and Hantsport fire departments, including the stations in Three Mile Plains (Brooklyn managed) and Vaughan (Hantsport managed). They also include the Walton Shore and Uniacke fire departments; i.e. the West Hants portion of their budgets.

An analysis of the consolidated budgets for the past four years reveals a few trends. These are discussed on the following pages.

Revenue:

			2016-2017	2017-2018	2018-2019	2019-2020	ANALYSIS 4-Year Total	4-Year AVG	3-Year AVG	2-Year AVG	4-Year Trend
	REVENUE										
1	CONTRIBUTION - Hantsport/WH TAX BASE		81,777	0	0	0	81,777				
2	CONTRIBUTION - OPERATIONS GRANT - West Hants		930,442	1,725,925	1,729,501	1,602,941	5,988,809	1,497,202	1,686,122	1,666,221	
3	CONTRIBUTION - GRANTS - East Hants		66,633	66,739	69,417	84,545	287,334	71,834	73,567	76,981	
4	CONTRIBUTION - OPERATIONS GRANT - Kings County		64,400	84,248	57,578	59,955	266,181	66,545	67,260	58,767	
5	CONTRIBUTION - GRANTS - Glooscap		7,064	7,064	7,064	7,065	28,257	7,064	7,064	7,065	
6	CONTRIBUTION - CAPITAL FIRE GRANT - West Hants		37,079	53,650	55,390	188,249	334,368	83,592	99,096	121,820	
7	CONTRIBUTION - CAPITAL FIRE GRANT - Kings County		25,980	26,425	21,540	83,003	156,948	39,237	43,656	52,272	
8	CONTRIBUTION - Grant (SW Society)		43,500	43,500	43,500	27,036	157,536	39,384	38,012	35,268	
9	CONTRIBUTION - Windsor Society (building upgrades)		23,000	22,080	19,830	0	64,910	16,228	13,970	9,915	
10	CONTRIBUTION - Town of Windsor		0	0	0	26,783	26,783				
11	Municipal Costs		0	38,250	31,350	72,600	142,200	35,550	47,400	51,975	
12	Hantsport/Windsor AREA RATE		35,906	34,331	32,863	46,194	149,294	37,324	37,796	39,529	
13	BUILDING RESERVE		22,000	0	0	0	22,000				
14	Surplus (SW)		4,000	6,000	6,000	1,300	17,300	4,325	4,433	3,650	
15	PROVINCIAL FUNDING		39,900	29,630	29,630	29,640	128,800	32,200	29,633	29,635	
16	Donations		2,600	2,600	2,100	5,300	12,600	3,150	3,333	3,700	
17	OTHER - FUNDRAISING/Rent/Auxiliary		76,900	61,085	53,000	40,729	231,714	57,929	51,605	46,865	
18		**TOTAL INCOME**	**1,461,181**	**2,201,527**	**2,158,763**	**2,275,340**	8,096,811	2,024,203	2,211,877	2,217,052	
19											
20	Income	NON-WWH Sources Funding:	24.0%	15.6%	14.1%	14.8%					
21	Sources	Donations: % Revenue:	0.2%	0.1%	0.1%	0.2%					
22		Fundraised: % Revenue:	9.8%	5.8%	5.4%	3.0%					

As shown in the above snapshot, over the past three years revenues have been fairly steady, although trending upwards slightly.

There is a caveat about the revenues reported in our analysis. The majority of revenues identified in our spreadsheet originated with West Hants. Revenues for Windsor are not fully accounted in our analysis since it appears that Windsor's fire protection has been largely funded from general revenues and not designated particularly for the fire department.

Windsor did identify relatively small revenues from their *Fire Protection Area Rate* ($27,040 in 2019/20) and from Provincial grants in lieu of taxes, for *Fire Protection Services* ($29,640 in 2019/20). In 2016/17 Hantsport reported a $10k provincial contribution.

In budget years 2016-2018 Windsor also reported a miscellaneous revenue from *own sources* related to *fire department facility upgrades* ($0.0 in 2019/20). This line represents a grant from the Windsor Fire Society for building upgrades.

Expenditures:

Fire department annual expenses were broken into a number of different categories;

- Firefighting Operations,
- Other Operational Expenses,
- Long Term Debt Payments, and
- Capital Expenditures.

Each will be discussed in the following pages.

FIREFIGHTING OPERATIONS

Over the past three years (2017-2019) the trend in this category of expenses has been downward slightly, after an initial sharp rise from the 2016/17 budget year. The following snapshot shows that in 2019/20 the total in this category was $691,937.

		2016-2017	2017-2018	2018-2019	2019-2020	4-Year Total	ANALYSIS 4-Year AVG	3-Year AVG	2-Year AVG	4-Year Trend
24	**EXPENSES**									
25	FIREFIGHTING OPERATIONS									
26	**APPARATUS:**									
27	Regular Maintenance	87,522	108,366	94,466	108,266	398,620	99,655	103,699	101,366	
28	Fuel	40,400	37,700	35,500	47,500	161,100	40,275	40,233	41,500	
29	Major Repairs	28,333	23,664	26,333	27,833	106,163	26,541	25,943	27,083	
30	Annual Safety Inspections	8,669	12,367	11,867	14,867	47,770	11,942	13,034	13,367	
31	EQUIPMENT:	5,500	1,500	0	0	7,000				
32	Insurance	33,033	73,163	79,379	77,853	263,428	65,857	76,798	78,616	
33	**sub-total**	**203,457**	**256,760**	**247,545**	**276,319**	984,081	246,020	260,208	261,932	
34	**EQUIPMENT:**									
35	Personnel Protection	108,051	108,466	108,466	103,924	428,907	107,227	106,952	106,195	
36	Hose/Ladders	23,500	7,000	7,000	7,000	44,500	11,125	7,000	7,000	
37	SCBA Test & Inspections	27,633	29,633	29,333	25,533	112,132	28,033	28,166	27,433	
38	Fire Suppression Equipment	22,500	118,097	110,290	84,240	335,127	83,782	104,209	97,265	
39	Rescue Equipment	11,100	0	12,000	12,000	35,100	8,775	8,000	12,000	
40	Testing Repair & Maintenance	49,000	42,300	42,300	40,500	174,100	43,525	41,700	41,400	
41	Air Equipment	10,567	17,567	22,067	18,667	68,868	17,217	19,434	20,367	
42	Uniforms	0	17,000	12,000	11,500	40,500	10,125	13,500	11,750	
43	Other/Meals for Major Calls	27,800	18,800	8,000	15,750	70,350	17,587	14,183	11,875	
44	**sub-total**	**280,151**	**358,863**	**351,456**	**319,114**	1,309,584	327,396	343,144	335,285	
45	**COMMUNICATIONS:**									
46	Dispatch	38,867	40,307	45,367	41,367	165,908	41,477	42,347	43,367	
47	Pagers/Portable Radios	41,167	38,667	38,667	38,167	156,668	39,167	38,500	38,417	
48	Maintenance & Testing	11,800	10,400	11,700	11,000	44,900	11,225	11,033	11,350	
49	Industry Canada Licenses/Air Time	861	0	0	0	861				
50	Publications/Subscriptions	0	1,660	1,660	1,060	4,380	1,095	1,460	1,360	
51	Other	401	3,675	2,814	4,910	11,800	2,950	3,800	3,862	
52	**sub-total**	**93,096**	**94,709**	**100,208**	**96,504**	384,517	96,129	97,140	98,356	
53										
54	TOTAL FIREFIGHTING OPERATIONS	**576,704**	**710,332**	**699,209**	**691,937**	2,678,182	1,071,273	700,493	695,573	

Included in this category is three groups of expenditures; Apparatus, Equipment, and Communications. Apparatus is specific reference to the costs of operating the fire trucks and associated vehicles. Equipment refers to the many other types of equipment (e.g. fire hose, ladders, breathing air, jaws-of-life, and etc.) that a fire department needs to deliver services. Communications refers to radios, pagers, and associated costs with dispatching.

Peppered throughout this category, in various groups, are certain budget lines that include (but perhaps not exclusively) the purchase of smaller capital items used in firefighting and rescue; such as fire hose, firefighter protective clothing (bunker gear), self-contained breathing apparatus (SCBA) components, rescue rope, and etc. In the budgets, these lines are described as; *equipment* (line 31), *personal protection* (line 35), *hoses/ladders* (line 36), *fire suppression* (line 38), *rescue equipment* (line 39), and *air equipment* (line 41). Similarly, in the communications group *pagers/portable radios* (line 47) contains the costs for replacing these items.

Collectively, the items listed above are small, reoccurring, and minor capital expenses. They occur regularly and are of a relatively small dollar amount for a capital item. In our experience these types of items are considered capital because they are not a typical consumable like fuel or bathroom tissue. They are more durable and can last several years before being replaced. They are usually not durable enough to warrant rehabilitation, like a fire truck or a fire station might be, and in that sense are consumed. Fire hose for example may last 10 years or more depending on how hard it has been used. GA has also seen cases where fire hose was destroyed very shortly after it was purchased and placed in service. There is a recurring need, on an annual basis to make these types of expenditures.

GA recommends that these **Minor Capital** expenditures be treated differently in future budgets and will address this recommendation in the benchmark portion of this analysis.

Under the communications group, *Dispatch* (line 46) includes the approximately $36k annual contracted costs for Valley Communications who dispatches and communicates with the volunteer firefighters via radio.

Line 49, *Industry Canada Licenses/air time*, should include the more than $9k annual cost of federal radio channel licensing, but these costs appear to be included instead in various other places in the budgets, some under line 50. The current amounts being spent are uncertain since not all radios may be individually licensed as required, which is not an un-typical situation.

OTHER OPERATIONAL EXPENSES

This category includes all remaining costs for operating the fire departments, with the exclusion of debt servicing and capital expenditures. The costs for this category shows a downward trend over the past four years. The budgeted amount in 2019/20 is almost 14% lower than the four-year high that was seen in 2017/18.

The category is divided into the following groups; Training, Fire Station, and Administration. Please refer to the snapshot on the following page when making reference to the following discussions.

Training captures the costs of training firefighters in accordance with the fire departments training plan and to the standards agreed in the fire departments' registration documents with the municipality. The line Fire School (line 58) refers to the Nova Scotia Firefighters School (NSFS) in Waverley (HRM). NSFS is the main resource in NS for the provision of qualified training in numerous subjects relating to fire and rescue operations. Many of their programs are geared towards providing certification level instruction. The NSFS also has a field extension component that will deliver training locally.

		2016-2017	2017-2018	2018-2019	2019-2020	4-Year Total	ANALYSIS 4-Year AVG	3-Year AVG	2-Year AVG	4-Year Trend
56	OTHER OPERATIONAL EXPENSES									
57	**TRAINING:**									
58	Fire School Level I	62,133	63,633	65,633	69,133	260,532	65,133	66,133	67,383	
59	Medical First Responder	17,500	12,500	13,500	10,000	53,500	13,375	12,000	11,750	
60	Seminars/Materials	15,267	16,067	16,067	16,767	64,168	16,042	16,300	16,417	
61	Travel/Meals/Etc.	10,333	12,833	12,333	13,333	48,832	12,208	12,833	12,833	
62	Firefighter Honorariums	0	143,000	143,000	150,500	436,500		145,500	146,750	
63	**sub-total**	**105,232**	**248,033**	**250,533**	**259,733**	863,531	215,883	252,766	255,133	
64										
65	**FIRE STATION:**									
66	Light & Power	49,321	54,828	52,053	52,853	209,055	52,264	53,245	52,453	
67	Heating	34,968	33,090	30,590	30,000	128,648	32,162	31,227	30,295	
68	General Maintenance	28,300	34,500	34,300	51,300	148,400	37,100	40,033	42,800	
69	Emergency Equipment	8,700	9,200	9,450	8,950	36,300	9,075	9,200	9,200	
70	Snow Removal/Grounds	24,217	28,972	29,467	38,767	121,423	30,356	32,402	34,117	
71	Janitorial/Cleaning	74,589	93,149	43,089	44,014	254,841	63,710	60,084	43,552	
72	Maintenance/Apparatus Superintendent	0	0	50,000	30,000	80,000			40,000	
73	Renovations/Major Repairs	79,003	81,693	74,193	41,663	276,552	69,138	65,850	57,928	
74	Uniforms	9,500	0	0	0	9,500				
75	Office Furniture/New Construction	5,000	0	0	0	5,000				
76	Insurance	22,613	25,113	13,500	16,000	77,226	19,306	18,204	14,750	
77	Other	152,400	161,660	109,470	85,260	508,790	127,197	118,797	97,365	
78	**sub-total**	**488,610**	**522,205**	**446,112**	**398,807**	1,855,734	463,934	455,708	422,460	
79										
80	**ADMINISTRATION:**									
81	Salary/Benefits	107,900	108,350	61,180	55,123	332,553	83,138	74,884	58,152	
82	Telephone	18,873	19,473	19,773	25,873	83,992	20,998	21,706	22,823	
83	Office Supplies	8,353	10,053	9,953	6,983	35,342	8,836	8,996	8,468	
84	Publications/Subscriptions	2,560	0	0	33	2,593	648	11	17	
85	Membership	1,583	2,083	2,668	2,335	8,669	2,167	2,362	2,502	
86	Legal/Audit Fees	17,500	6,500	32,200	13,950	70,150	17,538	17,550	23,075	
87	Bank Charges/Interest	1,650	1,621	2,080	5,200	10,551	2,638	2,967	3,640	
88	Insurance	37,370	41,835	44,265	48,385	171,855	42,964	44,828	46,325	
89	Uniforms	5,000	0	0	0	5,000				
90	Meals for Major Fires	1,000	0	0	0	1,000				
91	Computer Services	8,917	9,917	12,037	9,617	40,488	10,122	10,524	10,827	
92	Public Events	16,800	15,900	12,600	17,800	63,100	15,775	15,433	15,200	
93	Honourarium	177,000	45,000	45,600	49,600	317,200	79,300	46,733	47,600	
94	Fire Prevention	10,000	8,000	1,100	700	19,800	4,950	3,267	900	
95	Other	41,020	35,031	28,011	31,150	135,212	33,803	31,397	29,581	
96	**sub-total**	**455,527**	**303,763**	**271,467**	**266,749**	1,297,506	324,376	280,660	269,108	
97										
98	**Total Other Operational Expenses**	**1,049,369**	**1,074,001**	**968,112**	**925,289**	4,016,771	1,004,193	989,134	946,701	

Line 62, Honourariums, refers to the volunteer firefighter payments that are funded annually by the municipalities. Over the four-year period some station honourarium accounts were also allocated under line 93 in the Administration group. For a more complete picture the lines need to be added together.

The following chart shows the total honourarium amounts, by station, that have been reported in the last four W/WH annual budgets. Not included is any honourarium, or other compensation, that might have been paid from other sources of income, i.e. not W/WH municipal.

HONOURARIUMS FROM MUNICIPAL BUDGET

Department	Members[80]	2016-17	2017-18	2018-19	2019-20
Windsor	36	$53,000	$45,000	$45,600	$49,600
Hantsport	37	$25,000	$40,000	$40,000	$40,000
South West	16	$4,000	$8,000	$8,000	$10,500
Brooklyn	39	$60,000	$60,000	$60,000	$65,000
TMP	25	$20,000	$20,000	$20,000	$20,000
Summerville	35	$15,000	$15,000	$15,000	$15,000
Uniacke	35	$0	$0	$0	$0
Walton Shore	26	$0	$0	$0	$0
Totals:		**$177,000**	**$188,000**	**$188,600**	**$200,100**

Line 59 refers to the cost of training firefighters to the Medical First Responder (MFR) standard so that they can respond with EHS to medical emergencies in their jurisdictions, under the province-wide MFR program.

The budget group Fire Station includes the usual costs associated with the operation of a building, in this case the six fire stations in W/WH and a number of associated meeting/community halls. Also included are costs for Walton Shore and Uniacke fire departments' buildings.

Line 69, Fire Station – Emergency Equipment, refers to back-up generator maintenance and, in at least one fire department, to maintenance of automated external defibrillators.

Lines 71 and 72 capture the costs of the part-time employees who clean the stations and equipment, and in some stations also do minor maintenance and inspections on firefighters' equipment. The line also includes some costs for cleaning and like supplies.

Line 77, Fire Station – Other, includes some large amounts. The major contributor to this line is the Windsor Fire Department where a share of the overall operating costs of the WB Stevens

[80] The number of members receiving Honourarium varies from year to year. This member number also includes all ranks and positions, some of which are not active firefighters and only receive a nominal amount.

building is allocated to the fire department. Over the four-year period this WFD cost totals to just over $438k, of the line total of almost $509k.

Line 74 Fire Station – Uniforms, line 89 Administration – Uniforms, and line 42 Equipment – Uniforms all contain the costs to provide station and dress uniforms for the volunteer firefighters.

Line 81, Administration – Salary/Benefits, includes the costs of the Windsor Fire Chief and station maintenance person. In 2019/20 a portion of the West Hants fire coordinators salary and benefits were also carried here. Firefighters in Hantsport/SWH and Windsor also have WCB and EAP benefits; the others do not.

Line 92, Administration – Public Events, includes items like an annual awards event that some stations have, and the Santa Clause parade.

LONG TERM DEBT PAYMENTS

The following snapshot summarizes this category.

		2016-2017	2017-2018	2018-2019	2019-2020	ANALYSIS 4-Year Total	4-Year AVG	3-Year AVG	2-Year AVG	4-Year Trend
100	**LONG TERM DEBT PAYMENTS**									
101	Principle	454,040	606,103	605,803	797,627	2,463,573	615,893	669,844	701,715	
102	Interest	118,848	157,213	153,951	169,309	599,321	149,830	160,158	161,630	
103	Long Term Debt	179,266	57,906	107,737	107,737	452,646	113,162	91,127	107,737	
104	**Total Long Term Debt:**	**752,154**	**821,222**	**867,491**	**1,074,673**	3,515,540	878,885	921,129	971,082	

In some budgets this category was broken down into its principal and interest components, in others it was not. The totals in this category, servicing existing debt, are rising with the 2019/20 total ($1.075M) almost 43% above the 2016/17 total.

A snapshot of the West Hants 2019/20 budget, Municipal Fire Budget section, shows some of these payments in more detail. The balance of costs shown in the summary above are tracked in some of the individual station 2019/20 budgets; these snapshots follow.

CAPITAL SERVICING; MUNICIPAL FIRE BUDGET;

Long Term Debt Payments	Projected 2018-2019	Budget 2018-2019	Estimates 2019-2020
Principal - BFD/CC	$ 89,000	$ 89,000	$ 89,000
Term Loan Interest - BFD/CC	$ 29,778	$ 29,778	$ 28,537
Brooklyn Pumper Principal	$ 74,000	$ 74,000	$ 74,000
Brooklyn Pumper Interest	$ 12,378	$ 12,378	$ 11,453
Summerville Pumper Principal	$ 40,000	$ 42,200	$ 42,200
Summerville Pumper Interest	$ 10,501	$ 10,501	$ 9,770
Aerial Truck Principal	$ 80,000	$ 80,000	$ 80,000
Aerial Truck Interest charges	$ 24,986	$ 24,986	$ 23,986
Fire Transition MFC Principal	$ 193,603	$ 193,603	$ 193,682
Fire Transition MFC Interest	$ 35,821	$ 35,821	$ 34,176
TMP Fire Station RBC Principal	$ -	$ 60,000	$ 49,944
TMP Fire Station RBC Interest	$ 20,149	$ 25,245	$ 39,783
Long Term Debt Payments	*$ 610,216*	*$ 677,512*	*$ 676,531*

CAPITAL SERVICING; HANTSPORT;

Long Term Debt Payments			
Hantsport Pumper Principal	$ 25,000	$ 25,000	$ 25,000
Hantsport Pumper Interest	$ 6,075	$ 6,075	$ 4,412
Fire Truck Chassis Principal	$ 17,500	$ 17,500	$ 17,500
Fire Truck Chassis Interest	$ 4,355	$ 4,355	$ 4,051
Truck Box Principal (Area Rate)	$ 20,000	$ 20,000	$ 12,500
Truck BoxInterest (Area Rate)	$ 4,000	$ 4,000	$ 1,436
Fire Hall Roof Principal (Area Rate)	$ 4,500	$ 4,500	$ 4,500
Fire Hall Roof Interest (Area Rate)	$ 812	$ 812	$ 718
Fire Hall Principal	$ -	$ -	$ 192,801
Fire Hall Interest	$ -	$ -	$ 8,676
Breathing Apparatuses Principal	$ -	$ -	$ 16,500
Breathing Apparatuses Interest	$ -	$ -	$ 2,311
Total Long Term Debt Payments	*$ 82,242*	*$ 82,242*	*$ 290,406*

CAPITAL SERVICING; SUMMERVILLE;

Long Term Debt Payments	$ -	$ -	$ -
Total Fire Service Operations	**$ 268,844.33**	**$ 208,000.00**	**$ 205,500.00**
Capital & Reserve Expenses			
Long Term Debt - New Tanker	$ 43,902.56	$ 50,000.00	$ 50,000.00
Long Term Debt - New Pumper	$ -	$ -	$ -
Payout - Credit Union Loan	$ -	$ -	$ -
Capital & Reserve Expenditures Sub Total	*$ 43,902.56*	*$ 50,000.00*	*$ 50,000.00*

CAPITAL SERVICING; WALTON SHORE;

Long Term Debt Payments	*$ 2,430*	*$ 5,832*	*$ 5,832*	Add on structure to building

CAPITAL SERVICING; BROOKLYN;

No details.

Long Term Debt Payments	*$ 44,000*	*$ 44,000*	*$ 44,000*

CAPITAL SERVICING; UNIACKE;

No details.

Long Term Debt Payments	*$ 6,000*	*$ 7,905*	*$ 7,905*

There was no long-term debt servicing shown for Windsor; i.e. that was specifically earmarked for the fire department.

CAPITAL EXPENDITURES ROLL-UP

The following snapshot summarizes this category.

		2016-2017	2017-2018	2018-2019	2019-2020	ANALYSIS 4-Year Total	4-Year AVG	3-Year AVG	2-Year AVG	4-Year Trend
110	CAPITAL EXPENDITURES									
111	Capital expense current year	123,000	184,285	49,135	14,540	370,960	92,740	82,653	31,838	
112	Accumulated Capital	6,097	0	0	0	6,097				
113	Pay Out Credit Union Loan	4,500	0	0	0	4,500				
114	RESERVES/Misc. Capital	81,000	77,000	28,810	14,110	200,920	50,230	39,973	21,460	
115	**Total Capital Expenditures**	**$ 214,597**	**$ 261,285**	**$ 77,945**	**$ 28,650**	582,477	145,619	122,627	53,298	

The expenditures on capital projects appear to have sharply declined in the past two years, at least in comparison to the amounts in the prior two years.

Roll-Up of Expenses

The following snapshot shows a roll-up of the total expenses associated with the annual operations of the fire service in W/WH. The numbers are based on the approved budget estimates for West Hants and for Windsor, as approved by Councils in the indicated budget years.

		2016-2017	2017-2018	2018-2019	2019-2020	ANALYSIS 4-Year Total	4-Year AVG	3-Year AVG	2-Year AVG	4-Year Trend
24	**EXPENSES**									
25	FIREFIGHTING OPERATIONS									
26	APPARATUS:	203,457	256,760	247,545	276,319	984,081	246,020	260,208	261,932	
34	EQUIPMENT:	280,151	358,863	351,456	319,114	1,309,584	327,396	343,144	335,285	
45	COMMUNICATIONS:	93,096	94,709	100,208	96,504	384,517	96,129	97,140	98,356	
54	TOTAL Firefighting Operations:	576,704	710,332	699,209	691,937	2,678,182	1,071,273	700,493	695,573	
56	OTHER OPERATIONAL EXPENSES									
57	TRAINING:	105,232	248,033	250,533	259,733	863,531	215,883	252,766	255,133	
65	FIRE STATION:	488,610	522,205	446,112	398,807	1,855,734	463,934	455,708	422,460	
80	ADMINISTRATION:	455,527	303,763	271,467	266,749	1,297,506	324,376	280,660	269,108	
98	TOTAL Other Operational Expenses:	1,049,369	1,074,001	968,112	925,289	4,016,771	1,004,193	989,134	946,701	
99										
100	LONG TERM DEBT PAYMENTS									
104	Total Long Term Debt:	752,154	821,222	867,491	1,074,673	3,515,540	878,885	921,129	971,082	
105										
106	TOTAL FIRE SERVICE OPERATIONAL EXPENSES	$ 2,378,227	$ 2,605,555	$ 2,534,812	$ 2,691,899	10,210,493	2,552,623	2,610,755	2,613,356	
107										
110	CAPITAL EXPENDITURES									
115	Total Capital Expenditures:	$ 214,597	$ 261,285	$ 77,945	$ 28,650	582,477	145,619	122,627	53,298	
116										
117	TOTAL PROJECTION / BUDGET / ESTIMATE	$ 2,592,824	$ 2,866,840	$ 2,612,757	$ 2,720,549	10,792,970	2,698,243	2,733,382	2,666,653	

The above costs also include financial assistance to Walton Shore VFD and to Uniacke and District VFD; in exchange for their provision of firefighting and rescue services in defined areas of West Hants.

The roll-up totals do not include the associated costs with fire-inspections, which are currently the responsibility of the West Hants building officials in the Planning and Development Department, and are understood to be cost shared with Windsor.

The Planning and Development department Building Inspection notes in the West Hants **2019/20** approved budget book (page 31) comments on this arrangement as shown on the following snapshot from the budget book;

BUILDING INSPECTION BUDGET HIGHLIGHTS:

2018-19 Building Inspection Budget Highlights

- The 2018-19 budget included the addition of a full-time Fire Inspector/ Building Official. Staff hired to fill this position could not be retained at the salary offered. This position has been removed for the 2019-2020 fiscal year as the Consolidation legislation prohibits offering a position past March 31, 2020.
- In November of 2018, the Windsor Building/Fire Official began working for West Hants half-time under the service agreement; in April of 2019, West Hants will provide full Building/Fire Inspection services to Windsor under the service agreement. At this point West Hants will again be one full inspector short of requirements.

No breakdown is provided on the portion of inspector costs that might be associated with fire-inspector duties. The Building Inspection budget is provided on page 81 of the West Hants approved 2019/20 budget book.

BENCHMARK FOR FUTURE BUDGETS

Annual Operations Budget Benchmark

The following is the recommended benchmark operations budget, starting in year 2020. A number of pre-existing accounts have been combined and moved to better reflect their relationship to the budget category. The benchmark budget is presented in sections with discussion.

It should be noted that 2020/21 is a transition year and that through the consolidation period the expenditures may not match the benchmark budget. There has been no accounting for extraordinary transition costs nor reduction taken for partial year expenditures that might not fully mature in the budget year. The benchmark budget assumes none of the above costs or reductions. It is based on full year costs in a non-consolidation year.

Revenues

Revenue from area rates, general revenues, own sources, etc. have not been estimated. The new regional municipality will likely be harmonizing and adjusting these sources.

	BENCHMARK OPERATIONS BUDGET					
		2019-2020	PROPOSED 2020-2021	$ INC/(DEC) ref 2019-2020	+/- %	NOTES
	REVENUE					
1	CONTRIBUTION - Hantsport/WH TAX BASE	0				
2	CONTRIBUTION - OPERATIONS GRANT - West Hants	1,602,941				
3	CONTRIBUTION - GRANTS - East Hants	84,545	84,600	55	0%	Brooklyn services ($52K) to South Rawdon,+ EH share of WSFD
4	CONTRIBUTION - OPERATIONS GRANT - Kings County	59,955	60,000	45	0%	
5	CONTRIBUTION - GRANTS - Glooscap	7,065	7,065	0	0%	
6	CONTRIBUTION - CAPITAL FIRE GRANT - West Hants	188,249				
7	CONTRIBUTION - CAPITAL FIRE GRANT - Kings County	83,003	83,000	(-3)	-0%	
8	CONTRIBUTION - Grant (SW Society)	27,036				
9	CONTRIBUTION - Windsor Society (building upgrades)	0	-			
10	CONTRIBUTION - Town of Windsor	26,783				
11	Municipal Costs	72,600				
12	Hantsport/Windsor AREA RATE	46,194				
13	BUILDING RESERVE	0				
14	Surplus (SW)	1,300				
15	PROVINCIAL FUNDING (Windsor "Fire Protection")	29,640	29,600	(-40)	-0%	
16	Firefighters 50% co-pay; off-duty AD&D benefit		6,270	6,270		Principal benefit amount is $200,000
17	Donations	5,300				
18	OTHER - FUNDRAISING/Rent/Auxiliary	40,729				
19	TOTAL INCOME:	2,275,340	270,535			
24						

There is also an opportunity for additional revenue generated from cost-recovery fees. These are not shown in the above budget benchmark.

GA's analysis shows that almost 10% of the approximately 3,640 incidents that W/WH fire departments responded to, and that occurred from January 2, 2014 to August 5, 2019 (5-½ years), were responses to Highway 101 or to its interchanges. This trend[81] is increasing.

GA recommends that the new Regional Municipality implement service fees for reasonable cost recovery to highway responses.

Such fees are permitted by legislation. The Insurance[82] Act, §107B(7) states;

> "For greater certainty, nothing in this Section prevents a fire department from making a claim for costs incurred in responding to a motor vehicle accident."

[81] Responses to Hwy-101: 2014 (45), 2015 (47), 2016 (68), 2017 (64), 2018 (81), and 2019 (54 in period Jan-July).

[82] Nova Scotia, Insurance Act, R.S., c.231, s.1.

In Ontario, the province has a program to reimburse fire departments at a rate of $465.42/hour, per fire truck (maximum 3 trucks). Ontario fire departments can also opt out of the provincial program and charge drivers directly for higher costs. The insurance companies typically pay the fees. At Ontario rates, W/WH might have collected[83] (2-truck response) as much as $330k, over the mentioned period.

In Newfoundland & Labrador, the Province reimburses fire departments for responses outside municipal boundaries. As stated in the Province's 2015/16 annual report,[84] they paid $65,050 for 133 incidents (average 489.10 per incident). At NL rates, W/WH might have collected $175.6k.

GA recommends that the new Regional Municipality identify suitable services, and implement cost-recovery fees for these services. The rationale is that although the costs for basic fire protection and rescue services are paid by all residents through their property taxes/area rates, some services are only provided to a few residents and usually for their own benefit, not to the general welfare. An example is the application for a liquor license; which requires a fire inspection where the applicant is the main beneficiary of the license and the municipality is essentially subsidizing this process.

Under §49 of the *Municipal Government Act*,[85] the Municipality has the power to make policies for the setting of fees to be paid for inspections, permits, applications, approvals pursuant to a by-law or legislation. Also, under §79 of the *Act*, the Municipality has the power to prescribe charges for the provision of services.

Some examples of eligible services where cost-recovery fees might be appropriate could include the following;

- Fire inspection of occupancy on request
- Liquor license inspection
- Inspection for occupancy load certificate

[83] Realistically, it is unlikely there would be a 100% collection rate. It is also suggested that fees only be applied to non-resident service recipients.

[84] Fire and Emergency Services-Newfoundland and Labrador, 2015-16 Annual Report, page 16.

[85] Nova Scotia, Municipal Government Act. 1998, c. 18, s. 1

- Inspection of day-care centre
- Mobile food/beverage truck inspections
- Tent and special occasion inspections
- Response to provincial highways (non-residents)
- Inspection of trade shows and other special events
- Municipal open-fire (burning) permits
- Fire extinguisher training
- Request for smoke or carbon monoxide alarm installation
- Request for report on a fire incident (usually related to an insurance claim)
- Request for assistance in review of plans and/or development consultation (hourly rate)
- Incurred extraordinary costs as a result of an incident (e.g. excavation/demolition equipment, security, fencing, investigation, damage to infrastructure, environmental abatement, and etc.)
- Paid duty (e.g. standby for hot-work)
- False-alarm responses (preventable and excessive)

GA recommends that the municipality pursue prosecution and seek fines for violations of the Fire Code, in accordance with the provisions in the *Fire Safety Act*.

Expenses

FIREFIGHTING OPERATIONS:

This category includes the same three groups as in the historical budgets. Some changes in budget line details are suggested from those prior budgeted amounts. The budget notes opposite each item briefly explain the reasons for changes. Further discussion on selected budget line items follows on the next few pages.

				PROPOSED	$ INC/(DEC)	+/-	NOTES
			2019-2020	2020-2021	ref 2019-2020	%	
25		**EXPENSES**					
26	**FIREFIGHTING OPERATIONS:**						
27	**APPARATUS:**						
28		Regular Maintenance	108,266	115,000	6,734	6%	Vehicles are aging and require more maintenance. Some annual and semi-annual inspection and testing is not currently being done.
29		Fuel	47,500	42,000	(-5,500)	-12%	Implement fuel saving program, eliminate unneeded idling
30		Major Repairs	27,833	30,000	2,167	8%	Increase to get Brooklyn E1 serviceable, designate as a reserve pumper
31		Annual Safety and Functional Inspections	14,867	14,000	(-867)	-6%	Legislated. Need to increase inspections to annual major and semi-annual minor
32		**sub-total:**	**198,466**	**201,000**	2,534	1%	
33	**EQUIPMENT:**						
34		SCBA Testing and Servicing	25,533	35,000	9,467	37%	Legislated: All SCBA, PPE, must be inspected and tested annually. Implement an annual fit-testing program for all firefighters.
35		Testing, Maintenance, & Repair	40,500	52,000	11,500	28%	Legislated: All fire hose must be tested annually. Standards requires testing of ladders, appliances annually.
36		Other	15,750	14,000	(-1,750)	-11%	Reduce unspecified other amounts
37		**sub-total:**	**81,783**	**101,000**	19,217	23%	
38	**COMMUNICATIONS:**						
39		Dispatch Services	41,367	40,000	(-1,367)	-3%	Valley Communications ($36,053.33 annual) Contract expires June/2020
40		Radio Testing, Maintenance, & Repair	11,000	25,440	14,440	131%	Radio equipment maintenance contract ($120/radio)
41		Pager Testing, Maintenance, & Repair		4,000			Pager servicing, approximately 20 per yr @ $200
42		**sub-total:**	**52,367**	**69,440**	17,073	33%	
43							
44		**TOTAL Firefighting Operations:**	**332,616**	**371,440**	38,824	12%	

Regular Maintenance: Repairs and maintenance should be done in accordance with the requirements in NFPA-1911[86], which is the industry benchmark and best practice. A certified Emergency Vehicle Technician should be servicing all the firefighting related components on the apparatus. The standard also requires certain testing be done annually, and different levels of condition assessments be done semi-annually. Not all fire apparatus is currently be inspected and tested to meet the standard.

[86] National Fire Protection Association; NFPA-1911, Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles.

GA recommends that one qualified and experienced fire apparatus maintenance service provider do all the servicing on all fire fleet vehicles.

Annual Safety and Functional Inspections: This is closely related to the regular maintenance of the fire apparatus. Safety inspections are mandated by the Province. Functional Inspections are done by a third-party fire apparatus inspector and these inspections verify/certify the condition of the powertrain, pump, foam system, and aerial ladder device; and that these components continue to meet their certified performance capabilities. Not all fire apparatus is currently being annually functional inspected by a third-party expert as is required.

SCBA Testing and Servicing: NS occupational health and safety legislation requires annual testing of all breathing equipment, and fit-testing of all persons who will be required to wear this equipment. Not all firefighters are being fit-tested and it is not clear that all equipment is being properly annually tested. A rigorous program is needed to ensure compliance. Increased costs are anticipated in meeting the regulations.

Equipment, Testing Maintenance and Repair: NS occupational health safety and safety legislation requires the annual inspection and testing of all fire hose and associated appliances in accordance with NFPA-1962[87]. It appears that this is not being done. Legislation also requires the annual inspection and testing of all ground-ladders[88] in accordance with NFPA-1932[89]. Neither of these inspection regimes is being consistently undertaken. Increased costs are anticipated in meeting the regulations.

Dispatch Services: The two contracts with Valley Communications expire in June 2020. A new contract will establish the final cost of this service.

[87] National Fire Protection Association; NFPA-1962, Standard for the Care, Use, Inspection, Service Testing, and Replacement of Fire Hose, Couplings, Nozzles, and Fire Hose Appliances.

[88] There are two basic categories of ladders used by the fire services. Aerial ladders are powered and mounted to a vehicle. Ground ladders are set on the ground and leaned against the structure. Ground ladders fall into many types (extension, roof, stay-pole, folding, combination, and etc.), but collectively all are called ground-ladders.

[89] National Fire Protection Association; NFPA-1932, Standard on Use, Maintenance, and Service Testing of In-Service Fire Department Ground Ladders.

Radio Testing Maintenance and Repair: The cost of purchasing radios, pagers, and associated batteries has been moved to Minor Capital. What remains is the cost of an annual service contract for the testing and maintenance of mobile, portable, repeater, and base station radios.

Pager Testing Maintenance and Repair: The cost of maintaining pagers is stated in its own budget line. Pager maintenance can either be done on a parts and labour basis or through a flat rate per pager repair service contract. The flat rate is generally more economical. Previous experience indicates that approximately 10% of pagers will need servicing in any given year.

OTHER OPERATIONAL EXPENSES

This category contains the same four groups as historical budgets. Some changes are suggested from the prior budgeted amounts. The budget notes opposite each item briefly explains the reasons.

				PROPOSED	$ INC/(DEC)	+/-	NOTES
			2019-2020	2020-2021	ref 2019-2020	%	
46	**OTHER OPERATIONAL EXPENSES:**						
47	**TRAINING:**						
48		Fire School	69,133	60,000	(-9,133)	-13%	NS Firefighter School (Waverley), third-party training, conventions and conferences
49		Medical First Responder Program	10,000	10,000	0	0%	MFR program in support of EHS
50		Seminars/Training Materials	16,767	16,000	(-767)	-5%	In-house training costs, reference/student materials
51		Travel/Meals/Misc Expenses	13,333	12,000	(-1,333)	-10%	Associated costs
52		**sub-total:**	**109,233**	**98,000**	(-11,233)	-10%	
53	**FIRE STATION:**						
54		Light & Power	52,853	52,000	(-853)	-2%	8 fire stations
55		Heating	30,000	32,000	2,000	7%	8 fire stations
56		General Maintenance	51,300	37,000	(-14,300)	-28%	General Maintenance of facilities (8 stations), water costs
57		Emergency Equipment M&R	8,950	9,000	50	1%	Backup Generator maintenance
58		Snow Removal/Grounds Keeping	38,767	31,000	(-7,767)	-20%	Competitive contract needed
59		Renovations and Large Repairs	41,663	35,000	(-6,663)	-16%	Unknown what is needed here, majority of costs is WFD share of Stephens building
60		Other	85,260	85,000	(-260)	-0%	Majority of this cost is WFD allocated share of the Stephens building
61		**sub-total:**	**308,793**	**281,000**	(-27,793)	-9%	

Fire School: Previously this category was termed Fire School Level I which was a misnomer. Courses taken at the Fire School include more than Level I, so the name has been changed to include all Fire School and third-party sourced training. Costs and travel are anticipated to be lower if the Fire School extension courses are used to bring more training to the Region instead of firefighters traveling to Waverley as often.

GA has not audited the current Fire School costs but would not be surprised if they also contain the cost of conventions and conferences, and other similar professional development events, since there is no pre-existing budget line for these items. If correct, then these costs should be broken out in future budgets for better tracking.

General Maintenance: The maintenance costs for the Windsor fire station are not broken out but are instead provided as a percentage of the entire WB Stephens building.

GA recommends that a better understanding be undertaken on Windsor fire station actual costs as part of a possible justification for a new facility. Water costs for serviced stations (Windsor, Hantsport) do not have a separate budget line and are therefore unknown.

Snow Removal/Grounds Keeping: It may be possible to reduce these costs by use of Regional staff and/or a negotiated contract for all fire/regional facilities that will lower costs.

Renovations and Large Repairs, and *Other*: These budget lines are significantly driven by the allocated costs for the Windsor fire station. The comment made under the General Maintenance budget line applies here as well.

ADMINISTRATION:

			2019-2020	PROPOSED 2020-2021	$ INC/(DEC) ref 2019-2020	+/- %	NOTES
62	**ADMINISTRATION:**						
63		Salaries: Full-Time, Part-Time	129,137	517,260	388,123	301%	Director/Chief (FT), Assistant Chief (FT), Admin Assist (FT), Inspector (1.5 FT), Div Chief (.75 PT), Stn Mtce (3.75 PT), Investigators (20% PT)
64		Benefits: Full-Time, Part-Time		94,784			25% of FT salary, 7.5% of PT
65		Volunteer Firefighter Honourarium	200,100	225,000	24,900	12%	Harmonization may increase costs
		Volunteer Benefits (WCB, AD&D, MFAP, off	48,385	85,146	36,761	76%	Volunteer WCB ($291.4x190); VFIS ($30k) for $200 AD&D, MFAP, 24/7 coverage for 100 ffs at $114, 50% copay.
66		Telephone	25,873	22,000	(-3,873)	-15%	Corporate phone rate?
67		Industry Canada Radio Licenses	1,060	9,400	8,340		Collected from various accounts. Fully licensed
68		Radio Lease (TMR), Cell Phones	38,167	38,000	(-167)	-0%	Radio lease (TMR $5000), and pager leasing, cell phone costs (details unknown).
69		Office Supplies	6,983	8,000	1,017	15%	Supply through corporate accounts
70		Publications/Subscriptions	33	2,000	1,967		NFPA subscription for the Fire Department
71		Memberships Professional Assn's	2,335	2,200	(-135)	-6%	FIANS ($350), FSANS ($40x8), CAFC ($280), NFPA ($225), CAFI ($550 for 10 members), MFCA ($50),
72		Legal/Audit fees	13,950	12,000	(-1,950)	-14%	Do not know what is currently in this account for highly variable historical value. There will be title search costs, prosecutor costs, court costs, society auditor fees
73		Bank fee/Interest	5,200	2,500	(-2,700)	-52%	Society costs. Benefits to a negotiated single provider?
75		Insurance: Liability/Fire/Theft/3rd Party	16,000	16,000	0	0%	Corporate 3rd party insurance, fire & theft. Fire Department individual liability insurance, fire & theft. Is there overlap currently?
76		Insurance: Vehicles	77,853	70,000	(-7,853)	-10%	Corporate fleet insurance should reduce costs. Coverage should be examined. Own risk/deductible can reduce costs
77		Computers and Software	14,527	10,000	(-4,527)	-31%	Includes software costs for I am Responding ($800pa)
78		Public Events	17,800	15,000	(-2,800)	-16%	Annual honours and service awards event. Parades
79		Fire Prevention	700	4,000	3,300	471%	Fire Prevention Week blitz, smoke alarm program
80		Other	31,150	30,000	(-1,150)	-4%	Has included WCB in past. This has been a catch-all account. Contents unknown. Costs need to be redistributed to specific accounts.
81		**sub-total:**	**629,253**	**1,163,290**	534,037	85%	

Salaries: Full-Time, Part-Time: All salaries for recommended positions associated with *Organizational Option #3* appear on this line as indicated in the budget notes. Currently there are staffing costs that includes the Windsor fire chief, a number of part-time maintenance staff who continue to work at the various fire stations in W/WH, and 1.5 fire-inspectors currently with Planning and Development. Please see **ORGANIZATION AND STAFFING** starting on page **83** for a full discussion on GA's recommendation for staffing.

Volunteer Firefighter Honourarium: GA is recommending that a fair and equitable honourarium policy be established that applies to all volunteer firefighters across the Region. The chart shown on page **295** suggests that the past practice may not be equitable.

GA recommends that a fair and equitable honourarium policy be established that applies to all volunteer firefighters across the Region.

Volunteer Benefits: This is a new budget line. It covers the cost of recommended volunteer firefighter benefits, some of which are available now to some of the firefighters, but not all, and there currently is variability in the amount of benefit provided.

GA recommends that the following benefits be provided by the municipality to all volunteer firefighters; Provincial Workers Compensation Benefits ($62k insured amount), VFIS AD&D and disability coverage ($200k on-duty principal amount, disability weekly $700 maximum), VFIS MFAP (member and family assistance program for mental health), VFIS 24/7 (off-duty accident and sickness, 50/50 co-pay with firefighter who subscribes).

Industry Canada Radio Licenses: There are federal fees associated with the use of the radio spectrum in Canada. The annual fee for portable and mobile radios is $40.80 per radio. Currently the fire departments in the region have 161 VHF radios and 38 TMR radios that require licensing. The annual fee for base stations and repeaters is $52.80 per frequency, meaning the minimum annual fee is $105.60, and likely more since every channel adds this amount to the fee, and W/WH fire departments use six VHF channels. It is our understanding there are 6 bases and 3 repeaters in W/WH.

It was not possible to identify the current costs for radio licensing since these costs were not broken out of the various places in the budget that they appeared to have been included. The benchmark budget calculates the costs based on known numbers of current radios.

TMR portable/mobile radios that were provided (seeded) to the fire departments by the province do not require licensing. That is provided by the province. Currently the fire departments have 54 seeded radios.

Radio Lease: The fire departments currently own an additional 38+/- TMR radios; in addition to those provided by the province. The annual access fee for using these on the TMR system is $120 per radio (approximate annual total $4,560). Also included is cell and pager lease costs. The details of these are unknown and should be examined for need and costs.

Memberships: It is important for the fire service to network and keep abreast of developments in the industry, many of which deal with developing liability and health/safety issues. Membership

in some key organizations is recommended: FIANS Fire Inspectors Association of Nova Scotia, FSANS Fire Services Association of Nova Scotia, CAFC Canadian Association of Fire Chiefs, NFPA National Fire Protection Association, CAFI Canadian Association of Fire Investigators, MFCA Maritime Fire Chiefs Association.

Legal Audit fees: This budget line likely previously included costs associated with the fire departments annual financial audit. Now included in this benchmark budget is costs related to issuing Orders and swearing of information/summons under the Fire Prevention Act related to Fire Code enforcement (for example; title searches, summons servers, prosecution services).

Insurance Vehicles: A corporate fleet coverage policy for all fire fleet/municipal fleet vehicles could secure savings vs several policies.

GA recommends that an insurance specialist be hired to review insurance policies and coverage options in order to prepare an RFP that obtains needed/desired coverage at best value. Self-insurance (i.e. deductible) risk assessments should be considered.

Computers and Software: Computer services are averaging over $10k annually. GA is uncertain if this is good value. Now included in this line is the annual subscription rate for "IamResponding" which is software/application that allows the volunteer firefighter to use their smart-phone to advise that they are responding to the incident. This is useful information for the incident commander and station officers.

Fire Prevention: Basic fire prevention activities has traditionally been done at the local level. Further support for these activities is needed and encouraged.

Administration; Other: Not all stations are contributing to this budget line, however some are contributing between 10% and 20% of their administration budget and one up to 40%. Fire departments should be encouraged to better discriminate funding needs.

Minor Capital Expense Needs

A review of the inventory of Minor Capital equipment in the fire departments of W/WH indicates there is a need to replenish a portion of these items on an annual basis. These items do not include large capital assets such as vehicles, buildings, and other long lasting and higher-dollar capital projects. They are instead smaller-cost, semi-durable, assets that would be counted in an assessment of current assets, but are on the other-hand of relatively short life span (less than +/-15 years) and of relatively low cost. This subject is first discussed on page **254** of this chapter.

A four-year average of recent W/WH expenditures on Minor Capital projects is $243,625 and this amount has been declining, with the 2019/20 contribution below the average.

GA recommends that expenditures on minor capital equipment be increased since they are currently below sustainable service-requirements.

						ANALYSIS			
		2016-2017	2017-2018	2018-2019	2019-2020	4-Year Total	4-Year AVG	3-Year AVG	2-Year AVG
82	MINOR CAPITAL:								
83	Fire/Rescue Equipment, PPE	181,218	252,630	259,823	225,831	919,502	229,875	246,095	242,827
84	Uniforms	14,500	17,000	12,000	11,500	55,000	13,750	13,500	11,750
85	**sub-total:**	**195,718**	**269,630**	**271,823**	**237,331**	974,502	243,625	259,595	254,577

GA recommends that the need for the purchase of minor capital items be evaluated on the basis of the required inventory of items (e.g. how many 2½-inch fire hoses are needed) and each items' expected life-span. Such an evaluation would reveal the needed replacement rate for all such items. Coupled with their current individual costs, it is possible to calculate an average minor capital expenditure demand for budgeting purposes. This analysis has been done; please see **Details of Minor Capital** starting on page **275**.

One of the big benefits of this annual minor capital replacement concept, for management and Council, is it facilitates a steady budget contribution on an annual basis, and thereby avoids a substantial increase in one budget year, to address a critical shortfall in equipment, followed by a corresponding drop the following year, an undesirable cycle that can be avoided.

For a specific example, firefighter protective clothing (PPE) costs about $2,000 per firefighter and has a maximum lifespan of 10 years, some components much less (e.g. gloves). There is a need to replace some of this every year to provide PPE for new firefighters and to replace expired or damaged gear. Largely, this is a very dynamic challenge and difficult to accurately plan.

There are two possible strategies to approach the need to replace PPE. One is to allow the demand for replacement/new PPE to build up as the current equipment is destroyed/ages, and also as new firefighters join; then apply through the budget process for a substantial capital budget item to replace large portions or all of the 190+/- sets needed. To replace all sets would cost approximately $380k, and would have to be approved as a first priority. The consequences of this strategy are a steady reduction in service as current gear expires or is no longer useable, and/or an increase in firefighter risk (municipal liability) as their PPE no longer does its job.

GA recommends that a number of bunker gear sets be purchased annually. Blanket purchasing contracts should be signed that permit the fire department to purchase/requisition annually, say over a 5 or 7-year period, estimated maximum/minimum numbers of firefighters' PPE components, at agreed prices. This strategy allows the fire department to quickly react to unplanned changes in the status of their critical PPE inventory and immediately take pre-approved action to address the need. It also smooths out large variations in the annual budgeting process.

The above recommended strategy should be applied to all minor capital equipment in the fire department. The same needs and advantages would apply.

DETAILS OF MINOR CAPITAL RECOMMENDATIONS

The spreadsheet analysis, that starts on the following page, shows the scope of minor capital needs and the annual estimated costs of applying the above recommended strategy. The spreadsheet shows ten years of projected spending, starting in the year 2020.

MINOR CAPITAL PAGE 1:

The following is an explanation of what is in this workbook,

- Column D is the life expectancy, in years, of the particular item.
- Column E is the recommended inventory, of the particular item, that the six W/WH fire stations should collectively have in service.
- Column F is the estimated individual cost of each item. Pricing may vary from that noted, and often better pricing is available when obtaining quotations from competing vendors for the same item, especially when group purchasing of standardized equipment, as a Region.
- Column G is the recommended quantity that, on average, should be purchased annually for each item. It is largely based on the inventory divided by the service life.
- Under each year column is a number opposite the items. These are the annual numbers of that item that GA proposes be purchased in that year. Some items are grouped in the same year, for example lines 53-56, because these items when purchased together form a system and will attract better pricing if purchased that way.

Annual Minor Capital Needs: (20-year projected)

A	B	C	D	E	F	G	Annual Average cost (2020 - 2039): $	316,160	+/- vs avg: Surplus / (-Deficit)									
	Station:	ALL STATIONS, REGION-WIDE			Estimated YEAR 2019 Costs for Items	+/- avg:	(-$27,160)	(-$10,900)	(-$6,660)	(-$920)	$4,136	$2,100	(-$5,260)	$3,800	(-$40,980)	$8,496
	2019 dollars					Annual $:	343,320	327,060	322,820	317,080	312,024	314,060	321,420	312,360	357,140	307,664
	Class	Item	Life	INV	Unit Cost	Ann'l QTY	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1	Respiratory:	SCBA Paks (Scott X3, 4.5, no botttle)(8	15	97	$ 6,500	6.5	7	6	7	6	7	6	7	6	7	6
2		SCBA Bottles (30 min, 4.5, carbon)	15	204	$ 1,600	13.6	13	14	13	14	13	14	13	14	13	14
3		SCBA Masks (AV-3000HT spares)	15	107	$ 600	3.2	3	3	3	3	3	3	3	3	3	3
4		PAPRs	7	4	$ 1,200	0.6	2	2						2	2	
5		Fit Tester	15	1	$ 17,000	0.1		1								
6		Cascade Bottles	15													
7		PASS Alarms (not integrated)	15													
8		Air Pak upgrade Kits	15	40	$ 3,000	2.7	3	3	3	3	3	3	3	3	3	3
9																
10					Class Sub-TOTAL:		79,500	91,600	77,100	72,200	77,100	72,200	77,100	74,600	79,500	72,200
11	Firefighting:	Ground Ladders, 40'	25	2	$ 2,100	0.1										1
12		Ground Ladders, 35'	25	6	$ 1,800	0.2					1					1
13		Ground Ladders, 24'	25	17	$ 1,300	0.7		1		1		1		1		1
14		Ground Ladders, 14'	25	34	$ 600	1.4			2			2			2	
15		1-1/2" hose (forestry, Mercedes Firebr	10	50	$ 225	5.0	5	5	5	5	5	5	5	5	5	5
16		1-3/4" hose (Kraken EXO, 50')	10	300	$ 325	30.0	30	30	30	30	30	30	30	30	30	30
17		2-1/2" hose (Kraken EXO, 50')	10	300	$ 460	30.0	30	30	30	30	30	30	30	30	30	30
18		3" hose	10	0												
19		4" hose (legacy)	10	0	$ 1,000											
20		5" hose (Mercedes MegaFlo, 100')	15	180	$ 1,150	12.0	12	12	12	12	12	12	12	12	12	12
21		Hard Suction Hose, 6"	25	26												
22		Hard Suction Hose, 5"	25	13												
23		Hard Suction Hose, 4"	25													
24		Hard Suction Hose, 2-1/2"	25	1												
25		Port-A-Tanks (3500 USAgal)	15	5	$ 3,000	0.3		1			1			1		
26		Drafting Equipment (misc.)	25		$ 1,500			1			1			1		
27		Portable Pumps, Large (CET)	7	1	$ 7,500	0.1		1		1						
28		Portable Pumps, Small (wildland)	15	2	$ 5,000	0.1			1							1
29		Portable Generators	20	11	$ 1,500	0.6				1				1		
30		Chain Saws	7	4	$ 3,000	0.6	1							1		
31		K-12 Saws	7	5	$ 3,000	0.7		1							1	
32		Forcible Entry Tools (misc.)	25		$ 350		1	1	1	1	1	1	1	1	1	1
33		Firefighting Nozzles	25	98	$ 975	3.9	4	4	4	4	4	4	4	4	4	4
34		Hose Appliances	25		$ 900		1	1	1	1	1	1	1	1	1	1
35		Ventilation Fans	15	6	$ 5,554	0.4					1					1
36		Firefighting Tools (misc.)	25		$ 500		1	1	1	1	1	1	1	1	1	1
37		Thermal Imaging Cameras	7	6	$ 10,000	0.9	3								6	
38		Rechargeable Flash Lights	7	74	$ 50	10.6	10	10	10	10	10	10	10	10	10	10
39		Floodlights, portable	10		$ 950		2		2		2		2		2	
40		Electrical Equip. (misc.)	10		$ 100		1	1	1	1	1	1	1	1	1	1
41		Foam Application equipment	15													
42		Deck guns	30	10	$ 3,500	0.3										
43		TIC Battery	5	7	$ 200	1.4	1	1	1	1	1	1	1			
44																
45					Class Sub-TOTAL:		79,825	61,225	53,025	55,225	58,679	47,425	46,825	55,025	110,825	60,479

MINOR CAPITAL PAGE 2:

	Class	Item	Life	INV	Unit Cost	Ann'l QTY	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
46	**Rescue:**	Hydraulic Power Unit	15	4		0.3										
47		Hydraulic Spreaders (edraulic)	20	4	$ 18,000	0.2										
48		Hydraulic Cutters (edraulic)	20	4	$ 15,500	0.2										
49		Hydraulic Ram (edraulic)	20	5	$ 11,000	0.3										
50		Hydraulic Combi-Tool (edraulic)	20	2	$ 16,000	0.1										
51		Hydraulic tools (misc.)	20			0.0										
52		Stabilization Struts (Rescue 42 kit)	20	4	$ 7,500	0.2				1				1		
53		Air Bags Large	20	4	$ 2,000	0.2						2				
54		Air Bags Small	20	4	$ 1,500	0.2						2				
55		Air Bag Controls	20	4	$ 1,500	0.2						2				
56		Air Bag Hoses	10	8		0.8			2			2			2	
57		Blocking/Cribbing (misc.)	25	6		0.2										
58		Hand Tools (misc.)	25		$ 500	0.0	1	1	1	1	1	1	1	1	1	1
59		AutoEx Tools (misc.)	15	1	$ 500	0.1	1	1	1	1	1	1	1	1	1	1
60		Rescue Rope (NFPA)	7	5	$ 400	0.7				4					4	
61		Utility Rope	7	6	$ 130	0.9				4					4	
62		Hi/Lo Angle Hardware (misc.)	10		$ 1,000	0.0				4					4	
63		Throw Bags	7	6	$ 75	0.9					2					2
64		Inflatable Rescue Boat (Oceanid RI	10	1	$ 7,500	0.1						1				
65																
66					Class Sub-TOTAL:		1,000	1,000	1,000	14,620	1,150	18,500	1,000	8,500	7,120	1,150
67	**PPE/Safety:**	Bunker Gear (Coat/Pants)	10	200	$ 2,500	20.0	20	20	20	20	20	20	20	20	20	20
68		Bunker Gloves	7	200	$ 125	28.6	30	30	30	30	30	30	30	30	30	30
69		Bunker Boots	10	200	$ 550	20.0	20	20	20	20	20	20	20	20	20	20
70		Helmets, firefighting	10	200	$ 400	20.0	20	20	20	20	20	20	20	20	20	20
71		Balaclavas	7	200	$ 100	28.6	30	30	30	30	30	30	30	30	30	30
72		Wildland Coveralls	10	100	$ 350	10.0	10	10	10	10	10	10	10	10	10	10
73		AutoEx Gloves	7	100	$ 85	14.3	10	10	10	10	10	10	10	10	10	10
74		Chemical Suits Level A (encap for	10	0	$ 1,850	0.0										
75		Chemical Suits Level B (encap, SC	10	0	$ 800	0.0										
76		Chemical Suits Level C (splash, SC	10	6	$ 200	4.0	4	4	4	4	4	4	4	4	4	4
77		HazMat Gloves (nitrile, box 12)	5	6	$ 30	8.0	8	8	8	8	8	8	8	8	8	8
78		HazMat Boots	5	0	$ 85	0.0										
79		Water Rescue Suits	10	15	$ 2,000	1.5	2	2	2	2	2	2	2	2	2	2
80		Water Rescue Helmets	10	15	$ 200	1.5	2	2	2	2	2	2	2	2	2	2
81		PFDs (rescue)	15	15	$ 500	1.0	2		2		2		2		2	
82		Rescue Helmets	10	3	$ 180	0.3		3		3		3		3		3
83		Rescue 5-point Harness	10	6	$ 450	0.6						6				
84		Ladder Belts	10	12	$ 350	1.2					4					8
85		Traffic Vests	10	100	$ 25	10.0	10	10	10	10	10	10	10	10	10	10
86		Traffic Control Equipment	10			0.0										
87		Traffic Cones (5 per vehicle to mee	15	155	$ 60	10.3	8	8	8	8	8	8	8	8	8	8
88		Accountability Equipment	15		$ 300	0.3	1			1			1			1
89		Incident Command (misc)	15		$ 1,500	0.3	1			1			1			1
90		Helmet lights	7	50	$ 75	7.1	3	3	3	3	3	3	3	3	3	3
91																
92					Class Sub-TOTAL:		89,295	87,035	87,495	88,835	88,895	89,735	89,295	87,035	87,495	91,635

MINOR CAPITAL PAGE 3:

	Class	Item	Life	INV	Unit Cost	Ann'l QTY	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
93	**Haz-Mat:**	Gas Detection (1 per station plus 1 s	7	7	$ 3,000	1.0			1				7			
94		Overpak Drums/Pails	15			0.0										
95		Decon Equipment	10			0.0										
96		Leak Kits	15			0.0										
97		Tents	10			0.0										
98																
99					Class Sub-TOTAL:		-	-	3,000	-	-	-	21,000	-	-	-
100	**Communica**	Portable Radios (TMR)	10	160	$ 3,500	16.0	20	20	20	20	20	20	20	20	16	16
101		Portable Radios (VHF, MARINE)	10	6	$ 1,500	0.6					3					
102		Radio Batteries (portabe radios)	4	166	$ 100	41.5	48	48	48	48	48	48	48	48	48	48
103		Mobile Radios (TMR)	25	31	$ 4,500	1.2										
104		Mobile Radios (VHF MARINE)	25	6	$ 900	0.2										
105		Base Radios (TMR, 1 per station)	25	6	$ 4,500	0.2										
106		Repeater Radios (VHF paging)	20	3	$ 10,000	0.2										1
107		Radio Towers (small)	30		$ 75,000	0.0										
108		Pagers	7	215	$ 600	30.7	24	24	24	24	24	24	24	24	24	24
109		Fax Machines	7		$ 300	0.0										
110		Modems	5			0.0										
111		Routers	5			0.0										
112		Hubs, etc.	5			0.0										
113		Pager batteries	3	190	$ 30	63.3	60	60	60	60	60	60	60	60	60	60
114					Class Sub-TOTAL:		86,200	86,200	86,200	86,200	86,200	86,200	86,200	86,200	72,200	82,200
115	**Medical:**	AEDs	5	10	$ 1,500	2.0										
116		Oxygen Equipment	5			0.0										
117		Backboards	25		$ 300	0.0										
118		Stokes Baskets (1 per aerial)	25	3	$ 1,000	0.1								1		
119		Medical **Equipment** (misc.)	5			0.0										
120																
121					Class Sub-TOTAL:		-	-	-	-	-	-	-	1,000	-	-
122	**Station Equ**	Shop Tools (misc.)	20			0.0										
123		Computers and Accessories	5		$ 2,500	0.0	1									
124		Furniture	25		$ 200	0.0										
125		Extractor/Washers for PPE (1 per s	20	6	$ 15,000	0.3			1							
126		Bunker Gear Dryers (2 per station)	20	12	$ 2,500	0.6										
127		Pressure Washers	20		$ 500	0.0										
128		Hose Washers (one for Region)	20	1	$ 15,000	0.1										
129		Hose Testers (one for Region)	20	1	$ 5,000	0.1	1									
130		File Cabinets	30			0.0										
131		Flammable Liquids Cabinets	30			0.0										
132		Battery Chargers	15		$ 200	0.0										
133		Utility Air Compressors	15		$ 3,000	0.0										
134		Exhaust Extractor Misc.	10			0.0										
135																
136					Class Sub-TOTAL:		7,500		15,000							

Based on our analysis, minor capital purchases have been underfunded over the past four years. The workbook actually extends out to the year 2039 (not shown) and produces a 20-year average

of $316k; i.e. the amount of sustainable funds needed annually (in 2019 dollars) for minor capital purchases.

GA recommends that $300k (2019 dollars) be the target as a long-term plan for annual minor capital budgeting, until experience proves this is/not sufficient. However, as shown in the workbook that requirement for funds appears to be front-end loaded based on the expressed current needs of the fire departments. In the short term, Council may want to consider a temporary increase in that amount for the first three years. The benchmark budget shows $340k in 2020/21 for this reason.

GA recommends that the Director of Public Safety/Fire Chief manage the purchasing of minor capital equipment, for several reasons. With advice from the District Chief Management Committee he should set priorities on what equipment will be purchased that year.

GA recommends that the Director of Public Safety/Fire Chief have discretionary powers to make adjustments, within the approved minor capital budget total, to annually determine the exact mix of minor capital purchases according to immediate need. In this way, the fire department will be able to more quickly reset priorities as equipment is lost or damaged during the year or after a major fire/incident, balanced with other equipment expiry deadlines.

GA recommends that any surplus minor capital funds at the end of the fiscal year (if any) be placed into a revolving reserve account for the future purchase of minor capital equipment.

GA recommends that the surplus minor capital revolving reserve account have a set maximum amount of approximately $100,000. If in any given future year there is an unprecedented or emergency need to make minor capital purchases and there are insufficient budgeted funds, a mechanism should be in place for the Director of Public Safety/Fire Chief to request Council to release additional funds to cover the need.

The regional fire chief should manage the purchasing process. In this way municipal purchasing procedures will be followed, region-wide purchasing of standardized equipment will occur, and best value for public funds should result.

The following shows the minor capital benchmark budget recommendation.

				PROPOSED	$ INC/(DEC)	+/-	NOTES
			2019-2020	2020-2021	ref 2019-2020	%	
82	**MINOR CAPITAL:**						
83		Fire/Rescue Equipment, PPE	225,831	330,000	104,169	46%	Reference the Minor Capital budget forecast
84		Uniforms	11,500	10,000	(-1,500)	-13%	
85		**sub-total:**	**237,331**	**340,000**	102,669	43%	

Long Term Debt

The benchmark budget carries-forward the existing debt servicing amounts. The details of the debts were not investigated, so it is not reported here when they will be cleared.

				PROPOSED	$ INC/(DEC)	+/-	NOTES
			2019-2020	2020-2021	ref 2019-2020	%	
89	LONG-TERM DEBT PAYMENTS:						
90		Principle	797,627	797,000	(-627)	-0%	Outstanding debt servicing
91		Interest	169,309	170,000	691	0%	Outstanding debt servicing
92		Long Term Debt	107,737	107,700	(-37)	-0%	Outstanding debt servicing
93		**Total Long Term Debt:**	**1,074,673**	**1,074,700**	27	0%	

Major Capital Needs

As shown in the snapshot on page **261**, the four-year average of recent W/WH direct expenditures on Major Capital projects is $145,619, and this amount has been declining, with the 2019/20 contribution at $28,650. In part, this variability is due to the nature of capital projects; they do not necessarily reoccur annually and some can be very costly. In addition, the municipal consolidation's spending freeze has undoubtably affected current spending.

Replacing Fire Trucks

One recurring demand for capital monies is the purchase of fire apparatus and utility vehicles. Once the requirement to have particular types of fire apparatus/support vehicles, and the number thereof is determined, it becomes possible to project into future years the capital funding demands for their replacement. This means, there is the opportunity to plan for the upcoming expenditures, to know fairly accurately what the costs will be, and to decide the funding strategy by which the capital demands will be met.

A brief discussion on fire apparatus replacement criteria will assist with understanding GA's budget recommendations on this subject.

A review of the current state of major fire department assets in W/WH shows a need to replace vehicles (fire apparatus) on a regular schedule that meets needs and best practices. NFPA-1911[90] recommends;

> "In the last 10 to 15 years, much progress has been made in upgrading functional capabilities and improving the safety features of fire apparatus. Apparatus more than 15 years old might include only a few of the safety upgrades required by the recent editions of the NFPA fire department apparatus standards … It is recommended that apparatus more than 15 years old that have been properly maintained and that are still in serviceable condition be placed in reserve status; be upgraded in accordance with NFPA-1912; and incorporate as many features as possible of the current fire apparatus standard (see Section D.3). This will ensure that, while the apparatus might not totally comply with the current editions of the automotive fire apparatus standards, many of the improvements and upgrades required by the current editions of the standards are available to the fire fighters who use the apparatus."

NFPA-1911 goes on to say that the original purchase of good quality, with good ongoing maintenance, and periodic upgrading to keep pace with safety and function improvements, can extend apparatus serviceable life somewhat.

[90] National Fire Protection Association; NFPA-1911, Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles, 2017 edition; Annex D.1

The other major arbiter of fire apparatus age and condition is the Fire Underwriters Survey (FUS), who published[91] the following guidance table;

Table 1 Service Schedule for Fire Apparatus For Fire Insurance Grading Purposes

Apparatus Age	Major Cities [3]	Medium Sized Cities [4]	Small Communities [5] and Rural Centres
0 – 15 Years	First Line Duty	First Line Duty	First Line Duty
16 – 20 Years	Reserve	2nd Line Duty	First Line Duty
20 – 25 Years [1]	No Credit in Grading	No Credit in Grading *or* *Reserve [2]*	No Credit in Grading *or* *2nd Line Duty [2]*
26 – 29 Years [1]	No Credit in Grading	No Credit in Grading *or* *Reserve [2]*	No Credit in Grading *or* *Reserve [2]*
30 Years +	No Credit in Grading	No Credit in Grading	No Credit in Grading

[1] All listed fire apparatus 20 years of age and older are required to be service tested by recognized testing agency on an annual basis to be eligible for grading recognition. (NFPA 1071)

[2] Exceptions to age status may be considered in a small to medium sized communities and rural centres conditionally, when apparatus condition is acceptable and apparatus successfully passes required testing.

[3] Major Cities are defined as an incorporated or unincorporated community that has:
- *a populated area (or multiple areas) with a density of at least 400 people per square kilometre; AND*
- *a total population of 100,000 or greater.*

[4] Medium Communities are defined as an incorporated or unincorporated community that has:
- *a populated area (or multiple areas) with a density of at least 200 people per square kilometre; AND/OR*
- *a total population of 1,000 or greater.*

[5] Small Communities are defined as an incorporated or unincorporated community that has:
- *no populated areas with densities that exceed 200 people per square kilometre; AND*
- *does not have a total population in excess of 1,000.*

FUS is the organization that conducts detailed surveys of municipal fire protection capabilities for the purposes of recommending fire protection grades to the insurance industry. FUS recommendations are highly regarded as a consistent yardstick for comparison to past and future capabilities in fire protection, and their conclusions (ratings) can affect fire insurance costs for individual property owners.

It is clear that both NFPA and FUS consider 15 years as the maximum front-line serviceable age of fire apparatus. However, FUS does recognize that low incident volumes, quality purchases, and good maintenance, proved by testing, can extend the front-line serviceable age to 20 years, followed by up to 5 years in reserve for smaller communities. Front-line means that the apparatus is relied on to be a mainstay for fire protection. Reserve means that it is not so relied on, but can periodically step into a front-line role when needed (e.g. as a maintenance spare).

[91] Fire Underwriters Survey/OPTA, Technical Bulletin, Insurance Grading Recognition of Used or Rebuilt Fire Apparatus, 2014.

GA recommends that the following fire apparatus replacement schedule be adopted for the purposes of determining fire apparatus suitability for continued service and as a budget planning tool for fire apparatus replacement.

RECOMMENDED SERVICE LENGTH FOR FIRE APPARATUS

Type	Condition	Max Age	Service
Pumper	Purchased to NFPA-1901 standard, certified and periodically tested in accordance with FUS/ULC	20 years	First-line duty
Pumper	Purchased to NFPA-1901 standard, certified and periodically tested in accordance with FUS/ULC	25 years	Reserve use
Aerial/Quint	Purchased to NFPA-1901 standard, certified and periodically tested in accordance with FUS/ULC	20 years	First-line duty
Aerial/Quint	Purchased to NFPA-1901 standard, certified and periodically tested in accordance with FUS/ULC	25 years	Reserve use
Rescue	Purchased to appropriate portions of NFPA-1901 standard	25 years	First-line duty
Rescue	Purchased to appropriate portions of NFPA-1901 standard	30 years	Reserve use
Utility vehicles	Light duty chassis	15 years	First-line duty
Utility vehicles	Light duty chassis	20 years	Reserve use
All other vehicles/apparatus	RTV, rescue boat, trailers, etc.	Case-by-case basis	First-line duty or reserve

Currently there are in service in the fire departments of W/WH the following numbers of fire apparatus and utility vehicles;

CURRENT APPARATUS INVENTORY AND ASSIGNMENT

Station	Pumper	Tanker *	Aerial	Rescue	Utility	RTV	Boat
Windsor	3	1	2	1	2	1	1
Hantsport	2	1	0	1	2	0	0
SWH	0	1	0	1	0	0	0
Brooklyn	2	1	1	1	1	1	0
TMP	2♦	1	0	0	1	0	0
Summerville	1	2	0	0	1	1	1
Totals:	**10**	**7**	**3**	**4**	**7**	**3**	**2**

***** All current tankers have large pumps, equivalent to that of a pumper
♦ One of these pumpers is currently out of service

Several of the existing vehicles are long past their replacement need, both in age and condition. Both aerials in Windsor should no longer be in the fleet. One has an aerial device failure (structural) and will not pass the aerial device certification inspection. The other has a pump that

will not pass ULC[92] testing and is no longer certified. One of these aerials is 35 years old and the other is 30 years old. Both manufacturers are long out of business and the aerials are obsolete.

Brooklyn has a pumper that is out of service for mechanical reasons (unspecified) and is also 32 years old. It is currently parked at the Three Mile Plains station, and is shown on their inventory in the table just above.

In total, there are six vehicles that require immediate replacement based on their serviceability and/or their age. These include an aerial, three pumpers, and two rescues. In addition to these six;

GA recommends that Windsor's other aerial (ALF) be scrapped without direct replacement (more on that later) and an unsuitable wildland/urban interface pumper be sold.

GA recommends for the future, the following numbers and types of **first-line duty** fire apparatus allocations. These numbers can be accomplished through attrition as current apparatus age-out.

RECOMMENDED FIRST-LINE DUTY FIRE APPARATUS AND ASSIGNMENT

Station	Pumper	Pumper/Tanker	Quint	Aerial	Rescue	Utility	RTV	Boat
Windsor	2	1	0	1	1	2	1	1
Hantsport	1	1	1	0	1	1	0	0
SWH	1	1	0	0	0	0	0	0
Brooklyn	2	1	0	0	1	1	1	0
TMP	1	1	0	1	0	1	0	0
Summerville	1	1	0	0	1	1	1	1
Totals:	**8**	**6**	**1**	**2**	**4**	**6**	**3**	**2**

GA recommends that two older (no longer first-line) pumpers and a tanker be kept serviceable/operational as maintenance reserves. The purpose of reserves is to temporarily replace apparatus that are out of service for a day or more. They will also remain available for major incidents. The recommended capital budget reflects all of the above dispositions.

[92] Underwriters Laboratories of Canada, CAN/ULC-S515 Standard for Automobile Fire Fighting Apparatus. All new fire apparatus equipped with a fire pump must pass the ULC acceptance tests. Other ULC tests are applied to other fire apparatus types (e.g. aerial apparatus). Two types of in-service tests are also required. An annual in-service test and inspection. When new or after a rebuild the pump/aerial/systems require a full performance test. Aerials require a detailed NDE test/inspection ever 5-years.

GA recommends that a reserve pumper be placed in Brooklyn and Windsor stations, and the reserve Tanker be placed in Summerville.

More specific information on the recommended fire apparatus can be found in the Operations chapter of this report.

Other Capital Needs

There are a number of proposed new facility, and facility repair, demands on Capital funds. The main one is the replacement of the Hantsport fire station at $2,620,800. As part of this review GA has not examined in detail the need for a new fire station in Hantsport but concur with the justifications as presented to previous West Hants Council. This project should proceed when funds are available.

DETAILS OF MAJOR CAPITAL RECOMMENDATIONS

Starting on the next page are snapshots of the recommended benchmark Major Capital budget projection for the years 2020-2039. The projections are based on requested facility and equipment needs, and the calculated needs for the scheduled renewal of the fire apparatus fleet.

Overall, capital requirements are largely driven by fire apparatus replacements, but another major item in 2020 is the Hantsport fire station replacement. The total projected capital funds requirement for 2020, if every project was to proceed, is estimated at $6.794 million. The cash-flow for all capital expenditures would not all occur in the budget year as some projects would carryover into 2021 or possibly 2022.

The peak in 2020 is almost entirely a result of the pent-up need for fire apparatus replacement and the proposed Hantsport fire station. There are several smaller capital maintenance and health and safety related projects in 2020 as well. After 2020, the annual average capital demand is $660k, which includes a projected revenue of $200k in 2023 with the sale of a surplus pumper.

GA recommends an annual contribution of approximately $650k to a fire capital reserve fund to reduce the annual capital fluctuations in the fire department budgets to a minimal amount.

Adequate reserve funds would greatly reduce the need to debenture these predictable capital costs, thereby reducing the overall cost of capital purchases.

Major Capital Forecast

Starts on the next page.

Annual MAJOR Capital Needs: (20-year projected)

Recommendations - All Stations

TOTAL By Decade ($k):

Total 2020-2029:	$ 11,248
Total 2030-2039:	$ 8,090

2018 dollars

20-year Avg: $ 967

Avg 20214: $ 693

<<< Annual Totals ($k) >>>

	Class	Station	New Item Description	Replacing Current Item	Remarks	Justification	Estimated Costs for Items (2018 $) Unit Cost	6,795	654	1,194	1,000	780	30	20	90	505	90	154	750	-	780	-	3,070	3,070	50	-	216
								2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
1	Apparatus	Windsor	Standard Aerial specification	**A4:** Aerial Platform; King/King/Snorkel (1984)	Large quantities of industrial, mixed commercial, and old stock homes/apartment conversions require quick access to aerial capability. Narrow streets, urban wiring, building size and setbacks require 110' ladder format.	Replace A4 (OOG pump failure). Current is well past end of front line service life (20 years) and reserve life (5 years). Current truck not justified for refurbishment. RETIRE CURRENT Chassis and aerial are no longer produced, company is long out of business.	$1,350,000	1																		
2	Apparatus	Windsor	Do not replace.	**A8:** Aerial Ladder; American LaFrance/American LaFrance/American LaFrance (1989)	Second aerial device in Windsor is no longer justified with Aerial/Platform now in Brooklyn and recommended Quint in Hantsport	A8 (OOG with ladder failure) and well past end of front line service life (20 years) and reserve life (5 years). Not justified for refurbishment. RETIRE CURRENT Chassis and aerial are no longer produced, company is long out of business. Aerial device was modified/refurbished before purchased second-hand.	(-$1,000)		-1																	
3	Apparatus	Windsor	Standard Pumper specification	**P6:** Pumper; E-One/Superior (2000)	Town is extensively hydrant serviced so smaller tank allows more equipment to be carried	Replacement at end of front line service life (20 years). Transfer to reserve	$750,000	1																		
4	Apparatus	Windsor	Standard Pumper-Tanker specification	**PT2:** Pumper-Tanker; International/Superior (2003)	Tanker primary mission. Can operate as a pumper when needed for large fires or secondary incidents	Replacement at end of front line service life (20 years). Transfer to reserve	$780,000				1															
5	Apparatus	Windsor	Standard rescue chassis specification. Refurbish rescue body, modernize lighting, hydraulic generator, scene lighting.	**R8:** Rescue; International/Lantz (1991)	**Regional** Heavy Rescue resource and support vehicle for the municipality; in addition to local use	Chassis beyond 25 year end of life. Refurbishment of body with new chassis is economical solution to still needed function.	$225,000				1															
6	Apparatus	Windsor	Standard Pumper specification (Rural)	**P1:** Pumper; E-One/Superior (1993)	Extensive non-hydranted response area surrounds town and requires larger water tank on first due pumper.	Replacement, well beyond its end of front line service life (20 years). Retire (too old for reserve)	$760,000	1																		
7	Apparatus	Windsor	Standard specification pickup, 4x4, plow package, bed fuel tank	**SSV8:** Utility; Dodge Ram 4x4 crew cab pickup (2008)	Utility, towing, hose carrying, equipment hauler, personnel hauler, emergency refueling of apparatus, plow can be added in future when needed.	Replacement at end of life (15 years) Personnel and equipment transport, and local operations support	$90,000				1															
8	Apparatus	Windsor	SUV (suburban) or passenger van, gasoline, AWD, 7+ seats	**V7:** Utility; Chev passenger van 2WD (2008)	**Regional** Personnel transport	Replacement at end of life (15 years)	$45,000				1															
9	Apparatus	Windsor	Do not replace. Sell	**P11:** Pumper-WUI; International/Superior (2005)	Current vehicle is not a well configured vehicle. Very hard to work from, impracticable, tank too small, 4x4, does not carry adequate pumper equipment.	Underutilized in current format. Replacement at or before end of front line service life (20 years). Recommend Sell asap while still has residual value	(-$200,000)				-1															
10	Apparatus	Windsor	Similar to current capabilities. Re-evaluate as replacement time approaches	**RTV;** Kubota off-road vehicle, tracked (2011)	Local and **Regional** off-road support	Replacement at end of life (25 years)	$50,000																	1			
11	Apparatus	Windsor	Similar to current capabilities. Re-evaluate as replacement time approaches	**Rescue Boat:** Zodiac inflatable (2005)	Inflatable boats degrade causing leaks and inflation failures and are not economically repairable. **Regional** water rescue support.	Replacement at end of life (15 years) Condition may need assessment for shorter/longer life expectancy. Outboard motor is separate issue and may last longer. Cost not included	$40,000	1																		
12	Apparatus	Hantsport	Standard specification pickup, 3500, diesel, SRW, 4x4, plow package, bed fuel tank	**R32:** Utility; Dodge Ram 3500 4x4 (2008)	Utility, towing, hose carrying, equipment hauler, personnel hauler, emergency refueling of apparatus, plow can be added in future when needed.	Replacement at end of life (15 years) Personnel and equipment transport, and local operations support	$90,000				1															
13	Apparatus	Hantsport	Standard rescue chassis specification. Refurbish rescue body, modernize lighting, hydraulic generator, scene lighting.	**R31:** Rescue; Freightliner M2/Lantz (2016)	**Regional** SCBA support unit, local use rescue	Replace chassis at end of life (25 years). Refurbishment of body with new chassis is economical solution to still needed function.	$190,000																			1
14	Apparatus	Hantsport	Standard Pumper specification (Rural)	**E12:** Pumper; Pierce Saber/Pierce (2015)	Significant rural areas (as well as intown hydranted areas) requires a larger water tank on first due engine	Replacement at end of front line service life (20 years). Transfer to reserve	$760,000																1			
15	Apparatus	Hantsport	Standard Pumper-Tanker specification	**T21:** Tanker-Pumper; Peterbilt/Superior (2013)	Tanker is primary mission. Can operate as a pumper when needed for large fires or second incidents	Replacement at end of front line service life (20 years). Transfer to reserve	$780,000														1					

				TOTAL By Decade ($k):																												
				Total 2020-2029:	$ 11,248																											
				Total 2030-2039:	$ 8,090																											
							Estimated Costs for Items (2019 $)	<<< Annual Totals ($k) >>>																									
								6,796	654	1,194	1,090	780	30	20	90	605	60	154	750	-	780	-	3,070	3,070	50	-	216
	Class	Station	New Item Description	Replacing Current Item	Remarks	Justification	Unit Cost	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
16	Apparatus	Hantsport	Standard Quint specification	**E11:** Pumper; E-One/E-One (2002)	Industrial and old stock homes/apartment conversions require quick access to aerial capability Quint provides pumper capabilities with secondary capability as an aerial equipped vehicle	Replacement at end of front line service life (20 years). Transfer to reserve. Replaces Windsor A8 aerial capability Replaces Hantsport E11 pumper	$1,000,000			1																				
17	Apparatus	Hantsport	Do not replace, sell/scrap	**O&U32:** Utility; Ford F-150 (2004)	Not required	Retire at end of life (15 years); beyond that point now	(-$1,000)	1																				
18	Apparatus	SWH	Standard Pumper-Tanker specification	**E14:** Pumper/Tanker; Freightliner SD/Pierce (2015)	Tanker is primary mission. Can operate as a pumper when needed for large fires or second incidents	Replacement at end of front line service life (20 years). Transfer to reserve	$780,000																1				
19	Apparatus	SWH	Mid-Pumper/Rescue standard specification	**R33:** Rescue; Ford F450/Lantz (2001)	A smaller yet capable pumper is required for access to narrow cottage roads and private lanes. Paired with the pumper-tanker it will be a potent first strike capable combination until further assistance can arrive **Regional** support for severe weather and wildland/off-road firefighting support	Large tracts of difficult access cottage country with access challenges, especially in winter/spring. There is an immediate need for this vehicle. Assign current truck to reserves	$650,000		1																		
20	Apparatus	Brooklyn	Standard Pumper specification	**P1:** Pumper; Ford/Hub (1997) OOG-unspecified mechanical issues	Although Brooklyn district is un-hydranted, the increased compartment capacity is needed for fire/rescue equipment	Replacement at end of front line service life (20 years). Too old to Transfer to reserve Sell/Scrap	$750,000	1																		
21	Apparatus	Brooklyn	Standard Pumper specification (Rural)	**B8:** Pumper; Pierce/Pierce PUC (2016)	Significant rural areas requires a larger water tank on first due engine	Replacement at end of front line service life (20 years). Transfer to reserve	$760,000																	1			
22	Apparatus	Brooklyn	Standard Pumper-Tanker specification	**PT4:** Pumper-Tanker; American LaFrance/American LaFrance (2004)	Tanker is primary mission. Can operate as a pumper when needed for large fires or second incidents	Replacement well past end of front line service life (20 years) and reserve life. Not justified for refurbishment. Chassis is no longer produced, company is long out of business.	$780,000					1														
23	Apparatus	Brooklyn	Standard rescue chassis specification. New rescue body, **Regional** command support	**R5:** Utility; Dodge 550/Lantz (2010)	A 12 foot rescue body outfitted as a **Regional** Command support primary role can also be multi-role for Brooklyn for local use.	Replacement at end of life (15 years) **Regional** Command Support	$500,000									1										
24	Apparatus	Brooklyn	Standard Aerial specification, addition of platform	**Tower6:** Aerial Platform: Pierce/Pierce (2016)	The main use of this vehicle is for rescue from high buildings and firefighter access to the roof or upper floors of large/tall buildings. Tertiary use is as a water tower	Replacement at end of front line service life (20 years). Transfer to reserve	$1,500,000																	1			
25	Apparatus	Brooklyn	Standard specification pickup, 3500, diesel, SRW, 4x4, plow package, bed fuel tank	**R7:** Utility; Dodge Ram 3500 (2015)	Utility, towing, hose carrying, equipment hauler, personnel hauler, emergency refueling of apparatus, plow can be added in future when needed.	Replacement at end of life (15 years) Personnel and equipment transport, and local operations support	$90,000										1									
26	Apparatus	Brooklyn	Do not replace, transfer to reserves	**PT2:** Pumper-Tanker; Freightliner/LRB (2002)	A third pumper or a second tanker is not required if stations coordinate responses Manning is insufficient to operate this vehicle.	At end of front line service life (20 years). Transfer to reserve	$0			1																
27	Apparatus	Brooklyn	Similar to current capabilities. Re-evaluate as replacement time approaches	**RTV8:** Polaris off-road vehicle (2015)	Local and **Regional** off-road support	Replacement at end of life (25 years)	$26,000																				1
28	Apparatus	TMH	Standard Pumper specification	**B8:** Pumper; Pierce/Pierce (2015)	Large part of response area is hydrant serviced so smaller tank allows more equipment to be carried	Replacement at end of front line service life (20 years). Transfer to reserve	$750,000																1				
29	Apparatus	TMH	Standard Pumper-Tanker specification	**PT10:** Pumper-Tanker; Freightliner/Pierce (2015)	Tanker is primary mission. Can operate as a pumper when needed for large fires or second incidents	Replacement at end of front line service life (20 years). Transfer to reserve	$780,000																1				
30	Apparatus	HMH	Standard specification pickup, 3500, diesel, SRW, 4x4, plow package, bed fuel tank	**R11:** Utility; Dodge Ram 3500/Lantz (2015)	Utility, towing, hose carrying, equipment hauler, personnel hauler, emergency refueling of apparatus, plow can be added in future when needed.	At end of life (15 years), transfer to reserves	$90,000										1									
31	Apparatus	Summerville	Standard Pumper specification (Rural)	**P1:** Pumper; Freightliner/Fort Gary (2016)	Significant rural areas requires a larger water tank on first due engine	Replacement at end of front line service life (20 years). Transfer to reserve	$760,000																	1			

				TOTAL By Decade ($k):																															
				Total 2020-2029:	$	11,248																													
				Total 2030-2039:	$	8,090																													

Fire Apparatus:

In date and priority order, the following table lists the recommended fire-fleet capital projects over the next 20 years (2002-2039). The details for each item are shown on the spreadsheet on the previous three pages.

GA recommends the following table of scheduled fire apparatus replacements.

FIRE APPARATUS RECOMMENDED REPLACEMENTS, 2020-2039

Item	Cost ($2019)	Budget Year
Replace Windsor Aerial-4 with new standard aerial	$1,350,000	2020
Replace Brooklyn Pumper-1 with new standard pumper	$750,000	2020
Replace Windsor Pumper-1 with new standard pumper (rural)	$760,000	2020
Replace Windsor Pumper-5 with new standard pumper	$750,000	2020
Replace Summerville Rescue-4 with new standard chassis and new rescue body	$400,000	2020
Replace Windsor rescue boat with new Zodiac inflatable	$40,000	2020+
Replace SWH Rescue-33 with new standard midi-pumper/rescue	$650,000	2021
Replace Hantsport Engine-11 with new quint	$1,000,000	2022
Replace Windsor Pumper-Tanker-2 with new standard pumper-tanker	$780,000	2023
Refurbish Windsor Rescue-6, new standard chassis, refurbish rescue body	$225,000	2023
Replace Windsor SSV-9 with new standard utility	$90,000	2023
Replace Windsor V-7 with new passenger carrying SUV/van	$45,000	2023
Replace Hantsport R-32 with new standard utility	$90,000	2023
Replace Summerville rescue boat with new Zodiac inflatable	$60,000	2023+/-
Replace Brooklyn Pumper-Tanker-4 with new standard pumper-tanker	$780,000	2024
Summerville new standard utility	$90,000	2027
Replace Brooklyn Rescue-5 with new rescue body on new standard chassis	$500,000	2028
Replace Brooklyn Rescue-7 with new standard utility	$90,000	2029
Replace TMP Rescue-11 with new standard utility	$90,000	2030
Replace Summerville Tanker-2 with new standard pumper-tanker	$750,000	2031
Replace Hantsport Tanker-21 with new standard tanker-pumper	$780,000	2033
Replace Hantsport Engine-12 with new standard pumper (rural)	$760,000	2035
Replace SWH Engine-14 with new standard tanker-pumper	$780,000	2035
Replace TMP Squad-9 with new standard pumper	$750,000	2035
Replace TMP Pumper-Tanker-10 with new standard pumper-tanker	$780,000	2035
Replace Windsor RTV with new similar tracked off-road vehicle	$50,000	2036
Replace Brooklyn Squad-3 with new standard pumper (rural)	$760,000	2036
Replace Brooklyn Tower-6 with new standard aerial, platform version	$1,500,000	2036
Replace Summerville Pumper-1 with new standard pumper (rural)	$760,000	2036
Replace Summerville RTV with new similar tracked off-road vehicle	$50,000	2037
Refurbish Hantsport Rescue-31, new standard chassis, refurbish rescue body	$190,000	2039
Replace Brooklyn RTV-8 with new similar off-road vehicle	$26,000	2039
Fire Apparatus/Utility Vehicles 20-year Total:	**$16,476,000**	

Other Projects:

GA recommends that the Regional fire departments standardize on the heavy hydraulic equipment purchased and utilized.

GA recommends that Hurst eDRAULIC equipment be utilized exclusively. The major advantage of standardization is the training of firefighters on only one system, thereby improving the interoperability between departments at major incidents.

GA recommends that not every station needs a full set of heavy hydraulic equipment. See more detail on this subject on page **228**.

GA recommends that Windsor's rescue truck be designated as the Regional heavy rescue support apparatus, and be provisioned with multiple hydraulic rescue tools. All other stations should have a more modest set of hydraulics.

Standardization on Hurst eDRAULICS is recommended because they are battery powered. This eliminates the cost of a hydraulic power unit (pump) and the ongoing maintenance costs and safety concerns of the associated hydraulic hoses. eDRAULICS are also more powerful and versatile. Finally, eDRAULICS take considerably less compartment space on fire apparatus, and thereby increase the efficiency of the trucks to carry other equipment.

As part of this initiative, the following purchasing schedule is recommended and included in the Major Capital budget recommendation. Details are provided in lines 38-41 in the budget worksheet.

HEAVY HYDRAULIC REPLACEMENT PROGRAM

Item	Cost	Year
Two spreaders (SP777, SP333)	$36,000	2022
Two cutters (S799, S788)	$31,000	2022
Two Rams (R421, R422)	$22,000	2022
Five Combi-Tool (SC758)	$80,000	2022
Four Combi-Tool (SC758)	$64,000	2030

Two fire stations currently do not have vehicle exhaust capture systems. The other four stations are using a system made by Plymovent. Diesel soot and fumes are known carcinogens. The fire

station in Summerville and the one in South West both require exhaust capture systems to abate this risk to everyone who enters the station.

GA recommends that exhaust extraction systems for Summerville and South West stations be funded as soon as possible. They are scheduled for 2020 in the benchmark budget. The total estimated cost of these systems is $105k.

The Summerville station has a number of capital maintenance items required to protect the structure and prevent degradation due to weather infiltration. They are detail listed on the Capital worksheet on lines 44-49. The total estimated cost of these repairs is $105k.

BENCHMARK, 2020 CAPITAL

				PROPOSED	$ INC/(DEC)	+/-	NOTES
			2019-2020	2020-2021	ref 2019-2020	%	
99	CAPITAL EXPENDITURES						
100		Capital expense current year	14,540	7,019,800	7,005,260		Reference the Major Capital forecast budget, 2020 forecast items.
101		Contribution To Reserves	14,110	650,000	635,890		Annual Fire Capital Reserve contribution to finance vehicle replacements and other major capital forecast items. Reference the Major Capital forecast budget.
102		**Total Capital Expenditures:**	**$ 28,650**	**$ 7,669,800**	7,641,150		

Benchmark Budget 2020, Roll-Up

The following roll-up includes the costs of all the items discussed in the preceding pages.

				BENCHMARK	$ INC/(DEC)	+/-
			2019-2020	2020-2021	ref 2019-2020	%
25	**EXPENSES**					
26	**FIREFIGHTING OPERATIONS:**					
27	APPARATUS:	sub-total:	198,466	201,000	2,534	1%
33	EQUIPMENT:	sub-total:	81,783	101,000	19,217	23%
44		TOTAL Firefighting Operations:	332,616	371,440	38,824	12%
46	**OTHER OPERATIONAL EXPENSES:**					
47	TRAINING:	sub-total:	109,233	98,000	(-11,233)	-10%
53	FIRE STATION:	sub-total:	308,793	281,000	(-27,793)	-9%
62	ADMINISTRATION:	sub-total:	629,253	1,163,290	534,037	85%
82	MINOR CAPITAL:	sub-total:	237,331	340,000	102,669	43%
87		TOTAL Other Operational Expenses:	1,284,610	1,882,290	597,680	47%
89	**LONG-TERM DEBT PAYMENTS:**					
93		Total Long Term Debt:	1,074,673	1,074,700	27	0%
94						
95	TOTAL FIRE SERVICE OPERATIONAL EXPENSES:		$ 2,691,899	3,328,430	636,531	24%
96						
99	**CAPITAL EXPENDITURES**					
102		Total Capital Expenditures:	$ 28,650	7,669,800	7,641,150	
103						
104	TOTAL PROJECTION / BUDGET / ESTIMATE		$ 2,720,549	10,998,230	8,277,681	304%

Not including the projected Capital Expenditures, the base recommended benchmark budget shows an overall increase in fire service operational expenses (projected) of $636,531, up 24% over the 2019/20 approved budget. This increase is driven by the following items.

- Equipment servicing costs are projected to increase 23% ($19,217) because of the need to increase equipment inspections and testing to meet legislated standards.
- Communications costs are projected to increase 33% ($17,073) with the settlement of a new Valley Communications dispatching contract and the implementation of radio and pager maintenance contracts.
- Administration – Salaries and Benefits are projected to increase 301% ($388,123) with the addition of a full-time Director/Fire Chief, Assistant Chief, and Admin Assistant; and with the addition of a part-time Division Chief, and the moving of 1.5 FTE fire-inspectors from the Planning and Development Department. Salary rates were assumed, so the final cost of these staffing positions has not yet been determined.

- Volunteer benefits are projected to increase by 76% ($36,761), in part with the introduction of mandatory WSIB coverage.
- The costs for the annual purchase of minor capital equipment is projected to increase by 43% ($102,669). The projected costs are based on achieving sustainable service delivery.

GA recommends that the new Regional municipality elect the highest WSIB protection. The addition of Region-wide firefighter accident, sickness and disability (AD&D) benefits, MFAP, and off-duty AD&D coverage is included in the projected cost increase.

PROJECTED 10-YEAR BUDGET IMPACTS

As part of the fire service study GA was asked to project the impacts on the budget of service changes over the next 10-year period. Of course, any such projection is partly conjecture, based on estimates of changes in service over the projected period of time. Such service changes can be related to changes in;

- the volume of incidents,
- the types of incidents, and/or
- the staffing model (volunteer/composite/career).

Money spent on fire prevention is well spent on many levels. With respect to budgets, fire prevention can avoid some fire-response costs. An effective fire prevention program consisting of;

- public fire-safety education,
- post-fire investigations, and
- fire-inspection/enforcement.

Fire prevention can lower emergency incident volumes (i.e. fires) and their severity/impact on the property owner, and on the economy and social fabric of the community. The overall result of effective fire prevention is to lower the cost of fire losses in the community, lower insurance rates, and lower incident volumes; and thereby reduce costs for fire suppression.

The following table shows historical incident volumes in W/WH, by type;

HISTORICAL INCIDENTS BY TYPE

Type	2014	2015	2016	2017	2018	Totals	%
Fire	143	119	187	115	120	684	18%
Pre-Fire Conditions	114	101	110	133	112	570	15%
Rescue	102	99	133	141	137	612	16%
Hazard to Public/Environment	9	16	20	22	13	80	2%
Assistance	24	39	83	202	206	554	15%
Medical Assistance (MFR)	263	272	232	240	250	1,257	33%
Unclassified	12	12	9	2	1	36	1%
Totals:	**667**	**658**	**774**	**855**	**839**	**3,793**	

Incident numbers overall are trending upwards over the five years of data studied. The main drivers are rescues (mostly motor-vehicle related), pre-fire conditions (smoke in the building, etc.), and assistance (mostly mutual assistance between fire station).

The national trend with increasing medical incidents is endemic, but not apparently in W/WH where the annual medical incident volume is relatively steady. As the population continues to age, it is expected that these numbers will start to creep upwards. Medical incidents are not a core part of fire services, but a selected add-on service that Council has decided to support financially for the benefit of citizens. This support could be changed in future if found to be unsustainable. The municipality is not compelled to provide it.

Population Growth

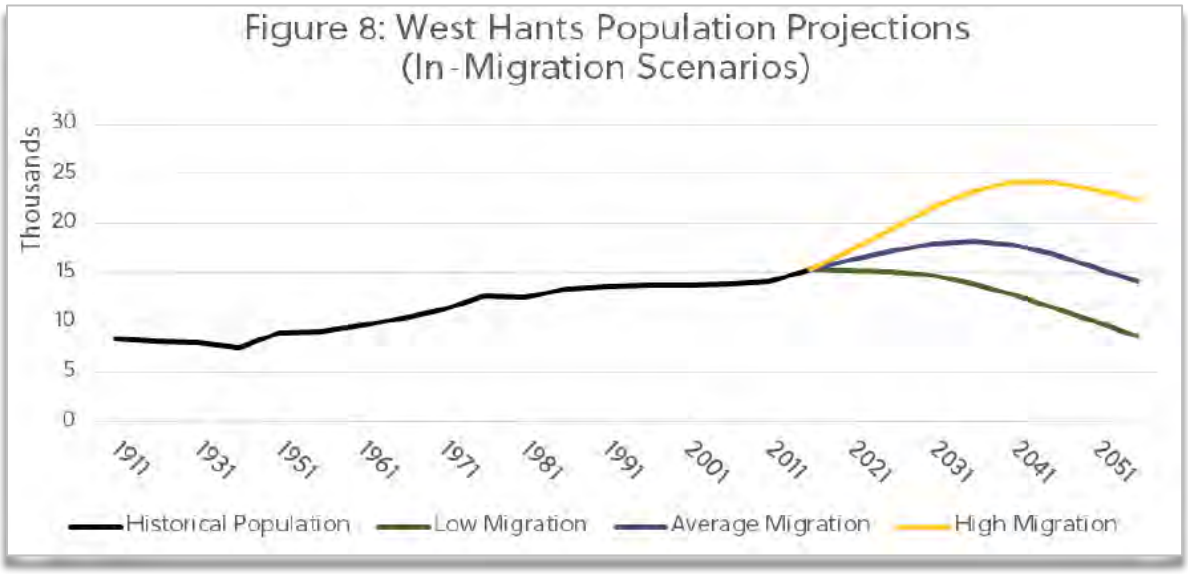
Growth in population and consequently in housing is usually the largest driver for increases in service demand for fire departments. Service demand means the number of incidents that occur annually. Incident numbers are largely driven by population size, and secondarily by travellers and visitors; in other words, by people.

Population projections[93] by West Hants Planning and Development Department show that a significant increase in West Hants population is unlikely over the next 10 years. One extreme of the projections actually shows a decline in population by 2031, which is just beyond the threshold of our projection mandate. There is a several-hundred-% difference between the lower and upper projections.

The chart on the next page shows these projections graphically.

[93] West Hants Planning and Development Department, Background Report: Population, March 2018, page 8

WEST HANTS POPULATION PROJECTION



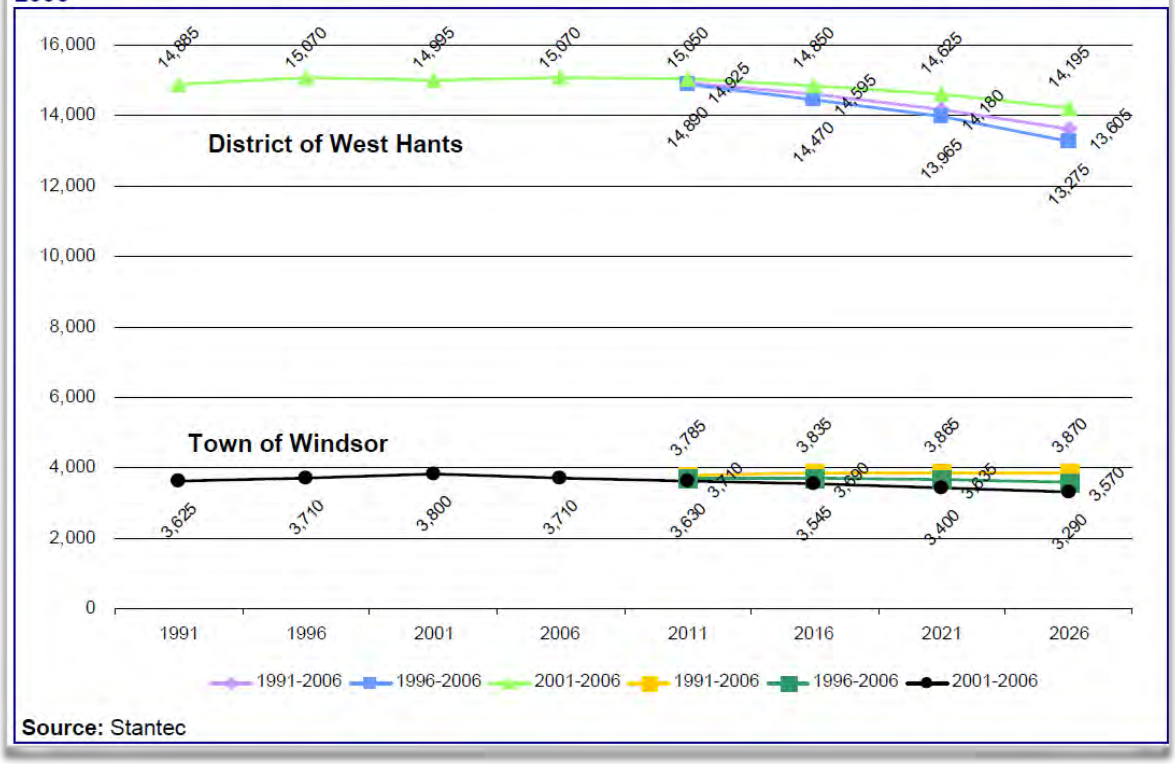
The chart's "average" projection for 2031 shows a modest population increase to 18,120 which is up almost 2,800 (+18%) from the 15,350 reported by StatsCan in 2016. After 2031 the population is projected, in this version, to level off and decline.

The most optimistic scenario shows a population increase to as high as 24,166 (+57%) by 2041; before then declining. All three projection scenarios predict a declining population, over the long term, starting at or before 2041.

Based on the predicted "average" and "low" population changes GA does not predict any significant changes in incident volumes over the next 10 years. If the "high" prediction proves accurate then it can be expected that over 20 years there will be a commensurate increase in incident volumes, and a proportional increase over the 10-year fire-services study window.

A further study[94] by Stantec, done in 2010, shows a less optimistic population projection and includes the Town of Windsor as well as West Hants. In this chart the population for West Hants is projected to be below 14,000 by 2026 while the Windsor population holds flat. This Stantec

Figure 3.3: Alternative Projection Options, Town of Windsor and Municipality of West Hants, 1991-2006



study is relatively consistent with the West Hants study, done 8 years later, in that growth projections for the Region appear to be relatively flat.

For the Town of Windsor, StatsCan[95] reports that between 2011 and 2016 the population of Windsor contracted 3.6%, down from 3,785 in 2011 to 3,648. This actual data corresponds well to the median prediction on the Stantec projection, six years after it was written.

[94] Windsor Integrate Community Sustainability Plan, 2010, page 3.21

[95] https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?B1=All&Code1=1208002&Code2=12&Data=Count&Geo1=CSD&Geo2=PR&Lang=E&SearchPR=01&SearchText=Windsor&SearchType=Begins&TABID=1

Development Growth

The development of large commercial, industrial, and residential facilities can increase the demand for service capacity. In this circumstance, service capacity means the ability of the fire service to mitigate the incidents that occur in buildings larger than they are currently equipped to handle. For example; the development of high-rise[96] apartment buildings can place a high demand on manpower, processes, training, and technology for the fire department. This is especially so if the fire department has no prior experience with such buildings, like W/WH that has no structure taller than 4-stories.

To mitigate fire incidents in high-rise buildings requires specialized equipment, specific procedures, diligent fire safety enforcement, and high staffing numbers on-scene at an incident. The municipality does have a significant degree of control over allowing these types of development, and consideration of the impact on the fire services and the costs of increasing capacity should be part of municipal development plans.

West Hants Planning and Development Department reports[97] that it is unlikely that big box retailers and power centres[98] will be developing in W/WH, without a larger population to attract them. The number of commercial development permits is trending downward, although the value of these may be upwards.

Industrial and resource-based development is reportedly[99] not booming in West Hants. Permits and values have been low. A Windsor-West Hants shared industrial park is the preferred location for industrial development, and there are a few industries located there.

Growth in the commercial, industrial, and resource sectors is unlikely to increase substantially over the next 10 years. It is therefore unlikely that an increase in fire services costs will be driven by increasing incident volumes or requirements for capacity increase in these sectors.

[96] High-rise buildings are buildings that are 6 stories and above in height.

[97] West Hants Planning and Development Department, Background Report: Economic Development, March 2018, page 16.

[98] IBID; in 2010 power centres had an average of 25 tenants, including several big-box retailers.

[99] West Hants Planning and Development Department, Background Report: Industry and Resource, March 2018, page 4.

Other Threats

There are two other threats to fire service costs, going forward from 2020, that in GA's opinion have the real risk to cause change.

The USA/Canada dollar exchange rate affects the cost of almost every item in the minor capital and major capital budgets. Almost all equipment is either made in the USA or is priced in USA dollars. Fire apparatus may be manufactured in Canada, if one of the Canadian manufacturers is chosen, but the major components of chassis, pump, water tank, materials (aluminum), fittings, and on-board equipment are sourced south of the border. At the present time the dollar exchange rate is around 0.75. Any change, up or down, will affect the purchasing power of the budget, also up or down. Similar affects are felt on other world priced commodities, such as fuel/energy costs.

The second threat to the budget going forward is the staffing model. Currently the fire emergency service is staffed by volunteer firefighters. Declining[100] school enrollments, declining fertility rates and the disproportionate in-migration of seniors is pushing up the average age of the population.

The ability to attract/recruit and retain volunteer firefighters is, in part, a demographic challenge. Prospective volunteers must be fit enough and available. Generally, fit means a healthy adult who is not too young nor too old. The aging population means there are fewer younger persons in the community, and current volunteers eventually get too old to withstand the rigours of being a firefighter.

A secondary demographic problem is local employment. Volunteer firefighters with jobs that are distant from their fire station are less likely to remain volunteer firefighters. They are not able to effectively respond to incidents while at work; and they spend more time commuting and therefore have less time available for volunteer firefighting. A volunteer firefighter should expect to contribute between 100 and 300 hours per year in scheduled activities; training, equipment maintenance, fund-raising, meetings, and in going to incidents.

[100] West Hants Planning and Development Department, Background Report: Population, March 2018, pages 9, 7, 6, 5.

Without adequate numbers of volunteer firefighters available there will be a gradual transition to part-time or full-time paid firefighters. This will start with a decision to staff one centrally located fire station during week days, and may eventually progress over time to additional hours and additional stations.

Benchmark Budget Growth Conclusion:

In the forecast period 2020-2030, GA concludes the following expected threats to the fire services budget:

- Incident numbers will increase slightly due to expected modest population increases, with a consequent increase in the use of consumables like diesel fuel.
- The proposed staffing and apparatus inventory and type will be adequate for the period.
- Costs will generally creep upwards along with the consumer price index (CPI) and wage/benefit settlements.
- The capacity of the fire service will be adequate to address new developments, so investments in new technology will not likely be driven by new risks in the community, but may be driven by safety, health, and efficiency goals.
- The Canadian vs USA dollar exchange rate will affect the operational costs of the fire service to some degree, but its impact will mostly be felt on capital purchases.
- Upgrades in safety and health requirements for firefighter equipment and fire apparatus have historically pushed capital purchase costs upwards well above CPI increases.
- The changing demographics of the community, particularly aging, will place additional strain on recruiting and retaining volunteer firefighters. A strategy should be developed to recruit non-traditional candidates, and also for non-firefighting but still essential roles.
- Incentives to retain good volunteer members must be developed and implemented; for example, health insurance, disability coverage, and access to mental counselling.
- Failure to attract or retain adequate numbers of qualified volunteer firefighters will likely force the transition to a costlier composite fire service.

APPENDICES

APPENDIX I; MODEL FIRE SERVICE REGISTRATION POLICY

[Fire Department and Emergency Services Provider Registration Policy]

1. The **[Municipality]** shall register a Fire Department or Emergency Services Provider, with or without conditions, in accordance with Section 294 or Section 295 of the *Municipal Government Act*, as applicable, if:

   (1) The applicant is a body corporate (a society under the *Societies Act* of Nova Scotia, a company under the *Companies Act* of Nova Scotia, or a body corporate pursuant to other legislation);

   (2) The Municipality is satisfied that the applicant is capable of providing the services being offered, based upon the information provided in the application and upon other information received by the Municipality;

   (3) The applicant carries a minimum of **[$5,000,000]** in liability insurance for the vehicles it owns or operates and a minimum of **[$5,000,000]** in liability for insurance for claims brought against it for wrongful acts or omissions respecting the fire services and/or emergency services which it provides;

   (4) The applicant does not provide fire response and/or emergency services for profit;

   (5) The Municipality does not otherwise provide, assist or work with others to provide the same services for the same coverage area unless the Municipality and two or more fire service and/or emergency service providers (one of which is the applicant) have expressly agreed to have overlapping primary service providers;

   (6) The applicant has completed and signed an application in the form provided by the Municipality (Appendix A);

(7) The applicant has provided a list of its active volunteers and their training record in a format acceptable to the Municipality;

(8) The applicant has provided a schedule of mutual-aid agreements with identification of approval details from the Municipality.

2. The CAO or their designate may approve the registration for the Fire Department or Emergency Services Provider to provide all of the services outlined in the application form, or may limit the services by making revisions to the application form. The Municipality may also include conditions to the approval.

3. The Municipality shall provide a copy of the approved and signed unamended or amended application form along with any conditions to the applicant, or if the application is not approved, shall notify the applicant accordingly.

4. Registration as a Fire Department or Emergency Services Provider is effective upon approval of the application by the CAO or their designate.

5. A registered Fire Department or Emergency Services Provider may provide the services outlined in its approved application, subject to any conditions imposed by the Municipality.

6. By no later than April 1 of each year, each registered Fire Department and Emergency Services Provider must apply to renew its registration by submitting a new application for registration in the form at Appendix A and providing the information required in paragraph 1 of this Policy. The CAO or their designate shall process the application in accordance with paragraphs 2 and 3 by no later than April 30.

7. If a registered Fire Department or Emergency Services Provider fails to apply to renew its registration as required by paragraph 6, its registration as a Fire Department or Emergency Services Provider shall be automatically be withdrawn for cause.

8. In the event an applicant is dissatisfied with a decision of the CAO or their designate to refuse a registration or a registration renewal, or to impose conditions or amendments upon the

registration, the applicant may appeal to Council by written notice to the Municipality's Clerk within 15 days of receiving notification under paragraph 3.

9. In addition to any other cause for revoking registration, non-compliance with any conditions of registration or with the terms of this Policy, or failure or inability to perform the services to the standards established pursuant to this Policy or otherwise mandated by Council or other regulatory authorities, shall be cause for revocation of registration as a Fire Department or Emergency Services Provider, or for imposing additional conditions upon the registration.

Appendix A:

[Insert Name Here]

Application for Registration as a

Primary Fire Response or

Emergency Services Provider

Applicant: _____

Contact Person & Phone #:

_____

Address: _____

Incorporated body under: *Societies Act* OR *Companies Act* (circle one)

Registry of Joint Stock Companies Registration # _____

Registration Expiry Date: _____

Number of Department members:

_____

Insurance Provider:

_____

Insurance Policy Period:

_____

Motor Vehicle Liability Limit: _____-

_____

General Liability Insurance Policy Limit (minimum 2 million):

_____

Complete financial statements from the previous fiscal year are required as part of the Application for Registration.

Boundaries of Primary Service Territory:

_____

Please indicate the service that the department will endeavor to provide by placing an X in the appropriate box. N/A denotes a service not being provided by the Applicant

	Structural Offensive	Structural Offensive with Mutual-aid	Structural Defensive	N/A
1. Fire and Fire Related Emergencies	☐	☐	☐	☐

** Registration as Structural Offensive requires your department to have a minimum of four (4) firefighters trained Level 1 with Fire Control. Alternatively, you do have the option to register as Structural Offensive with Mutual-aid. Please indicate the names of those trained to this standard below. If more space is required, please use the back of this page.*

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

7 _____

8 _____

9 _____

10 _____

Please indicate the level of service that the department is equipped and trained to perform, and will endeavor to provide by placing an X in the appropriate box. N/A denotes a service not being provided by the Applicant.

Applicants should be aware of NFPA-1670 Standards for Rescue and limit the service they provide to the qualification they possess relevant to the technical categories of Technician, Operational, and

	Technician	Operational	Awareness	N/A
2. Vehicle Rescue	☐	☐	☐	☐
3. Water Rescue	☐	☐	☐	☐
4. Ice Rescue	☐	☐	☐	☐
5. Structural/Excavation Collapse	☐	☐	☐	☐
6. High Angle Rescue	☐	☐	☐	☐
7. Hazardous Materials	☐	☐	☐	☐

8. Other (1)	☐	☐	☐	☐
9. Other (2)	☐	☐	☐	☐
	Provider	Assistance		
10. Ground Search and Rescue	☐	☐		☐

11. Please indicate any other man-made and/or natural disasters for which your department has the training, equipment, and command system to undertake:

_____

_____

12. Are there limits to the level of service that will be provided (for example, limited number of responders at certain times, lack of equipment, lack of qualifications) in respect to any of the services checked above? If so, please indicate what these are:

_____

_____

_____

_____

APPLICANT

As Chief of the _____

(Name of Department)

I have read and understand the Departments' role in the registration process and the "Definitions of Terms Used in the Registration Form" in Appendix B, attached.

I understand by signing this I am not committing my department to any guaranteed level of service or response. [As a volunteer organization there may be circumstances where inadequate response to an emergency may occur. We do actively participate in an automatic mutual-aid response, however, there is no assurance that mutual-aid response will be adequate.]

I declare that the information provided in response to this Application for Registration as a Primary Fire Response or Emergency Services Provider under the *Municipal Government Act* with the [Name of Municipality] is true to the best of my knowledge, information, and belief.

Date: _____

_____

Name of Chief – ***Please Print***

_____

Signature of Chief

MUNICIPALITY

Date of Approval of Registration Application: _____

_____

Name of Chief Administrative Officer (CAO) – ***Please Print***

_____

Signature of CAO or his or her designate

Please note: Explanation of the terminology used in this registration form is provided in the Information from the Office of the Fire Marshal included as Addendum "B" in the Guide Respecting Fire and Emergency Services in the *Municipal Government Act* Resource Binder, a copy of which is attached for your reference. To register, a department must be incorporated and hold any valid liability insurance that is required by municipal policy. The department must operate on a not-for-profit basis. The registration does not make the department an agent of the **[Municipality]**. This registration may be modified by notifying the Municipality thirty days in advance. The **[Municipality]** may revoke this registration for cause.

Appendix B:

Evaluation of Services Provided and Level of Service for Use with Application for Registration as a Fire Department or Emergency Services Provider under the Municipal Government Act

Spelling out the specific parameters of services to be provided allows the fire department to plan, staff, equip, train, and deploy members to perform these duties. It also gives the governing body an accounting of the costs of services and allows it to select those services they can afford to provide. Likewise, the governing body should identify services it cannot afford to provide and that it cannot register the department to deliver.

To assist the fire service and the municipal units, the Department of Municipal Affairs has developed a sample registration form that includes a check list for key services and level of abilities. The use of this form is not compulsory. Each municipality should develop its own registration process in accordance with the *Municipal Government Act.*

The Office of the Fire Marshal will not be evaluating fire departments; the registration process is between the municipality and the fire department.

The industry standards most widely used and accepted for the fire service are from the National Fire Protection Association (NFPA). Standard 1500 for Firefighter Occupational Health and Safety is the cornerstone upon which each fire department attempts to meet a standard of safety. The key to this standard is that, “no activity is undertaken unless the benefit outweighs the risk.” There are sections such as physical fitness requirements and recruiting that may require a different approach by individual fire departments.

NFPA standards are updated on a 3-6-year frequency and it is recommended that the most recent version of any particular standard be used when referenced.

Definition of Terms Used in the Registration Form

1 to 3. Fire and Fire Related Emergencies:

> **Structural Offensive**: means the activities of rescue, fire suppression, and property conservation **in** buildings, enclosed structures, vehicles, vessels, or like

properties that are involved in a fire or emergency situation. Departments should have firefighters trained to NFPA-1001, protective personal equipment, man-down alarms, an accountability system, adequate water supply, adequate pumping capacity and an incident command system. Departments should also have the proper training and protective clothing for wild land fires in accordance with the Department of Natural Resources' provincial standard. Shipboard firefighting, if provided, should be carried out following the NFPA standard 1405 Guide for Land-Based Fire Fighters Who Respond to Marine Vessel Fires. Protection of Aircraft at airports by volunteers, if provided, should be in accordance with Transport Canada guidelines.

Structural Defensive: means actions that are intended to control a fire by limiting its spread to a defined area, avoiding the commitment of personnel and equipment to dangerous areas. Defensive operations are generally performed from the exterior of structures and are based on determination that the risk to personnel exceeds the potential benefits of offensive actions.

Such determining factors may include, but not limited to, the extent of fire within the structure, existing water supply for fire load, number of trained personal on site and foremost, risk of personnel versus reward. Also, be advised that an attack strategy may change from defensive to offensive should any or all of the fore mentioned factors change. Fire departments without the ability to carry out structural firefighting may register as providing property protection through defensive strategies. Training for defensive fire operation personal is extensive but less rigorous than NFPA-1001 (a guideline is provided on the Fire Service Association of NS website). Rescue may be undertaken if the benefit warrants the risk. Departments should have proper training and protective clothing for wild land fires in accordance with the Department of Natural Resources' provincial standard.

N/A: means the department does not respond to these calls.

Structural Offensive with Mutual-aid: means that on its own, a fire department meets the requirements of Structural Defensive only and can meet the

requirements of Structural Offensive with additional specific resources identified in through a Mutual-aid agreement. The expectation would be that upon arrival, such a department would conduct Defensive operations only and if required, could change to offensive once additional resources arrived on scene and were deployed.

4. Medical Emergencies: response to known medical emergencies.

Registered First Responder: means responders registered with the Department of Health through EHS first responder program and respond to medical calls or provide medical assistance at the scene of an incident.

Medical Assistance: means responders who have standard or emergency first aid and respond to medical emergencies or provide medical assistance at a response incident to that level only. Equipment includes a first aid kit.

5.to 9. The following terminology is used in respect to vehicle rescue, water rescue, ice rescue, structural/excavation collapse and high angle rescue:

These activities should be carried out in accordance with NFPA-1670 Standard for Rescue, 2017 edition or other comparable standard adopted by the municipal unit.

Generally, these terms mean:

Technician: First responders at the technician level are those persons who respond, as either initial call out or as a mutual-aid response to contain and control the incident. This level of service usually will provide a high degree of intervention.

Operations: First responders at the operations level are those persons who respond as the initial response to an incident for the purpose of protecting nearby persons, the environment, or property from the effects of the incident. First responders at the operations level are expected to respond in a defensive fashion to control, prevent a worsening of the incident and provide services within their capabilities.

Awareness: First responders at the awareness level are those persons who, in the course of their normal duties, could be the first on the scene of an emergency. First responders at the awareness level are expected to recognize the situation, call for trained personnel, secure the area and provide minimum intervention.

Refer to NFPA-1670 for specifics for each type of rescue.

10. Hazardous Materials: Response to chemical incidents.

All levels should be in accordance with NFPA-1072 Standard on Professional Competence of Responders to Hazardous Materials Incidents. Fuel spills such as oil, gas and diesel may be handled by all three levels if the spill is minor and stabilized. There is a wide range of service, from a domestic oil spill to an upset gasoline tanker. The important fact is knowing the departments limitations.

Technician: Hazardous materials technicians are those persons who respond to releases or potential releases of hazardous materials for the purpose of controlling the release. Hazardous materials technicians are expected to use specialized chemical protective clothing and specialized control equipment.

Operations: First responders at the operations level are expected to respond in a defensive fashion to control the release from a safe distance and keep it from spreading. (Note: Firefighters trained to the Level 1 standard are required to be trained to the Operations Level of Hazardous Awareness)

Awareness: First responders at the awareness level are those persons who, in the course of their normal duties, could be the first on the scene of an emergency involving hazardous materials. First responders at the awareness level are expected to recognize the presence of hazardous materials, protect themselves, call for trained personnel and secure the area.

13. Ground Search and Rescue: self-explanatory.

Provider: meets the Nova Scotia Emergency Management Office's provincial standard for SAR teams.[1]

Assistance: members are under the control of a SAR team.[2]

Fire Department and Emergency Services Provider Registration Policy - Editor's Annotations

Enabling Legislation

Municipal Government Act, R.S.N.S. 1998, c.18:

3 In this Act,

(ac) "emergency services" means services related to the provision of emergency services, including fire services, emergency medical services, search and rescue, water rescue and assistance and protection for people and property in the event of disasters including, but not limited to, floods, hurricanes, motor vehicle accidents and chemical spills;

(af) "fire department" means an incorporated body that provides fire services and that may, at its option, provide one or more other emergency services, and includes a fire or emergency services department of a municipality, village, fire protection district or other body corporate;

….

294 **(1)** A body corporate may apply to a municipality for registration as a fire department.

(2) A municipality shall not refuse to register a body corporate that complies with this Act if the

(a) municipality is satisfied that the body corporate is capable of providing the services it offers to provide;

(b) body corporate carries liability insurance, as required by the municipality;

(c) body corporate does not provide the fire services for profit; and

(d) municipality does not provide the same services for the same area.

(3) A fire department, including a fire department of a municipality, village or fire protection district, shall register in each municipality in which it provides emergency services.

(4) A registered fire department shall provide the municipality with a list of specific emergency services it will endeavour to provide and the area in which the services will be provided.

(5) Registration continues in force until withdrawn by the municipality for cause or the fire department requests that the registration be revoked.

(6) A municipality may grant or lend money to, or guarantee a loan for, a registered fire department for operating or capital purposes.

(7) A municipality may grant or lend assets, without charge, to a registered fire department.

(8) Registration does not make a fire department an agent of a municipality.

(9) A registered fire department is not a municipal enterprise pursuant to the *Municipal Finance Corporation Act*.

…

295 (1) A body corporate may apply to a municipality for registration an emergency services provider to provide emergency services other than fire services.

(2) A municipality shall not refuse to register a body corporate that complies with this Act if the

(a) municipality is satisfied that the body corporate is capable of providing the services it has undertaken to provide;

(b) body corporate carries liability insurance, as required by the municipality;

(c) body corporate does not provide the emergency services for profit; and

(d) municipality does not provide the same services for the same area.

(3) A body corporate that applies pursuant to subsection (1) shall register in each municipality in which it provides emergency services.

(4) A registered emergency services provider shall provide the municipality with a list of specific emergency services it will endeavour to provide and the area in which the services will be provided.

(5) Registration continues in force until withdrawn by the municipality for cause or the fire department requests that the registration be revoked.

(6) A municipality may grant or lend money to, or guarantee a loan for, a registered emergency services provider for operating or capital purposes.

(7) A municipality may grant or lend assets, without charge, to a registered emergency services provider.

(8) Registration does not make an emergency services provider an agent of a municipality.

(9) A registered emergency services provider is not a municipal enterprise pursuant to the *Municipal Finance Corporation Act*.

Important Notice

The reader is cautioned that editorial and drafting choices involve interpretation of the law.

Municipal units should consult with their own legal advisors before relying upon, and applying to their own circumstances, the comments or drafts contained in this Manual.

Comment

- This Policy deals with municipal registration of bodies corporate as a fire department or emergency service provider.
- The *Municipal Government Act* s. 294(2) requires that a municipality register a body corporate as a fire department if the body corporate meets the requirements of the Act. Identical requirements are set out for emergency service providers by s. 295(2) of the Act. The Act requires that a body corporate:
  - be capable of providing the services it offers;
  - carry liability insurance;
  - that fire or emergency services be not-for-profit; and
  - not duplicate services provided by the municipality in the same area.

  These requirements are incorporated into s. 1(2), (3), (4) and (5) of the model Policy. The municipality may set out minimum liability insurance requirements in s. 1(3) of this Policy.

- The Policy provides in s. 1(6) for the use of an application form. A model application form is included with the Policy as Appendix A.
- Section 6 of the Policy requires that a Service Provider register annually with the municipality. Although annual registration is not a requirement of the Act, it is recommended as a best practice. Annual registration helps to guarantee that the municipality has the information necessary to make informed decisions with respect to the safety of firefighters and the public. However, annual registration requires more diligence by both the Municipality and Service Providers, so be sure the resources are in place to manage annual registrations.
- Section 8 of the Policy is designed to provide the body corporate with an avenue for appeal to Council should the CAO decide to refuse to register the body corporate as a fire department or as an emergency services provider.

The chapter # in the policy title bar should be replaced by each municipal unit with the chapter # it assigns to this Policy.

APPENDIX II; WEST HANTS /VALLEY COMMUNICATIONS CONTRACT

THIS AGREEMENT made this 10 day of May,2017 between:

PARTIES:

THE MUNICIPALITY OF WEST HANTS, a body corporate pursuant to the *Municipal Government Act*, S.N.S. 1998, chapter 18, as amended, having its chief place of business at 67 Morison Drive, Hants County, Nova Scotia (hereinafter called the "Municipality")

OF THE FIRST PART

- and -

VALLEY COMMUNICATIONS INCORPORATED, a body corporate pursuant to the Companies Act, R.S.N.S.,1989, Chapter 81, as amended, having its registered office and chief place of business at 217 Belcher Street, Kentville, Kings County, Nova Scotia (hereinafter called "Supplier")

OF THE SECOND PART

WHEREAS fire and emergency dispatch services are required for departments serving the geographic area comprising the Municipality of West Hants;

AND WHEREAS the Supplier wishes to enter into an agreement with the Municipality pursuant to Sections 65(e) and 47(5) of the Municipal Government Act to provide fire and emergency services for the fire departments as follows:

NOW THEREFORE BY THESE PRESENTS, IT IS AGREED AS FOLLOWS:

1. **TERM OF AGREEMENT**

The term of this Agreement is for three years commencing at noon on July 1, 2017 and ending on June 30, 2020, as set out in 'Schedule A'.

2. **SERVICES TO BE PROVIDED BY SUPPLIER**

For the term of this Agreement, the Supplier shall provide Emergency Dispatch Services for the Municipality twenty-four (24) hours per day for each and every day of the year, including Sundays and Statutory Holidays and shall keep full and complete records of in-coming and out-going dispatch communications. Dispatch communications to emergency response units shall be provided quickly, clearly and effectively, including relating all appropriate information to the emergency response unit to maximize the effectiveness of the emergency response. The Supplier will comply with the standards or guidelines regarding emergency dispatch which may be set by the Province of Nova Scotia or the Municipality from time to time. The Supplier will, where appropriate, unless otherwise agreed, use any technology, equipment, software, computer hardware that may be provided by the Municipality to the Supplier for such purposes and shall follow such additional practices and procedures, in respect of telephone answering, emergency dispatch and record keeping as may be requested by the Municipality from time to time.

3. PRICE ADJUSTMENT

The contract price herein shall be subject to an automatic price adjustment of 2% beginning in year three on the first day of July,2019, with an adjustment to per capita numbers effective April 1, 2017, based on the 2016 federal census numbers. This price adjustment is contingent on the Municipality signing a one year extension letter with the Supplier.

4. PRICE

Subject to price adjustments as provided for herein, the Municipality shall pay the Supplier $2,561.33 per month, plus all applicable taxes for the period July 1, 2017 to June 30,2019 for fire dispatch in the West Hants coverage areas.

5. PAYMENT

The Municipality will pay the monthly amount within 45 days of receipt of a monthly invoice from the supplier and will pay interest to the supplier on any amount overdue to the Supplier at a rate of 2% per annum.

6. SET-OFF

The Municipality may set-off from any sums payable under this Agreement any sums due and owing or reasonably estimated to be due and owing to the Municipality by VCI whether arising under this Agreement or otherwise.

7. EMPLOYMENT OF DISPATCHERS

The Supplier may employ such dispatchers and managers as it deems necessary to perform the services required of the Supplier under this Agreement. The Municipality may not control, direct or supervise the Supplier's employees. The Supplier shall not hold out to third parties that its employees are officers or employees of the Municipality, or that any of the services provided by the Supplier are provided as agents of and for the Municipality, except with the express written consent of the Municipality.

8. EQUIPMENT AND SUPPLIES

The Municipality shall supply the equipment, tools and software ("Equipment") to the Supplier, or appropriate replacement Equipment, and may provide such additional Equipment as it deems necessary. This Equipment shall be used solely for emergency dispatch services for the Municipality. The Supplier shall be responsible for the operation of such Equipment during the term of the Agreement and for the cost of replacing any Equipment damaged by the Supplier beyond ordinary, reasonably expected wear and tear. The Municipality shall retain ownership over all Equipment that is paid for or supplied by the Municipality, including replacement or additional Equipment.

9. STANDARD OPERATING GUIDELINES

Standard Operating Guidelines (SOGs) will be reviewed and updated from time to time. During the term of the contract the SOGs may be reviewed further by the Municipality, which may result in some procedural changes which the Supplier will be required to implement. In the event that significant cost increases result from such changes the Supplier will be entitled to a reasonable price adjustment to be agreed or failing agreement to be determined by arbitration.

10. TRAINING

The Supplier will be responsible for all costs associated with their employees attending fire dispatch related training.

11. RECORD KEEPING/REPORTING REQUIREMENTS

The Municipality will require that monthly reports be completed and forwarded to the Municipality and its respective fire departments ("brigade") providing service to the Municipality, as well as retained by the Supplier during the term of the Agreement. The types of records shall include, but not limited to, the number of calls taken, calls dispatched, and incident types. All emergency calls, with accurate time and date, must be recorded when at all possible. A copy of digital recordings, if available, are to be kept on site for the duration of the Agreement, and copies are to be made available upon the request of any brigade, when a recording contains information related directly to them, or an investigation.

12. INSURANCE

The Supplier shall provide to the Municipality proof that the Supplier has Liability Insurance naming the Municipality as an additional named insured in the minimum amount of Five Million Dollars ($5,000,000), providing coverage to the Supplier for any negligent or wrongful acts or omissions regarding the services provided pursuant to this agreement, within 30 days of the signing of the Agreement. The Supplier shall maintain insurance coverage as described herein and this clause shall not be construed to prevent or inhibit a claim by the Municipality or its insurers against the Supplier or its insurers which would be available in the absence of this paragraph.

13. CAUSE FOR TERMINATION OF THIS AGREEMENT

This Agreement may be terminated at the election of the other party in the event of bankruptcy or insolvency of a party or a material breach of any of the terms of this Agreement by a Party or in the event the Province of Nova Scotia adopts a province-wide fire emergency dispatch system. In the event of exercise of this clause pertaining to provincial adoption of a province-wide fire/emergency dispatch system, by the Municipality, one year's notice or pay in lieu of notice for one year, totalling one year, shall be given to the Supplier. Failure to comply with any standards required of the Supplier by the Municipality shall constitute a material breach if the Supplier has been given seven days notice to rectify the problem and has failed to do so to the reasonable satisfaction of the Municipality.

14. EFFECT OF TERMINATION

In the event of termination, including termination ultimately determined to be wrongful, the Supplier shall forthwith deliver over to the Municipality all Equipment owned by the Municipality under Paragraph 8 of this Agreement. In the event of termination for breach of contract, an arbitrator may award damages as an additional remedy. An arbitrator may award damages in the event the Agreement was wrongfully terminated by a Party, but shall not have authority to reinstate the Agreement.

15. GOVERNING LAW

This Agreement shall be governed by and construed in accordance with the laws of the Province of Nova Scotia.

16. AMENDMENT

This Agreement may be replaced, renewed or amended during its term by the duly executed written agreement of both parties and only in that manner.

17. ARBITRATION

In the event of disagreement between the parties as to the amount payable hereunder or as to the interpretation, application or administration of this Agreement, such disagreement shall be submitted to arbitration pursuant to the provisions of the *Arbitration Act,* with each party appointing one arbitrator who in turn shall appoint a third arbitrator unless the parties agree on a single arbitrator or to some other form of dispute resolution.

18. WAIVER

No action or failure to act, and no payment of money shall constitute a waiver of any right or an approval of any breach of duty except as may be specifically agreed in writing.

19. ENTIRE AGREEMENT

This Agreement contains the entire Agreement between the parties and it may only be amended by written agreement. Each party acknowledges that the parties have made no representations which it would be reasonable for the other party to rely upon or which have induced the other party to enter this Agreement and each party accepts as its own the risk of relying upon oral representations or promises, irrespective of whether such representations or promises be made before or after the execution of this Agreement. Each party acknowledges and agrees that the collateral contracts that exist in connection with the three county fire departments of Hantsport, Brooklyn, and Summerville, will become null and void during the term of this Agreement, namely on June 30, 2017.

20. ASSIGNMENT

No Party shall assign this Agreement without the written consent of the other Party, which shall not be unreasonably withheld.

21. SUCCESSORS

This Agreement shall be binding upon the parties hereto, their successors and assigns. No Party shall assign this Agreement without the written consent of the other Party.

22. MUTUAL INDEMNITY

Each Party shall indemnify and save harmless the other from all liabilities, damages, losses or expenses attributable to, but only to the extent it is attributable to any breach by the indemnifying Party of any covenant or condition in this Agreement, or any act of negligence by the indemnifying Party. Such indemnity shall survive the termination of this Agreement, and anything in this Agreement to the contrary notwithstanding. Notwithstanding anything to the contrary, the Municipality shall not be liable for, in any event, any indirect or consequential damages suffered by the Supplier, including without limitation loss of income and loss of profits. Further, the obligation to indemnify pursuant

to this paragraph does not extend to or include any obligation to indemnify the Supplier for any act or omission of any brigade, other emergency service provider, or the 911 service, including negligence.

IN WITNESS WHEREOF the parties of have executed this Agreement by the hands of their duly authorized representatives.

SIGNED AND DELIVERED:

May 10, 2017
Date

Witness

MUNICIPALITY OF WEST HANTS

Chief Administrative Officer

Municipal Clerk

SIGNED AND DELIVERED:

June 5/2017
Date

Witness

VALLEY COMMUNICATIONS INC.

Per:

President

SCHEDULE 'A'

6

CONTRACT PRICE

The Municipality covenants to pay the following amounts to the supplier for provision of fire emergency dispatch and emergency call-taking services. The period of July 1, 2017 to June 30,2020 is based on emergency call-taking and dispatch for the entire Municipality of West Hants, excluding the Town of Windsor, and based on the 2016 federal census. From April 1, 2017 - March 31, 2020, the costing will be adjusted to reflect the 2016 federal census numbers, with a 2% increase in the third-year of this contract. Existing contracts with individual fire departments will become null and void, effective June 30, 2017.

July 1, 2017 – June 30, 2018
$2.00 per capita per annum based on the 2016 Federal Census numbers of 15368 persons $2561.33/mo

July 1, 2018 – June 30, 2019
$2.00 per capita per annum based on the 2016 Federal Census numbers $2561.33

July 1, 2019 – June 30, 2020
$2.04 per capita per annum based on the 2016 Federal Census numbers $2612.56

u:\fire services\fire services policy 2017\dispatchwest hants v1may92017.docx

APPENDIX III; TOWN OF WINDSOR /VALLEY COMMUNICATIONS CONTRACT

THIS AGREEMENT made in duplicate on the 16th day of May, 2019

BETWEEN: **VALLEY COMMUNICATIONS INCORPORATED,** in Kentville, in the County of Kings and Province of Nova Scotia,

Hereinafter referred to as the **"COMMUNICATION SERVICE"**

OF THE ONE PART

-and-

TOWN OF WINDSOR, in the County of Hants and Province of Nova Scotia

Hereinafter referred to as the **"TOWN"**

OF THE OTHER PART

IN CONSIDERATION of the covenants, agreements, and conditions contained herein, the Parties hereto agree as follows:

1. The Communication Service shall provide communication services for the use and benefit of the Town. Said services to be by utilization of equipment and operators of the Communication Service interconnected with equipment owned or leased by the Town.

2. The term of this Agreement shall be for One (1) year, and shall commence on the 1st day of July, 2019 and end on the 30th day of June, 2020 subject to provisions for prior termination as hereinafter contained.

3. The Parties acknowledge that charges for Communication Services for the term commencing on the 1st day of July, 2019 and ending on the 30th day of June, 2020 shall be as follows:

   (i) A flat monthly rate of $608.00 (six hundred eight dollars and zero cents) and any applicable taxes.
   (ii) The sum payable for communication services for each month or part thereof shall be due and payable on or before the 1st day of each and every month during the term or until termination of this Agreement, beginning on the 1st day of July, 2019.
   (iii) In respect to payment due and in arrears for more than Thirty (30) days, there will be an additional charge of two percent (2%) per month interest on the unpaid balance.

4. The Town and/or the Windsor Fire Department will supply the transmitters and receivers for the provision of Communication Services and will be responsible for all costs and charges for its own telephone linkage and any other costs and charges associated with the installation, repair, and upkeep of such equipment.

5. The Communication Service will maintain a high standard of service and strict confidentiality with respect to its performance of its services under this Agreement.

6. During the term of this Agreement, the Communication Service will not be liable for interruptions, interference or termination of communication services in event that such interruption, interference or termination is caused by an act of God, fire, unavoidable casualty, or any other cause of any kind whatsoever beyond the reasonable control of the Communication Service.

7. Any changes in the usual operation of the Communication Service or the Town that may affect the other party, and any complaints of any sort shall be communicated by the President of Valley Communications Incorporated to the Chief of the Fire Department and by the Chief of the Fire Department to the President of Valley Communications Incorporated and to no other persons.

8. This Agreement may be terminated by either party by notice of such intention in writing sent by registered mail addressed to the other party at its business address and the effective date of termination shall be three (3) months after date of mailing such notice, PROVIDED HOWEVER, that in the event of termination of communication services by reason of such causes as set out in Clause 6 herein, this Agreement shall terminate on the 1st day of the month immediately subsequent to such termination of communication services.

9. Time shall be of the essence in this Agreement.

10. In this Agreement, the singular shall include the plural and the masculine shall include the feminine, with the intent that this Agreement shall be read with all appropriate changes of number and gender.

11. This Agreement shall inure to the benefit of and be binding upon the parties hereto, their heirs, administrators, successors and assigns.

IN WITNESS WHEREOF the Parties hereto have properly executed and placed their respective seals on this Agreement on the day, month, and year first written above.

SIGNED, SEALED AND DELIVERED
In the presence of:

Katie MacKay

J Reddin

VALLEY COMMUNICATIONS INCORPORATED

PER: Joan M. Garden
JOAN M. GARDEN
PRESIDENT

TOWN OF WINDSOR

PER:

PER:

APPENDIX IV; PROVINCIAL LEGISLATION

The Region of Windsor and West Hants Municipality Act

All municipalities are creations of the province and are an extension of provincial jurisdiction. The Region of Windsor and West Hants Municipality was created under Bill 55 *"An Act to Incorporate "The Region of Windsor and West Hants Municipality,*" dated October 9, 2018. On April 1, 2020, the consolidation (regionalization) of the two municipalities will come into effect.

The Municipal Government Act

The *Municipal Government Act* provided for the establishment and governance of fire protection in the new Regional Municipality. The main provisions are as follows;

"2 The purpose of this Act is to

(a) give broad authority to councils, including broad authority to pass by-laws, and to respect their right to govern municipalities in whatever ways the councils consider appropriate within the jurisdiction given to them;

(b) enhance the ability of councils to respond to present and future issues in their municipalities; and (c) recognize the purposes of a municipality set out in Section 9A. 1998, c. 18, s. 2; 2019, c. 19, s. 1."

"9A The purposes of a municipality are to

(a) provide good government;

(b) provide services, facilities and other things that, in the opinion of the council, are necessary or desirable for all or part of the municipality; and

(c) develop and maintain safe and viable communities. 2019, c. 19, s. 2."

"3 Interpretation

In this Act

(o) "council" means the council of a municipality, except as otherwise defined in this Act;

(ac) "emergency services" means services related to the provision of emergency services, including fire services, emergency medical services, search and rescue, water rescue and assistance and protection for people and property in the event of disasters including, but not limited to, floods, hurricanes, motor vehicle accidents and chemical spills;

(af) “fire department” means an incorporated body that provides fire services and that may, at its option, provide one or more other emergency services, and includes a fire or emergency services department of a municipality, village, fire protection district or other body corporate;

(ah) “fire services” means services related to the prevention and suppression of fires;”

“Power to make by-laws

174 Without limiting the generality of Section 172, a council may make by-laws respecting

(b) the prevention and fighting of fires;

(d) fire and burglar alarms;”

“293 The Regional Municipality may maintain and provide fire and emergency services by providing the service, assisting others to provide the service, working with others to provide the service or a combination of means.”

“294 (1) A body corporate may apply to a municipality for registration as a fire department.”

The Act restricts the municipality from refusing a corporate body for the provision of fire services if certain conditions are met.

“(2) A municipality shall not refuse to register a body corporate that complies with this Act if the,

(a) municipality is satisfied that the body corporate is capable of providing services it offers to provide;

(b) body corporate carries liability insurance, as required by the municipality;

(c) body corporate does not provide the fire services for profit; and

(d) municipality does not provide same services for the same area.

(3) A fire department, including a fire department of a municipality, village or fire protection district, shall register in each municipality in which it provides emergency services.

(4) A registered fire department shall provide the municipality with a list of specific emergency services it will endeavour to provide and the area in which the services will be provided.

(5) Registration continues in force until withdrawn by the municipality for cause or the fire department requests that the registration be revoked.

(6) A municipality may grant or lend money to, or guarantee a loan for, a registered fire department for operating or capital purposes. 1998, c. 18 municipal government 171

(7) A municipality may grant or lend assets, without charge, to a registered fire department.

(8) Registration does not make a fire department an agent of a municipality.

(9) A registered fire department is not a municipal enterprise pursuant to the Municipal Finance Corporation Act. 1998, c. 18, s. 294."

"296 (1) The council may make policies respecting full-time, volunteer and composite fire departments and emergency service providers in the municipality.

(2) Policies for fire departments and emergency service providers may include

(a) requirements and procedures for registration;

(b) personnel policies with respect to those members who are employees of the municipality;

(c) the manner of accounting to the council for the use of funds provided by the municipality;

(d) an annual meeting to report to the public respecting fire and emergency services;

(e) such other matters as are necessary and expedient for the provision of emergency services in the municipality.

(3) The council may require proof of compliance with its policies before advancing any funds."

Sections 294 and 295 (not quoted above) established the procedures for registering incorporated independent fire departments (body corporate) as well as other than firefighting emergency services (§295), for example ice and water rescue. Such additional services require the acceptance of the Municipality.

Note that the MGA provides in §296 the power to regulate all fire service providers through policy of Council.

Further powers were provided that gave the Municipality broad authority in the provision and regulation of fire services;

"Power to make by-laws

172 (1) A council may make by-laws, for municipal purposes, respecting (a) the health, well being, safety and protection of persons; (b) the safety and protection of property;

174 The council shall make decisions in the exercise of its powers and duties by resolution, by policy or by by-law."

The MGA provides powers directly to firefighters to assist their activities;

"Powers where fire

297 (1) When any fire, rescue or emergency occurs, the fire chief or other officer in charge, and any person under the direction of that officer, shall endeavour to extinguish the fire and prevent it

from spreading, conduct the rescue or deal with the emergency {emphasis added} and, for that purpose, may:

(a) command the assistance of persons present and any inhabitant of the Municipality;

(b) remove property from buildings on fire or in danger of fire;

(c) take charge of property;

(d) enter, break into or tear down any building;

(e) exclude and remove persons and vehicles from the building or vicinity; and

(f) generally, do all things necessary to respond to the emergency.

(2) It is an offence to disobey any lawful order or command of the officer in charge.

(3) Where a fire alarm is given or the officer in charge has reason to believe that a fire exists on any premises, the officer in charge and any person under the direction of that officer may enter or break into any building for the purpose of ascertaining whether a fire exists.

(4) The officer in charge may direct that a building be pulled down or otherwise destroyed if, in the judgment of that officer, doing so will tend to contain a fire or protect the public from a dangerous condition.

(5) A Municipality, a fire department, an emergency services provider and an officer in charge, and a person acting under the direction or authority of that officer, are not liable for an act done in the exercise of any of the powers conferred by this Section. 2008, c. 39, s. 308."

As quoted above, § 297 (1) of *the MGA* said that there is a duty and thereby an expectation placed upon firefighters. This duty was described as: "…*shall endeavour to extinguish the fire and prevent it from spreading, conduct the rescue or deal with the emergency…*" This duty also comes with some considerable powers and protections, thereby facilitating the firefighters in their endeavours, including §299 which made it an offense to interfere with firefighters and fire protection systems.

The MGA also provides some specific protection against liability;

"No Liability

300 The Municipality, an employee of the Municipality, a member of the fire department of the Municipality, a registered fire department, a member of a registered fire department, a registered emergency services provider and a member of a registered emergency services provider are not liable for an act or omission in providing, or failing to provide, an emergency service, unless they are grossly negligent."

It is not uncommon for §300 to be interpreted as "fire departments/municipalities cannot be sued," but that is an erroneous idea. They can be sued, and so can all others who have any level of responsibility in an alleged act or omission. What is certain is that such a suit will be successful if the plaintiff can successfully establish gross negligence.

Restriction on where action may or may not lie with respect to liability was provided in §301, not quoted here.

The MGA permits the Municipality or a fire department to provide or to receive assistance from other municipalities. Particular protection are provided, as follows;

> "Mutual-aid
>
> 302 (1) The Municipality may assist at fires, rescues or other emergencies occurring outside its boundaries.
>
> (2) A municipality may agree with municipalities, villages, fire protection districts, federal and provincial departments and agencies or others to provide assistance at fires, rescues and other emergencies and to receive assistance at fires, rescues and other emergencies.
>
> (3) A fire department that assists a registered fire department pursuant to a mutual-aid agreement is not required to register and is entitled to all of the protections provided by this Act for the assisted fire department.
>
> (4) An emergency services provider that assists a registered fire department or registered emergency services provider pursuant to a mutual-aid agreement is not required to register and is entitled to all of the protections provided in this Act for the assisted fire department or emergency services provider. 1998, c. 18, s. 302."

The Fire Safety Act

The Fire Safety Act[101], 2002, c. 6, was enacted in early 2003 and primarily dealt with issues surrounding fire safety in buildings and public places. However, *the Fire Safety Act* had the potential to have wide affects on the delivery of fire services; primarily fire prevention but also fire suppression services.

Fire Marshal

The *Fire Safety Act* continued the office of the provincial Fire Marshal (**NSFM**) from previous Acts. The NSFM is the leading official/authority in fire protection in Nova Scotia. The NSFM is responsible for implementing and enforcing the provisions in the *Fire Safety Act*, and in §13(4) has authority over other acts;

> "Personnel
>
> 9 (1) Such persons as are necessary for the administration and enforcement of this Act and the regulations shall be appointed in accordance with the Civil Service Act, except where this Act provides otherwise.
>
> (2) The Minister[102] shall designate from among those persons appointed pursuant to subsection (1), a Fire Marshal and one or more deputy fire marshals to perform the duties and functions, and exercise the powers and authorities, imposed or conferred upon them by this Act, the regulations and the Fire Code.
>
> …"
>
> "Powers and duties of Fire Marshal
>
> 13 (1) The Fire Marshal may
>
> (a) promote, encourage and co-operate with any body or person interested in developing and promoting the principles and practices of fire prevention and the protection of life and property against fire, including promoting, encouraging and delivering public fire-safety education programs and training and supporting and assisting others to provide public fire-safety education programs and training;
>
> (b) advise persons or organizations interested in developing or promoting the principles and practices of fire suppression, fire prevention, fire-safety education, emergency services and related communication systems, and the delivery of those services and systems;
>
> (c) investigate conditions under which fires occur;

[101] Chapter 6 of the acts of 2002, "An Act to Promote and Encourage Fire Safety," short title; *Fire Safety Act*.

[102] The Fire Safety Act; §3(y) ""Minister" means the Minister of Environment and Labour"

(d) require such reports as the Fire Marshal deems necessary from persons authorized or required to inspect, investigate or examine;

(e) maintain in the Fire Marshal's office a statistical record of all fires reported to the Fire Marshal;

(f) collect and disseminate information with respect to fires in the Province;

(g) study methods of fire safety;

(h) make recommendations, including guidelines, respecting

(i) fire suppression, fire prevention, fire protection and the training of persons involved in the provision of these services as well as rescue and emergency services and the delivery of these services and matters related to any of them,

(ii) the establishment of fire departments and fire brigades,

(iii) the provision of adequate water supply, and

(iv) fire-hose couplings and connections for fire-fighting equipment.

(2) The Fire Marshal shall exercise such other powers and perform such duties as are assigned to the Fire Marshal

(a) pursuant to this Act, the regulations or the Fire Code; or

(b) by the Minister.

(3) The Fire Marshal shall submit, annually to the Minister in each year, a detailed report for the twelve months ending on March 31st, in such form as the Minister may prescribe.

(4) The Fire Marshal has the power and authority to enforce compliance with

(a) this Act, the regulations and the Fire Code; and

(b) all other Acts of the Province relating to the prevention and suppression of fires and all regulations and by-laws made thereunder, including any codes and enactments incorporated by reference therein {emphasis added}."

Fire Marshal Authority over the Regional Municipality

The powers granted to the NSFM gave this official significant authority to direct municipal fire services and their personnel in the execution of their duties particularly in the areas addressed by the *Fire Safety Act*. These areas are primarily related to fire code enforcement through inspection and related fire safety activities to be undertaken by Regional Municipal personnel.

As quoted above, we note that §13(4)(b) in the *Fire Safety Act* permits the NSFM to "*enforce compliance*" with fire prevention *and* suppression[103] activities undertaken by *Regional Municipal* personnel. For clarity, the NSFM's authority extends to legislation other than just *the Fire Safety Act*, which would include for example; municipal by-laws insofar as they address fire safety concerns.

As quoted above, §13(1)(h) states that the NSFM also has the power to enact guidelines for all aspects of fire prevention and suppression activities, including the training of personnel. In this regard, the NSFM has wide discretionary power to affect the standard of care in providing fire services.

Municipal By-Laws Permitted

The municipality can, at its discretion, enhance its ability to regulate fire safety by enacting more by-laws, as follows;

> "Municipal by-laws
>
> 5 (1) Subject to subsection (2), nothing in this Act prevents a municipality from making and
>
> enforcing by-laws relating to matters dealt with by this Act, the regulations or the Fire Code, including by-laws that impose or prescribe higher or more stringent standards or requirements than those provided for by this Act, the regulations or the Fire Code.
>
> (2) Where a by-law of a municipality conflicts with this Act, the regulations or the Fire Code, this Act, the regulations and the Fire Code prevail to the extent of the conflict. 2002, c. 6, s. 5."

Local Assistant to the Fire Marshal

The *Fire Safety Act* permits the NSFM to appoint *Regional Municipal* officials to assist in carrying out some of the powers assigned to the NSFM within the jurisdictional boundaries of *the Regional Municipality*. As a practical measure, most municipalities have one or several members of the fire department designated as a *Local Assistant to the Fire Marshal* assigned to fire safety duties.

[103] The *Fire Safety Act* states in the Interpretation section that ""fire suppression" means an organized emergency response for controlling and extinguishing fires."

Usually (in addition to the fire chief), these persons are qualified members of the fire prevention division of a fire department. These officials take point position for this work in the municipality and they needed to obey directions from the NSFM as well as their organizational superiors.

> "Local Assistant to Fire Marshal
>
> 14(1) The Fire Marshal may appoint as a local assistant to the Fire Marshal a qualified fire chief or, with the consent of the fire chief, another qualified member of the fire chief's fire department.
>
> …
>
> (4) Local assistants to the Fire Marshal shall, within their territorial jurisdiction and, subject to the directions of the Fire Marshal, assist in administering this Act, the regulations and the Fire Code.
>
> …"

Fire Safety Inspections Required

The Fire Safety Act required municipalities to perform fire-safety inspections of properties, as follows;

> "Duties of a municipality
>
> 19 (1) A municipality shall
>
> (a) establish a system of fire-safety inspections of land and premises situate within its jurisdiction, as required by the regulations, to provide for compliance with this Act, the regulations and the Fire Code;
>
> (b) appoint a municipal fire inspector who shall carry out the inspections; and
>
> (c) ensure that the Fire Marshal is notified, in writing, of the appointment of the municipal fire inspector and the revocation of any such appointment.
>
> (2) A municipality that is required to establish and conduct a system of inspections pursuant to subsection (1) shall ensure that
>
> (a) a record is made of every inspection undertaken by the municipality;
>
> (b) the records are made available, on request, to the Fire Marshal or a deputy fire marshal; and
>
> (c) unless otherwise prescribed by the regulations, the records are kept for at least five years."

Fire Safety Regulations, NS Reg 48/2003, state in §13 and §14 the municipal responsibilities for inspection of occupancies;[104]

> "Responsibility of municipality to inspect
>
> 13 … a municipality must, within the specified time periods, inspect the following occupancies for compliance with the Act and these regulations:
>
> (a) within 12 months of the coming into force of these regulations, assembly occupancies (Group A) …
>
> …
>
> 14 (1) A municipality must inspect an assembly occupancy (Group A) once every 3 years
>
> after the inspection under Section 13.
>
> (2) A municipality must carry out a system of fire inspections on all buildings containing
>
> the following occupancies:
>
> (a) a residential occupancy (Group C) that has more than 3 units and is not regulated under the Homes for Special Care Act;
>
> (b) a business and personal services occupancy (Group D);
>
> (c) a mercantile occupancy (Group E); and
>
> (d) an industrial occupancy (Group F)."

The Regional Municipality has a duty to inspect certain occupancies on a regular basis, as noted above, for determining compliance to the *Fire Safety Act* and regulations and correcting any issues found.

[104] The Nova Scotia Building Code Act. R.S., c. 46, s. 1 defines in the Interpretation section; "2(n) "occupancy" or "class of occupancy" means the use or intended use of a building, as defined in the Building Code"

Note: In brief, despite there being multiple sub-classifications, each major classification contains; Group A is assembly (i.e. public gathering), Group B is institutional (e.g. jail, hospital), Group C is residential, Group D is business or personal service (e.g. bank, dental office), Group E is mercantile (e.g. department store, shops), and finally Group F is industrial. The Building Code defines the classifications and the Fire Code repeats the definitions.

Fire Code

The Fire Safety Act adopted into Nova Scotia law the National Fire Code[105] (NFC), with appropriate modifications. The NFC concerns itself with building fire safety, ensuring that provisions required by the National Building Code are maintained and operated properly.

Power to Enter

There is another significant provision in *the Fire Safety Act.* It is the extraordinary power (when justified) for the fire department to enter on lands or premises to save a life. It is important to note that these powers are not restricted to buildings.

> "Emergency entry
>
> 28 (1) Where the Fire Marshal, a deputy fire marshal, a local assistant or a fire chief or other officer of a fire department in charge of directing fire-suppression activities has reasonable grounds to believe that a risk of fire poses an immediate threat to the life of a person, the fire official may, without a warrant and at any time, enter upon and inspect land or premises and may
>
> (a) call upon a police officer;
>
> (b) use such force as is necessary, to make the entry or exercise the powers authorized by this Section.
>
> (2) On an entry pursuant to subsection (1), a fire official may
>
> (a) remove persons from the land or premises;
>
> (b) order orally, or in writing, that no person, other than a person permitted by the fire official making the entry, shall be permitted to be, or be, present on the land or premises identified in the order until the fire official otherwise orders;
>
> (c) post a fire watch;
>
> …
>
> (h) do anything that the fire official reasonably believes is required to remove or reduce the threat to life.
>
> …"

[105] From https://www.nrc-cnrc.gc.ca/eng/publications/codes_centre/2015_national_fire_code.html "The National Fire Code of Canada 2015 (NFC), published by NRC and developed by the Canadian Commission on Building and Fire Codes, sets out the technical provisions regulating activities related to the construction, use or demolition of buildings and facilities, the condition of specific elements of buildings and facilities, and the design or construction of specific elements of facilities related to certain hazards as well as the protection measures for the current or intended use of buildings."

It is the powers contained in §28 of *the Fire Safety Act* that permitted firefighters, either themselves or with the assistance of the police, to evacuate people who were in danger from a fire.

Fire Investigation

Under §32 of *the Fire Safety Act* it was required that the municipality investigate fires, as follows;

> "**32 (1)** Subject to subsections (4) and (5), the local assistant shall *immediately*, and in no case later than twenty-four hours following a fire, investigate, or cause to be investigated, the *cause*, *origin* and *circumstances* of every fire by which property has been destroyed or damaged that occurs within the municipality or part thereof for which the person is a local assistant, unless otherwise directed by the Fire Marshal.
>
> …"

Local Assistants to the Fire Marshal have the power and the duty to take possession of a fire scene and conduct an investigation, involving the local police or Fire Marshal investigators when indicated, and report the results of the investigation to the Fire Marshal. They also must maintain custody of the scene in order for any evidence obtained in an investigation to be valid.

Forests Act

The Forests Act[106], RS., c. 179, s. 1, contains several provisions relating to fire protection. The province takes responsibility for the protection of forests in Nova Scotia, including from fire;

> "Protection of forests
>
> 21 (1) The Minister[107] shall undertake all measures which the Minister determines to be reasonable to provide for effective protection of the forests whether Crown lands, other land vested in the Crown or privately-owned land from various injurious agents, including fires, insects and diseases.
>
> (2) The Minister shall undertake programs to ensure that the capability to detect and suppress forest fires is enhanced."
>
> "Prevention and suppression of fires
>
> 22 (1) Subject to subsection (2), the Minister has control over the prevention and suppression of fires in the woods[108].
>
> (2) Every city or incorporated town, and a regional municipality with respect to that area of the regional municipality that was a city or town immediately prior to the incorporation of the regional municipality, shall at its own expense take reasonable steps to extinguish fires in the woods within its boundaries and, where a conservation officer deems the action being taken is not adequate, the Minister may take reasonable steps to control and extinguish the fire.
>
> (3) Nothing in this Act imposes any obligation on the Minister to fight fires on any land or the Crown to pay compensation for any property destroyed or damaged by fire or as a result of fighting a fire. R.S., c. 179, s. 22; 1998, c. 18, s. 559."

Section 21 of *the Forests Act* shows that the province is invested in the protection of crown and private forests from fire and will take all reasonable steps to protect the forests. Subsection 22(2) of the Act delegated fire protection within incorporated boundaries to municipalities. In the case of regional municipalities, the subsection says that this delegation only applied to the boundaries of the pre-existing incorporated components of the new regional municipality.

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[106] Chapter 179 of the revised statutes of 1989, "An Act Respecting Forests," short title; the *Forests Act*.

[107] The *Forests Act;* §**3(o)** ""Minister" means the Minister of Lands and Forests"

[108] The *Forest Fire Protection Regulations*; §2(k) ""woods" means forest land and rock barren, brushland, dry marsh, bog or muskeg."

Subsection 22(2) further states that the Province may takeover firefighting activities within municipal boundaries if provincial conservation staff are not satisfied with the way the municipality is fighting the fire.

The Town of Windsor has a legislated duty under *the Forests Act* to "*take reasonable steps to extinguish fires in the woods*" inside the boundaries of the Town of Windsor. With the Regionalization of the municipality of Windsor and West Hants Municipality, Windsor will no longer exist as a town but will be come part of a regional municipality. Yet as per the *Act*, the responsibility for fires in the woods will become the responsibility of the new Regional Municipality but only for the area which was formerly the boundaries of the Town of Windsor.

The province has the power to restrict the lighting of fires in the woods and to restrict persons from entering the woods when the risk of fires was high enough to be of concern.

> "Fire proclamation
>
> 24 (1) Notwithstanding any other provision of this Act, the Minister may, whenever the Minister deems it necessary for the protection of woods, by proclamation, prohibit the setting of fires for any purpose in woods or within one thousand feet of woods in any part or parts of the Province during the period specified in the proclamation.
>
> (2) Where a proclamation is made pursuant to subsection (1), no person shall ignite or cause to be ignited a fire in the woods or within one thousand feet of woods in a part or parts of the Province during the period specified in the proclamation."
>
> "Restricted travel zone
>
> 25 (1) Whenever deemed necessary for the protection of the woods, the Minister may at any time by proclamation set aside for any period of time a restricted travel zone in any area of woods upon which no person shall enter for the purpose of travelling, camping, fishing or picnicking, or any other purpose, without a travel permit."

The *Forests Act* also had provisions for fire suppression and fire prevention, as follows;

> "Fire fighting
>
> 26 (1) For the purpose of controlling and extinguishing a fire in the woods, a conservation officer may requisition the use of any privately-owned equipment and encourage people to assist in extinguishing a fire.
>
> …

(4) Every person who is aware that a fire has started and exists in any woods shall notify a conservation officer or the Department and any person who neglects or refuses to do so is guilty of an offence. R.S., c. 179, s. 26."

"Fire prevention

27 (1) No person who is in the woods or within one thousand feet of the woods during the fire season shall throw, drop or otherwise deposit any burning match, cigarette, cigar or smoking material, live coals, hot ashes or burning substance, or fail to extinguish any such thing.

(2) Where a person is permitted to ignite a fire pursuant to this Act, that person shall take every reasonable effort to prevent the fire from spreading and shall not leave the fire unattended until it is completely extinguished.

(3) No person shall ignite or cause to be ignited a fire on privately owned land without the permission of the owner or occupier except in an emergency situation for cooking or warmth or as a distress signal and only if the fire is made in a suitable place and precautions taken against the spreading of the fire.

…

(8) During the fire season, any person in charge of a group entering the woods for any purpose shall ensure that that person and any persons under that person's charge are fully informed of the provisions of this Act and the regulations pertaining to forest fire protection. R.S., c. 179, s. 27."

Forest Fire Protection Regulations

The regulations pertaining to fire protection arising from the Forests Act are the Forest Fire Protection Regulations.[109] These regulations set the "fire season" in the Regional Municipality and the appropriate restriction, as follows;

"3 (1) The fire season for the counties of Yarmouth, Digby, Shelburne, Kings, Annapolis, Queens and Lunenburg shall be the period of time during each year from the first day of April to the fifteenth day of October, both dates inclusive.

(2) The fire season for all other counties in the Province shall be the period of time during each year from the fifteenth day of April to the fifteenth day of October, both dates inclusive.

(3) Except as provided in the Act, during the fire season as prescribed in subsections (1) and (2), no person shall set, start, kindle or maintain a fire in the woods or within one thousand feet of the woods without a valid permit to burn."

[109] "*Forest Fire Protection Regulations* made under subsection 23(2) and Section 40 of the Forests Act, RSNS 1989, c. 179, NS Reg 55/87, NS Reg 167/2008," short title; *Forest Fire Protection Regulations.*

Summary of Duties and Powers, Provincial Legislation

The following is a summary of the fire protection related legal duties and discretionary powers of each responsible party as found in the various provincial legislation noted above in this chapter.

Party	Legislation	§	Type	Summary
Municipality	MGA	174	Power	May make by-laws respecting fire prevention and fighting of fires
Municipality	MGA	293	Power	May maintain and provide fire & emergency services
Municipality	MGA	294 295	Power	May accept fire department registrations
Municipality	MGA	296	Power	May make policies for governance of fire and emergency service providers
Municipality, etc.	MGA	300	Protection	Protection against liability for powers
Municipality, etc.	MGA	300	Protection	No liability unless grossly negligent
Municipality	MGA	302	Power	May assist at fires, etc., outside municipality
Firefighters		297	Duty	Shall endeavour to extinguish fire, etc.
Firefighters		297	Power	Generally, may do all things necessary to respond to the emergency, etc.
Firefighters		297	Power	Right to enter break into building if fire suspected
Firefighters		297	Power	Destroy buildings to contain fire or protect public from danger
Province	Fire Safety Act	9	Duty	Shall appoint Fire Marshal and staff
Fire Marshal	Fire Safety Act	13(1)	Power	Promote, advise, investigate, direct, collect information, study, recommend, etc.
Fire Marshal	Fire Safety Act	13(2)	Duty	Duties as assigned by Minister
Fire Marshal	Fire Safety Act	13(3)	Duty	Submit annual report to Minister
Fire Marshal	Fire Safety Act	13(4)	Power	Enforce compliance Acts and Fire Code
Fire Marshal	Fire Safety Act	14(1)	Power	May appoint local assistant to the Fire Marshal, may require Fire Chief consent if local assistant is fire department employee
Municipality	Fire Safety Act	5	Power	May make by-laws on matters in the Fire Safety Act, unless conflicts
Municipality	Fire Safety Act	13	Duty	Must inspect Group A premises during Act implementation schedule
Municipality	Fire Safety Act	14	Duty	Must inspect premises according to schedule
Municipality	Fire Safety Act	19	Duty	Appoint inspector, inspect land/premises for Act/Regulation compliance, keep records
Local Assistant (Firefighter)	Fire Safety Act	14(4)	Duty	Local assistant takes direction from Fire Marshal, assist in administering Act and Fire Code
Firefighter, Fire Marshal, etc.	Fire Safety Act	28(1)	Power	Entry without warrant in case of immediate threat to life of a person
Firefighter, Fire Marshal, etc.	Fire Safety Act	28(2)	Power	Remove persons, bar entry, do anything reasonably believes necessary to remove/reduce threat to life
Local Assistant (Firefighter), Fire Marshal	Fire Safety Act	32(1)	Duty	Immediately investigate fires for origin, cause and circumstances
Province	Forests Act	21(1)	Duty	Take all reasonable measures to protect forests from fire, injurious agents, etc.
Province	Forests Act	21(2)	Duty	Shall undertake programs to enhance detection and suppression forest fires
Province	Forests Act	22(1)	Power	Control over prevention and suppression fires in woods
Province	Forests Act	22(2)	Power	May take over firefighting inside municipal boundaries if deemed necessary

Party	Legislation	§	Type	Summary
Province	Forests Act	22(3)	Protection	Not obligated to fight any fire on any land or pay compensation
Province	Forests Act	24(1)	Power	Proclaim the prohibition of setting fires in the woods for protection of woods
Province	Forests Act	24(3)	Duty	Notice of Proclamation shall be issued publicly
Province	Forests Act	25	Power	Proclamation to close the woods to persons
Province	Forests Act	26(1)	Power	Requisition assistance in fighting woods fires
Municipality	Forests Act	22(2)	Duty	Shall take reasonable steps within boundaries to extinguish woods fires (i.e. boundaries
Public	Forests Act	26(4)	Duty	Must report any woods fire
Public	Forests Act	27	Duty	No person through act or carelessness shall start a fire in the woods or cause it to spread, etc.

APPENDIX V; MODEL; VOLUNTEER RECRUITMENT AND SELECTION PROCESS

NOTE: First Define position(s) advertised for and have in place appropriate position job function descriptions.

Purpose

The purpose of this policy is to set out guidelines and procedures regarding recruitment and selection of volunteer firefighters across the Regional Municipality.

Selection Criteria

Definitions:

Applicant: A person who applies for a volunteer position with the Region of Windsor and West Hants Municipality, but has not been accepted into the selection process.

Candidate: An Applicant who has met the minimum requirements and is being considered through the selection process.

Recruit: An entry level firefighter who has been offered an available volunteer position by virtue of successfully challenging the selection process.

Probationary: A volunteer who has successfully completed required training and is on active duty but is still within his/her probationary period.

Permanent: A volunteer who has completed all Probationary requirements.

Requirements

All available openings for Volunteer positions shall be advertised in the local media and posted within The Region of Windsor and West Hants Municipality.

All Applicants for a volunteer position in The Region of Windsor and West Hants Municipality. shall, as a minimum, meet all of the following criteria:

1. Complete the application form and truthfully include all information requested.

2. Be at least 19 years of age at the date of closing for applications.
3. Have completed high school or have a substantial equivalent in education or experience such as a recognized community college certificate in a trade with a standing that demonstrates academic ability.
4. Be available to attend training, and if the position applied for requires, attend emergencies, and to participate, as required.
5. Hold a valid unrestricted Nova Scotia driver's license (Class 5)
6. Have access to a reliable vehicle or means of transportation so that he/she may attend to the fire station or emergency scene as required or needed.

All Candidates in order to be considered for appointment to an available position as a volunteer shall meet as a minimum all of the following criteria:

1. Have good oral and written communication skills.
2. Be of sound mind and body as required to perform the duties required of the position applied for.
3. Be of good character, be strongly motivated, and exhibit a positive attitude.
4. Be willing and able to learn, to take direction, and to be a team player.
5. Successfully complete the Applicant selection process.
6. Submit acceptable criminal and vulnerability reference check and driver's abstract record.

All Probationary firefighters in order to receive a permanent appointment as a volunteer firefighter must meet all of the following requirements.

1. Successfully complete all learning and participation expectations.
2. For active firefighting positions Within two (2) years of appointment obtain a class "3" license with "f" endorsement.
3. Demonstrate that they can meet the requirements of the job description.

Selection Process Overview

In general, an Applicant who meets minimum criteria will pass into the selection process and become a Candidate under consideration. All Candidates who pass the selection process shall be placed on a list for possible appointment as a volunteer. Volunteer vacancies will be filled from such a list and any remaining listed Candidates will be considered for appointment over the 12-month life of the list if there are further vacancies and the Candidate remains suitable and available.

An Applicants or Candidates participating in the application and selection process will not be eligible for reimbursement or compensation of any costs or for any loss of income. An Applicant or Candidate is not considered a Recruit until such time as he/she is formally appointed and meets all conditions of the appointment.

Newly recruited volunteers who are appointed and meet the requirements of the appointment shall be placed on Probation for a period of one calendar year from the effective date of the appointment. Probationary requirements include the completion of all required training and exams as are set down, and the receiving of good reports on quarterly evaluations. Probationary volunteers not meeting these requirements may be subject to dismissal.

Thereafter the first year, Probationary firefighters may be conditionally placed on Permanent status pending their obtaining a 3f driver's license no later than the end of their second year. The new firefighter who fails to obtain a Nova Scotia Class "3" driver's license with "f" endorsement by the end of his/her second year shall be deemed to have not completed the probationary requirements and shall be subject to dismissal.

Procedural Steps and Requirements

1. Information on the selection process and application forms shall always be made available at all Fire Stations within the Region of Windsor and West Hants Municipality.
2. When active recruiting is taking place, an orientation meeting shall be held at a designated time and location for all prospective Applicants, and at least two weeks prior to the deadline for the receiving of applications. Meeting attendance by Applicants is not mandatory but all Applicants and spouses will be encouraged to take advantage of this opportunity to ask questions and to get more information on what it takes to be a Volunteer with the Regional Fire Service.
3. Candidates considered for appointment as a Volunteer shall reside in the fire district for which he/she is applying and in which he/she will serve. In the case of the Applicant who lives relatively near district boundaries, and where there is a greater need for firefighters in one district over another district, at the discretion of the Director of Protective Services an application may be received and a subsequent appointment of a successful Candidate may be made to other than the Candidate's home district.
4. All completed applications and relevant certifications will be submitted to the Regional Fire Service's office before the posted deadline. No consideration of late applications will be made.
5. Each station that requires new volunteers to fill available vacancies shall strike a Selection Committee consisting of not less than three, and not more than four. For firefighter positions the committee shall be comprised of, senior firefighters and officers. The Committee for volunteer firefighter positions shall contain at least one senior firefighter not of officer rank. Committee members from other stations are permitted.

6. Candidate selection shall be on the basis of qualifications, ability and potential. At each stage in the screening process the Candidate will be evaluated for eligibility based upon the volunteer position applied for, to proceed to the next step. All Candidates shall be screened through the following steps of the selection process:
    (a) Screening of Applicant's basic requirements through the application form.
    (b) Completion of an individual interview with the Candidate where factors such as character, motivation and team skills will be evaluated. This is a subjective interview based on pre-set questions and with a structured evaluation scheme and will be scored.
    (c) Through the use of the established evaluation system the Selection Committee shall select Candidates at each evaluation stage, deciding who are eligible to proceed to the next step. Where several stations are recruiting at the same time combined testing events will be scheduled where possible.
7. The successful Candidates from the selection process shall be ranked and the list of all successful Candidates shall be recommended by the Selection Committee to the applicable District Fire Chief. The District Fire Chief shall review the selection documents of all the Candidates for errors in process.
8. The District Fire Chief shall present to the Director of Protective Services a list of recommended Candidates for Recruitment, and a list of waiting-listed Candidates. The Director of Protective Services shall review the District Fire Chief's recommendations and may issue conditional letters of appointment to sufficient Candidates to fill available vacancies in the particular station. Any remaining ranked Candidates shall be notified that they are placed on a 12-month waiting list for further vacancies that might appear over that period.
9. Candidates receiving conditional offers of appointment shall have 14 days to provide the following required documentation:
    (a) At least a "Class 5" Driver's License
    (b) A satisfactory Criminal Reference Check
    (c) A satisfactory Driver's Abstract
    (d) A Doctor's certificate of health using the Municipality's recommended form.
10. The Candidate who provides satisfactory documentation within the time allotted will be required to sign an Acceptance-of-Offer form and shall be placed on the list as a Recruit Firefighter. He/she will be signed onto the Municipality's benefit programs.
11. All Recruit Firefighters shall attend and shall successfully achieve a program of recruit training as is laid down by the Training Division. Recruit Firefighters failing to successfully achieve the recruit program will be terminated.
12. The Recruit Firefighter who successfully completes the Recruit Training Program shall be accepted for service in his/her station as a Probationary Firefighter with limited duties and expectations. For the balance of his/her first year after accepting his/her appointment, the Probationary Firefighter will be expected to pass such tests and to acquire such skills and knowledge as are laid down by the station Training Officer and the Training Division. Failure to satisfactorily achieve these or failure to maintain adequate attendance will be cause for dismissal.
13. Probationary Firefighters will be formally evaluated by the station Training Officer and the station District Fire Chief at the completion of 3 months, 6 months, 9 months, and 12 months of his/her first year. These reviews shall evaluate the Probationary Firefighter's progress and

potential in meeting the Job Requirements of a volunteer firefighter. Concerns identified in these evaluations shall be resolved before the subsequent evaluation. Failure to resolve concerns within those periods will be cause for dismissal.

14. The Probationary firefighter who successfully completes his/her first year shall be appointed as a Permanent volunteer firefighter. However, such appointment shall be conditional on the firefighter obtaining his/her 3f Driver's License prior to the expiry of the second year. Failure to obtain the Driver's License will be cause for dismissal.

Applicants with previous firefighting experience.

An Applicant who has previous firefighting experience may, at the discretion of the Director of Protective Services, be recruited through a modified evaluation process as follows:

1. The Applicant shall submit an application, and if suitable shall participate in the Candidate selection process in the normal manner, and if successful shall be ranked as are other Candidates.
2. Credit shall be provided for previous experience that is deemed relevant and significant.
3. If the Candidate is suitable for appointment, he/she may be offered a conditional appointment to a vacancy in the normal manner.
4. The experienced Recruit may be excused from recruit training to the extent that the station Training Officer determines is acceptable and provided the Candidate submits suitable records of previous training and experience for review by the Selection Committee, the station Training Officer and the Divisional Chief of Training and Safety.
5. The experienced Recruit may be immediately placed on 12-month probation, and is subject to periodic mandatory review in the normal manner.
6. The experienced Probationary firefighter shall be assigned tasks in accordance with demonstrated ability, which may exceed those of other Probationary firefighters without previous experience.

Volunteers transferring to another station.

Any Permanent Regional volunteers who moves his/her principal domicile from the fire district in which he/she is a volunteer to another fire district may apply for a transfer from one station to another. Such transfer is subject to the following:

1. The volunteer receives a suitable recommendation from the District Fire Chief of the station to which the firefighter currently belongs.
2. The District Fire Chief of the station to which the volunteer is requesting transfer interviews the firefighter and recommends his/her transfer.
3. There is a vacancy in the receiving station.

The Director of Protective Services reviews and approves the transfer.

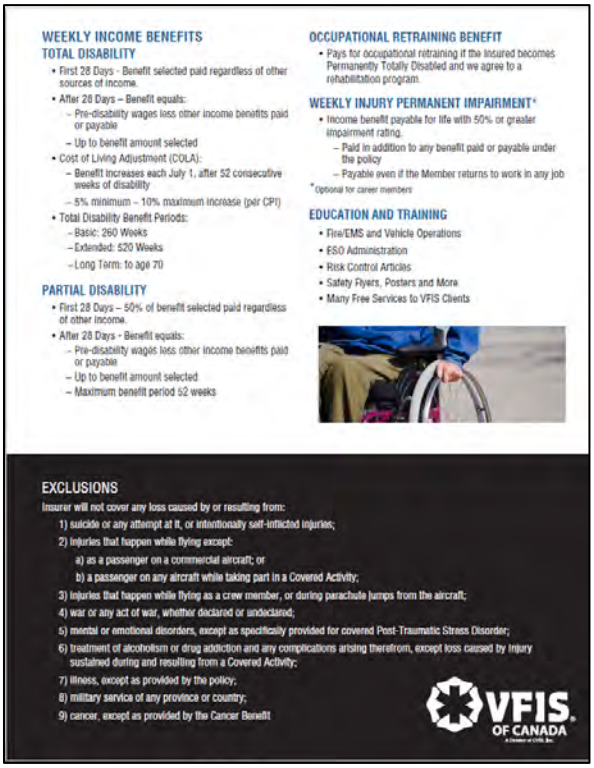
APPENDIX VI; VFIS PLANS AND COVERAGES (FOR REFERENCE)

VFIS Coverage, General

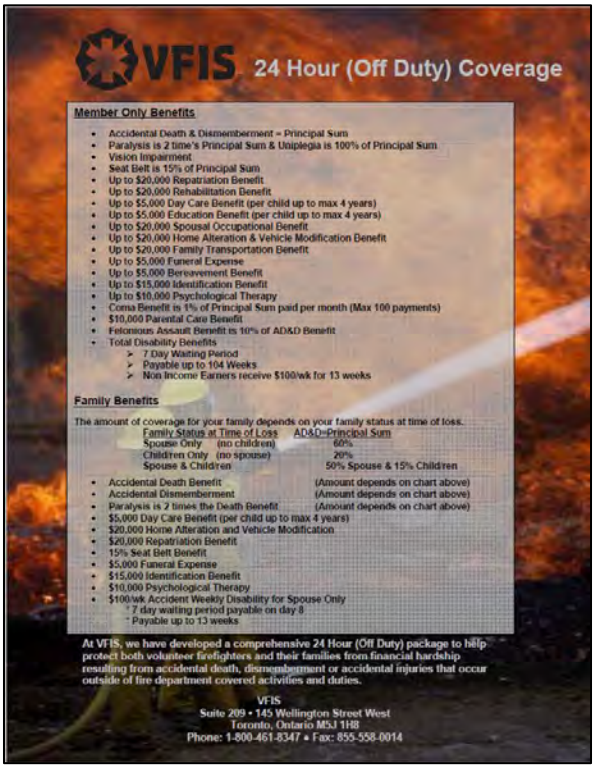


VFIS Coverage, On-Duty & Off-Duty Coverage









VFIS Coverage, Member and Family Assistance Program (MFAP)



Volunteer Firefighter Member and Family Assistance Program (MFAP) Solutions

Harness the power of full-scale employee/firefighter and workplace support solutions through an exclusive MFAP arrangement through VFIS of Canada a division of CVIS, Inc.

DID YOU KNOW?

- Mental and nervous disorders have replaced musculoskeletal conditions as the top conditions causing long-term disability.

Source: Canadian Council on Integrated Healthcare

- The mounting costs of maintaining unhealthy employees/firefighters, coupled with the expense and disruption associated with staff turnover, is leading many employers to implement a health promotion strategy. Thanks to a growing body of evidence, today's workplace health programs are no longer viewed as just a good idea, but rather a crucial investment in an organization's long-term success.

Source: The Case for Comprehensive Workplace Health Promotion, Centre for Health Promotion, University of Toronto

Member and Family Assistance Programs (MFAPs) are employer paid benefits that support both the members and the workplace. These services are designed to enable members to resolve personal and work issues so that optimal productivity is maintained. They include health, wellness and other strategic solutions for smaller employers/municipalities.

Homewood Health offers Volunteer Fire Departments the same services as some of Canada's largest employers at **a preferred**

VFIS of Canada member rate of $2.00 per member per month (non-member rate $3.00).

VFIS OF CANADA

1 **Ease of use**
All of our services are simple and intuitive to use, so all members can benefit (e.g. online solutions allow easy and secure access anywhere and anytime, clinical response is fast and available 24/7 in both official languages, counselling is short-term and solution-focused, and we have counselling offices across the country).

2 **Prevention focused**
Homewood Health takes a comprehensive and prevention-focused approach to a members well-being and productivity. Our healthy workplace strategy targets the member, workplace and organization. Our prevention focus strengthens the resiliency of your workforce.

3 **Appealing and relevant messaging**
MFAP and related services are only useful to the extent that they are utilized by members and key personnel (managers, supervisors, etc). We craft our messages to appeal to members in different stages of their life and career, ensuring that promotion efforts are relevant, appealing, and successful.

1



MEMBER SUPPORT SERVICES

Short-term Counselling (no session caps): Our unique solution-focused cognitive behavioural therapy approach focuses on teaching individuals, couples, and families the skills necessary to solve their life problems without creating a long-term dependent counselling relationship. Confidential counselling is offered in the local community. Our counselling is delivered by our extensive national network, with the highest ratio of clinical psychologists. Their focus is on specific goal attainment, behaviour change, accurate diagnosis of complex problems, and the best possible outcomes. Treatment is provided for a full range of personal or work-related issues including, but not limited to:

- addictions, adolescent issues; aging and care giving; anger management; anxiety; child development
- Communication problems; domestic violence; depression; family issues; grief and bereavement; marital issues
- parenting; personal adjustment problems; relationship difficulties; sexuality; stress; separation / divorce / custody; special needs of children, and trauma

Life Smart Coaching Services

Life Balance Solution:
- Childcare & Parenting
- Elder & Family Care
- Legal Advisory Service
- Financial Coaching
- Relationship Solutions

Career Smart Coaching Services:
- Shift Worker Support Pre-
- Retirement Planning

Health Smart Services:
- Nutritional Coaching Smoking
- Cessation Program Jumpstart your Wellness

Online Resources and Services
- E- Learning Courses
- Health Risk Assessment
- Child and Eldercare Locator
- Health Library

Crisis Management/Trauma
- Crisis Management Services (CMS) – charged separately @ $225 per hour

KeyPersonAdviceLine: Designed for key personnel and supervisors, the advice line allows key persons to contact a Homewood Health counsellor at any time for consultation should a situation arise at the workplace which requires a professional opinion. These consultations are designed to be available on an immediate, as-needed basis.

For more information ask for our detailed brochure defining each service. Marketed & Sold by CVIS, Inc. Developed by Homewood Health

MFAP Solutions—supporting employee/firefighter well-being, capability and effectiveness.

Learn more about other solutions offered through your Member and Family Assistance Program (MFAP).

[1.800.461.8347 | Canada.vfis.com

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VFIS OF CANADA Homewood Health + Care

2

VFIS Coverage, Trauma Care



Homewood Health™

Trauma Care

Post-Traumatic Stress Disorder (PTSD) is a serious condition that can affect anyone who has experienced a traumatic episode or repeated exposure to traumatic episodes.

It can leave a person debilitated by severe anxiety, nightmares, flashbacks and uncontrollable thoughts about an ordeal. Left untreated, symptoms can worsen and leave an individual unable to cope with everyday life.

Studies show that accurately and effectively addressing symptoms and distressed functioning early can have significant impact on successful recovery and return to normal functioning.

A New Response

Homewood Health™, in partnership with VFIS, is offering Trauma Care Program—a new mid- to long-term treatment option for Firefighters experiencing trauma symptoms.

This unique program model is designed to utilize industry best practices such as Cognitive Behavioural Therapy, resiliency training and a wide range of online mindfulness tools for individuals who remain on the job but are struggling with acute or long-term trauma symptoms.

The program provides up to 20 hours of individual treatment.

Our Unique Partnership

VFIS is offering Firefighters the opportunity to take advantage of this program through their Post Traumatic Stress Disorder Benefit. Through this benefit, Firefighters are eligible for covered access to Homewood's treatment for trauma experienced on the job.

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145 Wellington Street West, Suite 209
Toronto, Ontario, M5J1H8
1.800.461.8347 | canada@vfis.com

www.vfiscanada.com

Homewood Health | Santé



Trauma Care

Program Access

This fee for service program must be initiated through VFIS in order to be eligible for reimbursement. Firefighters must first meet the definition of traumatic incident*.

To initiate a claim, Firefighters can access the initial claim report and Attending Physician Statement form online at www.vfiscanada.com

Completed forms can be returned to VFIS by fax at 1.855.558.0014 or electronically to Canada@vfis.com. Once approved, a Firefighter has the option to be contacted by a member of Homewood Health's Trauma Care Intake team to initiate services, or to call Homewood Health directly at 1.800.663.1142 and request Trauma Care services.

*__Traumatic Incident__ – means an abnormal experience, outside the range of usual human experiences and includes, but is not limited to:

1. Line-of-duty death or serious injury to other **Insured Persons;**
2. A single incident having multiple casualties;
3. Death or serious injury of a child; and
4. Dealing with victims known to the **Insured Person.**

Specialized Clinicians

Clinicians are specifically selected for this service. They have expertise and specific training in evidence-based psychotherapy, particularly Cognitive Behavior Therapy, relating to PTSD, as well as mood and anxiety disorders. Trauma Care clinicians also have experience working with military personnel and first responders and have undergone additional training regarding the cultural perspectives shared by many individuals in these occupations.

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APPENDIX VII; SAMPLE JOB DUTIES AND DESCRIPTIONS

Director of Protective Services/Fire Chief Draft Job Description

IMMEDIATE SUPERVISOR: CHIEF ADMINISTRATIVE OFFICER

Position Summary: (ILLUSTRATIVE PURPOSES ONLY)

Reporting to the Chief Administrative Officer, you will lead the Regional Fire Service and manage the many necessary changes in the organization and operations to meet the ever-changing demographics of the community and regulatory requirements. Key focus area is the development of an overall strategy and plan in developing a path toward greater integration of services, facilitate change and support the volunteer fire services.

The position includes responsibility for the Regional Fire Service, Regional Emergency Management, liaison with local RCMP and EHS. The Regional Fire Service is designed to deliver the best possible fire protection and emergency service in order to avoid loss of life and property through prevention, code enforcement, preparedness and response. The Regional fire Service is primarily a volunteer fire service consisting of some part time positions. This staffing model meets the needs of the Region and reflects the commitment of both the Region and that of its various communities and residents. This commitment to a primarily volunteer model is unwavering and must be understood and embraced by all personnel. The position will be responsible for the coordination of a uniform and integrated team of Fire Departments, each possessing an uncompromised identity.

As part of the Corporate management team, participates in the overall stewardship of the municipality. This position has corporate and department responsibilities for emergency and business continuity planning. The Regional Municipality expects all employees to work in an environmentally friendly way in all the tasks that they do; to work in a manner that is safe for themselves and others and to be aware of their health & safety obligations; to continually look for opportunities to improve their job that will result in excellence in municipal government and; to recognize the uniqueness of the individuals they come into contact with, and to treat them with dignity and respect.

PURPOSE OF JOB:

The Director of Protective Services/Fire Chief position is a senior management position responsible to plan, organize, direct, control and evaluate all aspects required of modern-day emergency services which include fire and rescue services, code enforcement, emergency management, medical first responder programs and activities of the Region. The Director/Fire Chief is required to analyze and consult with the CAO and other Regional officials and emergency services in developing recommendations for the protection of life and property within the Region. Administrative duties including planning, development of policies and procedures, directing and controlling activities of the work unit, long term planning, recruitment and retention of personnel, purchase of equipment, control of expenditures, management of budgets and the assignment of personnel and equipment, human resources as it relates to those personnel under his/her comm **Responsibilities as the Regional Emergency Measures Organization Coordinator.**

The Director of Protective Services/Fire Chief includes responsibilities as the Regional Emergency Measures Organization coordinator. Responsibilities include but are not limited to

and. Further the position is responsible to keep current any mutual-aid, auto-aid agreements and annual fire department registrations.

1. Responsible for the development of Emergency Management Plans.
2. Provides assistance to municipal departments, non-governmental and volunteer agencies develop plans and procedures.
3. Ensure that current pans and procedures align and compliment with those of NS EMO
4. Facilitates inter and intra-agency cooperation.
5. Coordinate municipal operations with provincial and Federal governments in the event of an emergency.
6. Responsible to ensure that the Emergency Coordination Centers (ECC) and associated equipment are fully functional and ready for use 24/7.
7. Responsible for semi-annual preparedness exercises.

FIRE SERVICE Job Duties and Tasks:

1. Promote the missions and values of the Regional Municipality.

2. Ensures that Council approved policies and procedures are adhered to in the department and that other departments observe policies within the jurisdiction of the Fire department.

3. Interacts with other departments on a regular basis as many of the Fire department's daily responsibilities require an integrated corporate approach.

4. Actively promote the Municipality's health and safety program. Lead by example in the areas of health and wellness and work life balance.

5. Responsible for ensuring that employees of the department are provided with a safe and healthy workplace consistent with corporate standards and the healthy workplace initiatives.

6. Provide supervision for the activities of the Regional Fire Service department including the performance of staff.

7. Develop, implement and maintain short- and long-term planning to ensure effective services.

8. Create financial budgets to meet the needs of the department. Routinely monitor the budget expenditures, advising the CAO of variances and significant deviations.

9. Review and make recommendations to the CAO as to the type of fire and emergency services, including equipment and human resources (recruitment and retention of personnel).

10. Keep abreast of changing local conditions in firefighting, fire prevention, inspections and develop recommendations for the provision of fire services.

11. Provide leadership and communication through regular meetings (i.e. the Fire Chiefs Advisory Board) and delegation responsibilities.

12. Promote effective employee/employer relations.

13. Encourages participation by subordinates in departmental projects and teams.

14. Develop and mentor senior officers to provide leadership to the department.

15. Represent the Regional Fire Service department in communications with the media and the public, in coordination with the CAO.

16. Establish and maintain effective working relationships with members of the public, residents, Councillors and staff.

17. Manage emergency service contracts, mutual-aid and auto aid agreements.

18. As required, report to Council on Regional Fire Service activities.

19. As part of the Emergency Coordination Centre (ECC), be available for call backs to emergencies.

20. Respond on scene to large scale emergencies/fires in an incident command role as required.

21. Other related duties as assigned.

Supervision:

Supervision Given:

Provides policy direction. Organizes programs and goals and objectives for the department. Provides direction for all staff in the department. Must be able to maintain an effective working relationship with volunteer firefighters. Must be able to motivate and maintain active volunteer fire fighting force.

Responsibility:

Supervision Received:

Accountable for own actions, and those of subordinates.

Effect of Errors: Strategic errors made by this position can result in loss of life and property in the community. The Director of Protective services/Fire Chief has technical expertise that does

not allow for senior positions to be able to assist in some of the critical strategic decision making for the department.

Freedom to Make Decisions: Employee makes operating decisions between alternative courses of actions which have long lasting effects. Must be prepared to make decisions with a limited information base or decisions that may have political overtones.

Interpersonal Contacts:

Purpose: Contacts are a major portion of the job. Provides leadership for staff in the department, and advises staff at all levels.

Performs a public relations function for the municipality and must use tact with the media.

Is involved in Emergency Response, which calls for skill in human relations and dealing with people in emergency situations.

Ingenuity: Must originate policies for the Fire Department where there may be no precedent. Must consider political ramifications of decisions to change staffing requirements at different locations. Must be open to new ideas, equipment, potential cost savings to the Corporation. The position works on long-term planning for the department, including deployment of resources to reflect changes in population growth.

Assistant Chief of Fire Prevention

Immediate Supervisor: Director of Protective Services/Fire Chief

Direct Reports: Regional Fire Inspectors/Investigators, Station Volunteer Fire Investigators and Station Public/Life Safety Educators.

Position Purpose: (ILLUSTRATIVE PURPOSES ONLY)

The Assistant Chief Position is responsible for the establishment, organization, coordination and administration of the Regional Fire Inspections/Investigations Division. Division personnel will enforce and interpret all Fire Department related by-laws of the Municipality, National Building and Fire Code, Nova Scotia's Fire Safety Act and various Provincial and Federal Acts, Regulations and Codes. Manages Division so that fire inspections and life safety studies meet the requirements of relevant legislation, codes and standards; fire risk analyses are completed and compliant with building and life safety legislation. Manage and ensures all incidents of fires are properly investigated, coordinate investigations and cooperate with other investigative authorities and agencies. Establish and maintain a Fire service photographic capability. Develop and administer business and information systems related to Division programs and activities. Acts as an Assistant to the Fire Marshal of Nova Scotia under the provisions of the Provincial Fire Safety Act. This position may from time to time perform support roles during emergencies. Participates in the formulation of departmental policies, procedures, regulations and program objectives along with providing administrative and technical advice to the Director of Protective Services/Fire Chief.

Key duties include:

FIRE INSPECTIONS/CODE ENFORCEMENT

1. Maintains all files in accordance with the file classification system and records retentions policies.
2. Assess development plans for all occupancies for compliance with relevant codes and standards by liaising with the Chief Building Official, architects and engineers.

3. In conjunction with the CBO, oversees interactions with developers, architects, engineers and building owners to ensure compliance with the provisions of applicable acts and regulations in order to meet adequate fire safety in new and existing buildings.
4. Ensures the highest standards of confidentiality and integrity at all times.
5. Cause information to be laid and prosecutes infractions of all applicable By-laws, codes, acts, standards and statutes, when required.
6. Hold regular team meetings and encourage team building.
7. Formulates departmental policies, procedures, regulations and program objectives along with providing administrative and technical advice to the Director of Protective Services/Fire Chief
8. Ensures appropriate training and skill development for staff
9. Monitor and manage usage of the designated budget.
10. Draft Operational and Capital Budget of Divisional needs for the Director of Protective Services/Fire Chief
11. Actively participates in Fire inspections/Code Enforcement
12. Prepares necessary documentation and reports in support of any code enforcement issue including meetings with the Crown, if required.

F**IRE INVESTIGATION:**

Key duties include:

1. Ensures all incidents of fires are investigated
2. Examine fire scenes (when required) for the purpose of investigation of the origin and cause of the fire / explosion and report same to the Provincial Fire Marshal of required by the Fire Safety Act.
3. Coordinates and cooperates with other investigative agencies such as the Office of the Fire Marshal, the RCMP and Insurance Investigators and or their contractors.
4. Author investigative reports detailing the incident and investigative findings.
5. Attend court as required.
6. Ensures appropriate training and skill development for all staff including volunteer staff
7. Hold regular team meetings and encourage team building.
8. Performs other related duties as assigned

PUBLIC EDUCATION and LIFE SAFETY

The Assistant Chief manages and promotes public relations, public education and media relations programs and activities focusing on public and Life Safety in an effective manner. Reviews and analysis past incidents of fires to develop an appropriate program and target audience.

Key duties include:

1. Utilizes fire loss data in the development and design of appropriate fire safety education programs

2. Utilizes analytics and data in the development and delivery of targeted public education messages

3. Provides Assistance to the Community and fire service volunteers in the design and the delivery of public safety education presentations and seminars to a variety of audiences

including community groups, dwelling unity owners/residents, elementary school students, seniors, and workplace employees

4. Provides assistance in the development of special events, media campaigns and other activities to promote and provide education on fire prevention and safety awareness
5. Provides fire safety materials to support program delivery, including lessons plans, PowerPoint presentations, and brochures
6. Utilizes all forms of media to support effective fire safety messaging to the public and undertakes media related activities as required to such as interviews (print, radio, television, and social media) and the preparation of media advisories and releases
7. Engages with various internal and external stakeholders
8. Work with the Regional fire departments for school fire drill programs, station tours, and community events
9. Develop and implement fire department and community volunteers for the delivery of Public Education and Life Safety Programs.
10. Insures appropriate training and skill development for volunteer staff
11. Hold regular team meetings and encourage team building.
12. Maintains all files in accordance with the file classification system and records retentions policies
13. Monitor and manage usage of the designated budget.
14. Prepare Division operating and capital budgets for the Director.
15. Demonstrates a commitment to personal and professional development

EMERGENCIES:

Participates in a rotational on-call schedule with Fire Prevention /Investigative staff and volunteer staff as the fire services on call fire investigator.

The Divisional Chief may be asked to attend, as required by the Director of Protective Services/Fire Chief, emergencies either to the Municipality's Emergency Control Center, in a support role to the Director, or act as the REMO in his absence. The Assistant Chief may be also asked to report to the scene of the emergency and provide a support role to the Incident Commander.

DUTIES

Divisional Chief of Training, Occupational Health & Safety, & Communications

Immediate Supervisor: Director of Protective Services/Fire Chief

Direct Reports: Regional and Departmental Training and Safety Officers

Position Purpose: ILLUSTRATIVE PURPOSES ONLY

The Divisional Chief Position is responsible for the establishment, organization, coordination and administration of the Regional Training, Health, Safety & Wellness Policy and Programs as well as the department's communications, including maintenance and documentation. Participates in the Board of Fire Chiefs meeting as required.

Key duties include:

Training:

Researching, developing and preparing a variety of training programs. Coordinating training programs, manuals, lessons and syllabus for volunteer, part time and full-time fire department personnel; providing motivation and mentoring of department members for professional growth;

coordinating and scheduling the delivery of fire service-related training programs such as recruit training, officer development, inspection and investigation, emergency care, vehicle driver/operator training etc.; coordinate assigned activities with other divisions and outside agencies;

researching and evaluating fire department policies, procedures, techniques and equipment; assisting with recruitment and evaluation - screening resumes, arranging interviews, and creating new hire documents for Volunteer; managing MFR, Ice/Water and specialized training such as Trench Rescue, Confined Space and Hazmat; maintaining training records for all fire department employees; and other duties as assigned.

1. Performs an assessment of needs

2. Consults with the District Fire Chiefs Advisory Committee
3. Determines best practice in the development & implementation plans for program delivery
4. Manages Direct Reports, assign and distribute workloads
5. Produces an annual training plan and develops curriculum and lesson plans in all required areas.
6. Develop fire officer soft skill development opportunities
7. Develop personnel for future roles to meet the projected needs of Regional Fire Service (Succession planning)
8. Look for training opportunities with outside jurisdictions, agencies and private corporations.
9. Develops and maintains a comprehensive training records management system data base.
10. Coordinates and oversees the annual recruit training program.
11. Develops and implements Pre-fire Planning and Post-Incident Analysis and Review programs.
12. Authors a variety of reports involving complex and confidential matters, and Standard Operating Guidelines and Training Directives
13. Select instructional staff that assists with meeting department policies and instructional goals.
14. Review and approves all Practical Training Safety Plans
15. Develops and implements standardized new fire service member orientation.
16. Construct a performance-based instructor evaluation plan so that instructors are evaluated at regular intervals. The evaluation needs to identify areas of strengths and weaknesses.
17. Recommend changes to improve instructional style and communication methods. In addition, provide an opportunity for instructor feedback.

18. Develop an evaluation plan to collect, analyze and report data for program validation and participant feedback.

19. Proctor written and performance tests according to procedures in addition to maintaining security of the testing materials.

20. Draft training equipment purchasing specifications that support the training program goals.

21. Prepare annual operational and capital budget that supports the needs of the Regional Service for the Director of Protective Services/Fire Chief

Safety, Health, Safety & Wellness Policy and Programs:

1. Applicant Medicals
2. Infection & Disease Control
3. Fire Ground Safety Command (Participates in a rotational on-call schedule with volunteer staff.
4. Establishes programs and protocols to meet the needs NFPA-1500 requirements
5. Establishes programs and protocols to meet the needs of NFPA-1521
6. Scene Safety
7. Traffic Control Safety
8. CISD
9. Liaises with medical and mental health professionals
10. Supervises Direct Reports
11. Prepare annual operational and capital budget that supports the needs of the Regional Service for the Director of Protective Services/Fire Chief

Develops, Implements and Enforces the Regional Fire Service's Risk Management Plan in the following areas:

1. Administration
2. Facilities
3. Training

4. Vehicle operations, both emergency and non-emergency
5. Protective clothing and equipment
6. Operations at emergency incidents
7. Schedules and participates in an on-call rotation as a Fire Safety Officer for emergencies.
8. Operations at non-emergency incidents
9. Products of combustion, carcinogens, fireground contaminants, and other incident-related health hazards
10. Other related activities

Occupational Health & Safety Committee

1. Establish and Co-chairs the Reginal Fire Services Occupational Health & Safety Committee, as the management representative.
2. Track, record, Trend and publish LTI and Near Misses
3. Responsible to ensure that committee minutes are recorded, and distributed throughout the organization.
4. Establish and Keep current fire station Safety Bulletin Boards.

COMMUNICATIONS

1. Liaises with the appointed PSAP and Fire Dispatch Service provider.
2. Manages the Reginal Fire Service Fire Dispatch contract on behalf of the Regional Municipality.
3. Keep inventory of all radio equipment.
4. Manages Radio call sign assignments both apparatus and personnel.
5. Manages communications and related supplier contracts, on behalf of the fire services and departments.
6. Prepares operating and capital budgets for the Director of Protective Services/Fire Chief.

Emergencies:

Participates in a rotational on-call schedule with full time and volunteer staff as an Incident Safety Officer.

The Divisional Chief may be asked to attend emergencies, as required by the Director of Protective Services/Fire Chief, either to the Municipality's Emergency Control Center, in a

support role to the Director or to the scene of the emergency in a support role to the Incident Commander.

APPENDIX VIII; ADMINISTRATIVE OFFICE SPACE AND COSTS

ADMINISTRATION OFFICE SPACE REQUIREMENTS

GA's recommendations to provide central administrative staffing for a regional fire services HQ means that there will be a need to establish office space for this staff. GA recognizes that industry standards may not be achievable as there are constraints with existing buildings which will, by economic necessity, be repurposed through the consolidation process and afterwards; until such time as new structures are justified.

The one main caveat is that there be effort made to keep the fire services personnel together in one location in order to ensure proper coordination and communications at all levels and functions; this is critical for success.

The following is offered for assistance in understanding what industry standards are for office spaces. It may be useful as a planning tool.

Office Functional Requirements and Location

Office space must be flexible and have a technologically-advanced working environment that is safe, healthy, comfortable, durable, aesthetically-pleasing, and accessible. It must be able to accommodate the specific space and equipment needs of the office function.

The single biggest issue that impacts on facility cost effectiveness is that of location. There are a number of options to consider in determining location. For the purposes of this exercise, the assumptions made are that this will be the regional headquarters for the fire services, and current municipal facilities cannot accommodate the additional office functions and space. Current fire stations across the region are not able to accommodate the additional office function and space. If a new municipal office building is planned for the new regional municipality then this would present an ideal opportunity to incorporate the fire services administrative offices into that new facility. Some location options might exist, as follows;

- As a regional headquarters, ideally, the offices should be centrally located, close to the majority of stations and municipal offices.

- Incorporate the required offices into a new fire station. Location may not be ideal.
- If renting or leasing space, availability that meets the needs, budget and location.
- Construct a separate office building, if land availability at reasonable costs.

Space Types and Functional Requirements

An office such as a fire department headquarters incorporates a number of space types to meet the needs of staff and visitors. These include:

- Offices both private and semi-private
- Visiting fire station service personnel and committee work areas
- A conference room
- Washrooms
- Reception area
- Wait area
- Small kitchenette
- Space for printer and communications
- General storage for office supplies
- Storage for investigation equipment and evidence lock-up
- IT , and security closet
- Maintenance Closet

In addition to the foregoing, the headquarters would require security features i.e. cameras and parking spaces for no less than 10 vehicles for the office staff, visiting fire station members and the public.

Based upon the required functionality of department administration, meetings that would include municipal staff, fire department personnel, public, and others, and given that the staff organization is that of a regional service it is being proposed that an office space of approximately between 2,700 and 3,000 square feet is required.

Office Cost Estimates

The following office requirement is based upon the new Regional Fire Service organization. Requiring approximately 3,000 sq. feet (278.7 sq., m).

References used in the cost estimates are:

- ALTLUS Construction COST Guide 2018
- Quebec Hydro Study of 2018 (1 April)
- REMAX Real Estate Services – Windsor NS
- BDC.CA
- Prevost Fire Station Cost Calculator

The costing does not include the following:

- Utilities
- Insurance
- Fit up
- Furnishings
- Data/IT/Communications
- Maintenance

Rental /Lease:

REMAX – Office Space Rental or lease Windsor

Rental or Lease average cost OFFICE SPACE 3000 sq. ft. - $3/sq. ft

($3.00 sq. ft per month +HST = $10,350/mo. *10 yrs. = $1.242 mil.)

Office costing does not include utilities, fit up, furniture, data, electronic equipment, security, communications equipment, telephones.

ALTUS Construction Guide 2018

Halifax Leasing rates as per Altus 2018 Construction Guide,

Market net effective rate for suburban Class A office space averages $9/sq. ft.

Buildings Costs

When calculating the total construction area for a private sector building, unit costs should be applied exclusively to the Gross Construction Area (GCA). This assumes that GCA comprises 70% of the Total Construction Area (TCA)

The costs assume base building construction only, including mechanical and electrical services, washrooms, and finishing of ground floor entrance lobby and elevator lobbies to upper floors.

The cost of tenant partitioning and finishes, with the exception of ceiling and column finishes, are excluded. The cost of finishing this space can fluctuate depending on the density of partitioning and the quality of finishes. Costs assume standalone buildings and are not representative of a component within a mixed-use building

The costs given assume single-storey buildings with the exception of enclosed malls. The cost of providing parking facilities is excluded from the unit costs provided. The Commercial Rental Unit (CRU) space is considered shell. The public space is finished. Costs assume standalone buildings and are not representative of a component within a mixed-use building.

Fire Stations exclude any costs associated with training buildings.

- Fire Station Cost for Halifax = $250-315 per sq. ft. (land and site costs not included)
- Commercial Halifax $165 to $210 per sq. ft.
- Strip plaza HFX = $100 to $150 per sq. ft.

BDC Conventional Commercial Loan fixed rate (Sample, for Illustrative Purposes Only)
(Municipal Finance Corporation rates may be somewhat lower)

Build (land and site costs not included)

- Commercial Office Space
- $525,000 (3000 sq. ft at $175 per sq. ft)
- 5% interest
- 10 years total cost = $668,212.75
- Total interest = $143,212.75
- Monthly payments of $5,568.44

Commercial Office space $525,000 (3000 sq. ft at $175 per sq. ft)

- 4.3 % interest
- 10 years total cost = $621,506.44
- Total interest = $96,506.44
- Monthly payments of $5,179.22

Commercial Office space at $525,000 (3000 sq. ft at $175 per sq. ft)

- 3.45 % interest
- 10 years total cost = $621,506.44
- Total interest = $96,506.44
- Monthly payments of $5,179.22

Commercial Office space at $600,000 (3000 sq. ft at $200 per sq. ft)

- 3.45 % interest
- 10 years total cost = $710,293.08
- Total interest = $110,293.08
- Monthly payments of $5,919.11

Fire Station Office space at $900,000 (3000 sq. ft at $300 per sq. ft) Note: Fire Stations are now required to be built to disaster seismic standards contained within Part 4 of the NBC. This increases the square footage costs.

- 3.45 % interest
- 10 years total cost = $1,065,439.62
- Total interest = $165,439.62
- Monthly payments of $8,878.66

Office costing does not include utilities, fit up, furniture, data, electronic equipment, security, communications equipment, maintenance nor insurance costs.

Electricity Costs

Quebec Hydro Study of 2018 (1 April) Hydro Costs of Major Cities, cites Halifax, Commercial customers 1000, kWh/month with a power demand of 500kW avg bill = $142/mo. including taxes.

Water Costs (Town of Windsor 2017/2018)

Base Charge 1" meter

- $166.51 quarterly
- $666.04 Annually

Consumption Rate $6.69 per 1,000 imperial gallons (1.47 cubic meter)

Rates for Fire Sprinkler: 6" pipe or less $200 annually.

Total Capital layout for administration office space over a twenty-year period and depending upon the interest rate of capital loans, what is the best financial option for the municipality? There are a number of additional variables not included in this report, is land costs and associated site development costs and the estimated property value at the end of its life cycle use for the regional fire service.

There are a number of options for consideration:

- If there is a need/plan in the near future to acquire a new regional municipal office, then the option perhaps is to lease or rent appropriate facilities until the new municipal offices, that include required fire service office space, can be completed.
- An alternative solution would be to plan for space within a new fire station. Depending upon location it may not be central to other stations or municipal offices, not to mention the timeliness of construction and occupancy.
- The lease or rent option may be an alternative. However, appropriate office space may not be available within the Windsor West Hants area. The associated costs of renting and leasing, not to mention fit up costs to meet the needs of the fire service offices over a twenty-year period may be more costly.
- The last option is to purchase land and build a separate fire service headquarters building.

APPENDIX IX; STANDARDIZED FIRE APPARATUS FEATURES

STANDARD PUMPER, KEY STANDARDIZED FEATURES

CUSTOM SPARTAN MODEL GLADIATOR CAB AND CHASSIS;

- Medium-length four-door (MFD) cab with 10" raised roof, aluminum cab construction
- Seating for 6 firefighters with 5 SCBA seats (i.e. all except the driver)
- Seating in rear, four forward-facing, two outer position with flip up seats
- Air-bag package for all occupant protection in front or side impacts
- Cabinets behind driver and officer seats, external and internal access
- Cummins diesel engine model X12-500; rated at 500 hp, 1695 lb-ft torque.
- Allison automatic transmission model series 4000 EVS
- Locking rear differential
- PTO for hydraulic generator drive

CUSTOM BODY, ALUMINUM CONSTRUCTION;

- Full height and depth compartments on both sides of body before and after rear axle and full height/width compartments over the wheel arches (sometimes called rescue style body)
- Continuous roll-up doors for body side compartments
- Amdoor brand roll-up doors, painted body colour, with integral compartment lighting
- Adjustable shelving on tracks in compartments, minimum 14 in side compartments
- Rear of body compartment
- SCBA bottle storage compartments in sealed wheel arch compartments (4)
- Aluminum double-door hinged hose bed cover

EQUIPMENT STORAGE;

- Minimum 350 cubic feet of compartment storage in body
- Design of hose beds and body for access to hose and compartments within easy reach of firefighters standing on ground or wide tailboard, without the need to climb
- Ladder storage through the tank, on beam, 24'/14'/10' attic, plus pike poles
- Main hose bed capacity;
    - One division of 12 lengths @ 100' ea. of 5" supply,
    - Three divisions of 8 lengths @ 50' ea. of 2-1/2" double jacket (pre-connected),
    - One division of 12 lengths @ 50' ea. of 2-1/2" double jacket

- Pre-connected attack line capacity at pumphouse;
    - Two divisions of 6 lengths @ 50' ea. of 2-1/2" double jacket (pre-connected)
- Hard suction hose storage enclosed above side compartments with door at back of body, one 13+/-foot length per side (maximum that will fit).

PUMP:

- Hale pump model Q-Max rated at 1500 IGPM at 150 psi, from draft
- Hale transfer case model "K", midship split shaft drive
- All discharges/suctions minimum size 3-inch stainless steel piping
- Steamer inlets equipped with MIV, both sides, front suction
- Front suction with minimum 6-inch stainless steel piping, swivel elbow, suitable for drafting
- Tank to pump (TTP) minimum 4-inch size automated valve and piping
- Side-panel controls, electronic governor, manual valve controls except MIVs, TTP, deck-gun
- Deck-gun discharge 4-inch size piping and automated valve with 3-inch size flange for gun mount
- RHS discharges, 2 @ 2-1/2", and 1 @ 4"
- LHS discharges, 2 @ 2-1/2"
- FoamPro 2001 metered injection foam system, piped to both cross-lay pre-connects and one rear pre-connect, with external foam pick-up and onboard tank

TANKS:

- Water/booster tank manufactured from welded polypropylene, by UPF
- Water tank size; 550 Imp gal net capacity
- Class A foam tank size; 25 Imp gal net capacity

FEATURES:

- Hydraulic generator for 120/240 volts A/C power on and off the truck, Harrison Hydra-Gen rated at 10kw
- 220 Volt LED floodlights on sides of body and front of cab for night-time incidents (FRC Spectra SPA260-J15)
- 12 Volt LED scene lights on sides and back of body (FRC Spectra 900)

STANDARD PUMPER, KEY STANDARDIZED FEATURES; FOR RURAL AREAS

CUSTOM SPARTAN MODEL GLADIATOR CAB AND CHASSIS;

- Medium-length four door (MFD) cab with 10" raised roof, aluminum cab construction
- Seating for 6 firefighters with 5 SCBA seats (i.e. all except the driver)
- Seating in rear, four forward-facing, two outer position with flip up seats
- Air-bag package for all occupant protection in front or side impacts
- Cabinets behind driver and officer seats, external and internal access
- Cummins diesel engine model X12-500; rated at 500 hp, 1695 lb-ft torque.
- Allison automatic transmission model series 4000 EVS
- Locking rear differential
- PTO for hydraulic generator drive

CUSTOM BODY, ALUMINUM CONSTRUCTION;

- Full depth, width, and available height compartments below the tank-tee on both sides of body before and after rear axle
- Full height width and available depth high-side compartments above the lower compartments, and over the wheel arches on both sides of the body
- Continuous height roll-up doors for body side compartments where lower and upper compartments coincide
- Amdoor brand roll-up doors, painted body colour, with integral compartment lighting
- Adjustable shelving on tracks in compartments, minimum 14 in side compartments
- Rear of body compartment
- SCBA bottle storage compartments in sealed wheel arch compartments (4)
- Aluminum double-door hinged hose bed cover

EQUIPMENT STORAGE;

- Minimum 300 cubic feet of compartment storage in body
- Design of hose beds and body for access to hose and compartments within easy reach of firefighters standing on ground or wide tailboard, without the need to climb
- Ladder storage through the tank, on beam, 24'/14'/10' attic, plus pike poles
- Main hose bed capacity;
    - One division of 12 lengths @ 100' ea. of 5" supply,
    - Three divisions of 8 lengths @ 50' ea. of 2-1/2" double jacket (pre-connected),
    - One division of 12 lengths @ 50' ea. of 2-1/2" double jacket
- Pre-connected attack line capacity at pumphouse;

  - Two divisions of 6 lengths @ 50’ ea. of 2-1/2” double jacket (pre-connected)

- Hard suction hose storage enclosed above side compartments with door at back of body, one 13+/-foot length per side (maximum that will fit).

PUMP:

- Hale pump model Q-Max rated at 1500 IGPM at 150 psi, from draft
- Hale transfer case model “K”, midship split shaft drive
- All discharges/suctions minimum size 3-inch stainless steel piping
- Steamer inlets equipped with MIV, both sides, front suction
- Front suction with minimum 6-inch stainless steel piping, swivel elbow, suitable for drafting
- Tank to pump (TTP) minimum 4-inch size automated valve and piping
- Side-panel controls, electronic governor, manual valve controls except MIVs, TTP, deck-gun
- Deck-gun discharge 4-inch size piping and automated valve with 3-inch size flange for gun mount
- RHS discharges, 2 @ 2-1/2”, and 1 @ 4”
- LHS discharges, 2 @ 2-1/2”
- FoamPro 2001 metered injection foam system, piped to both cross-lay pre-connects and one rear pre-connect, with external foam pick-up and onboard tank

TANKS:

- Water/booster tank manufactured from welded polypropylene, by UPF
- Water tank size; 850 Imp gal net capacity
- Class A foam tank size; 25 Imp gal net capacity

FEATURES:

- Hydraulic generator for 120/240 volts A/C power on and off the truck, Harrison Hydra-Gen rated at 10kw
- 220 Volt LED floodlights on sides of body and front of cab for night-time incidents (FRC Spectra SPA260-J15)
- 12 Volt LED scene lights on sides and back of body (FRC Spectra 900)

STANDARD MIDI-PUMPER/RESCUE, KEY STANDARDIZED FEATURES

COMMERCIAL CAB AND CHASSIS

- Freightliner M2-106 crew-cab with raised roof
- Four-wheel-drive, traction tires all wheel positions
- Seating for 5 firefighters with 4 SCBA seats (i.e. all positions except the driver)
- Air-bag package for all occupant protection in front or side impacts
- Reinforced bumper in front
- Cummins diesel engine model ISL9-450; rated at 450 hp, 1250 lb-ft torque.
- Allison automatic transmission model series 3000 EVS
- Locking rear differential
- PTO for water pump drive

CUSTOM BODY, ALUMINUM CONSTRUCTION;

- Full depth, width, and available height compartments on both sides of body before and after rear axle
- Full height width and available depth high-side compartments above the lower compartments, and over the wheel arches on both sides of the body
- Continuous height roll-up doors for body side compartments where lower and upper compartments coincide
- Amdoor brand roll-up doors, painted body colour, with integral compartment lighting
- Adjustable shelving on tracks in compartments, minimum 10 in side compartments
- SCBA bottle storage compartments in sealed wheel arch compartments (4)
- Aluminum double-door hinged hose bed cover

EQUIPMENT STORAGE;

- Minimum 150 cubic feet of compartment storage in body
- Design of hose beds and body for access to hose and compartments within easy reach of firefighters standing on ground or wide tailboard, without the need to climb
- Ladder storage through the tank, on beam, 15’ combo/10’ roof/10’ attic, plus pike poles
- Main hose bed capacity;
    - One division of 6 lengths @ 100’ ea. of 5” supply,
    - Two divisions of 8 lengths @ 50’ ea. of 2-1/2” double jacket (one pre-connected),
- Pre-connected attack line capacity at pumphouse;
    - Two divisions of 6 lengths @ 50’ ea. of 2-1/2” double jacket (pre-connected)

- Hard suction hose storage enclosed above side compartments with door at back of body, one 10+/-foot length per side (maximum length that will fit).

PUMP:

- Hale pump model RSD rated at 1050 IGPM at 150 psi, from draft
- Hydraulic PTO driven from transmission
- All discharges/suctions minimum size 3-inch stainless steel piping
- Steamer inlets equipped with MIV, both sides
- Tank to pump (TTP) minimum 4-inch size automated valve and piping
- Side-panel controls, electronic governor, manual valve controls except MIVs, TTP, deck-gun
- Deck-gun discharge 3-inch size piping and automated valve with 3-inch size flange for gun mount
- RHS discharges, 2 @ 2-1/2", and 1 @ 4"
- LHS discharges, 2 @ 2-1/2"
- FoamPro 2001 metered injection foam system, piped to both cross-lay pre-connects and one rear pre-connect, with external foam pick-up and onboard tank

TANKS:

- Water/booster tank manufactured from welded polypropylene, by UPF
- Water tank size; 400 Imp gal net capacity
- Class A foam tank size; 25 Imp gal net capacity

FEATURES:

- 12 Volt LED scene lights on sides and back of body (FRC Spectra 900)

PUMPER/TANKER, KEY FEATURES

CUSTOM SPARTAN MODEL GLADIATOR CAB AND CHASSIS;

- Long two-door (LTD) cab with 10" raised roof, aluminum construction
- Seating for 2 firefighters with no SCBA seats
- Exterior access cab cabinets on both sides
- 12" extended and reinforced front bumper
- Tandem axles
- Cummins diesel engine model X12-500; rated at 500 hp, 1695 lb-ft torque.
- Allison automatic transmission model series 4000 EVS
- Locking rear differentials, locking inter-differential

CUSTOM BODY, ALUMINUM CONSTRUCTION;

- Lower full-depth compartments on both sides of the body both before and after the rear axle
- Full height half-depth compartments on full length of the RHS of body
- Full height half-depth compartment above the LHS forward compartment
- Continuous roll-up doors for body side compartments RHS and front compartment LHS
- Hinged doors for LHS compartment behind rear axle
- Roll out tray for 23 hp portable pump in LHS behind rear axle compartment
- Flat deck above compartment and wheel well on remainder of LHS of body for 3000 US-gal porta-tank rack
- SCBA bottle storage compartments in sealed wheel arch compartments (4)
- Roll-up doors Amdoor brand, painted body colour, with integral compartment lighting
- Adjustable shelving on tracks in compartments, minimum 10 in side compartments
- Aluminum double-door hinged hose bed cover

EQUIPMENT STORAGE;

- Minimum 250 cubic feet of compartment storage in body
- Hose beds and body design kept low and hose and compartments within reach of firefighters standing on ground or wide fixed steps
- Ladder storage through the tank, on beam, 35'/16'/10' attic, plus pike poles
- Main hose bed capacity;
    - One division of 8 lengths @ 100' ea. of 5" supply,
    - Two divisions of 8 lengths @ 50' ea. of 2-1/2" double jacket (pre-connected),
- Pre-connected attack line capacity at pumphouse;

  - Two divisions of 6 lengths @ 50’ ea. of 2-1/2” double jacket (pre-connected)
- Hard suction hose storage enclosed above RHS compartments with door at back of body, two @15-foot length each.

PUMP;

- Hale pump model Q-Max rated at 1500 IGPM at 150 psi, from draft
- Hale transfer case model “K”, midship split shaft drive
- All discharges/suctions minimum size 3-inch stainless steel piping
- Steamer inlets equipped with MIV, both sides, front suction
- Front suction with minimum 6-inch stainless steel piping, swivel elbow, suitable for drafting
- Tank to pump (TTP) minimum 4-inch size valve and piping
- Side-panel controls, electronic governor, manual valve controls except MIV, TTPs, and deck-gun
- Deck-gun discharge 4-inch size piping and automated valve with 3-inch size flange for gun mount
- RHS discharges, 2 @ 2-1/2”, 1 @ 4”
- LHS discharges, 2 @ 2-1/2”

WATER TANK;

- Water/booster tank manufactured from welded polypropylene, UPF brand only
- Water tank size; 2200 Imp gal net capacity
- Dump valves on both sides of body and at rear
- Dumps 12” x 12’ square with powered extension chutes (Newton)
- Dump valves and chute extensions operable from in-cab controls
- Rear dump equipped with 180-degree side to side swivel

FEATURES;

- 12 Volt LED scene lights on both sides and back of body, and forward facing on cab (FRC Spectra SPA260-Q15)

AERIAL, KEY FEATURES

CUSTOM SPARTAN MODEL GLADIATOR CAB AND CHASSIS;

- Medium four door (MFD) cab with no raised roof, aluminum cab construction
- Seating for 6 firefighters with 5 SCBA seats (i.e. all except the driver)
- 12" extended and reinforced front bumper
- Tandem axles
- Air-bag package for all occupant protection in front or side impacts
- Cummins diesel engine model X15-605; rated at 605 hp, 2050 lb-ft torque.
- Allison automatic transmission model series 4000 EVS
- Locking rear differentials, locking inter-differential
- PTO for hydraulic generator drive
- PTO for aerial hydraulic drive
- In-cab cabinets on both sides (aka medical cabinets)

CUSTOM BODY, ALUMINUM CONSTRUCTION;

- Maximum compartmentation
- Roll-up doors for body side compartments
- Amdoor brand roll-up doors, painted body colour, with integral compartment lighting
- Adjustable shelving on tracks in compartments
- SCBA bottle storage compartments in sealed wheel arch compartments (4)
- Aluminum hinged hose bed cover

EQUIPMENT STORAGE;

- Minimum 300 cubic feet of compartment storage in body
- Ladder storage plus pike poles, rear access, minimum 180 feet of ground ladders in body: 40'/35'/28'/28'/16'/10'
- Main hose bed capacity;
    - One division of 8 lengths @ 100' ea. of 5" supply,
- Pre-connected attack line capacity at pumphouse;
    - Three divisions of 6 lengths @ 50' ea. of 2-1/2" double jacket (pre-connected)

PUMP;

- Hale pump model Q-Max rated at 1750 IGPM at 150 psi, from draft
- Hale transfer case model "K", midship split shaft drive

- All discharges/suctions minimum size 3-inch stainless steel piping
- Steamer inlets equipped with MIV, both sides, rear feed
- Tank to pump (TTP) minimum 4-inch size automated valve and piping
- Side-panel controls, electronic governor, manual or electronic valve controls except MIVs, ladder pipe which shall be electronic
- RHS discharges, 2 @ 2-1/2", and 1 @ 4"
- LHS discharges, 2 @ 2-1/2"
- FoamPro 2001 metered injection foam system, piped to two cross-lay pre-connects with external foam pick-up and onboard tank

TANKS:

- Water/booster tank manufactured from welded polypropylene, by UPF
- Water tank size; 200 Imp gal net capacity
- Class A foam tank size; 25 Imp gal net capacity

AERIAL:

- 110'+ aerial ladder, mid-mount
- Minimum tip capacity, unlimited, of 500 pounds wet/dry
- Pinable waterway for water tower operation or rescue operation
- 1250 Imp gpm flow capacity from master stream
- Ladder tip control of master stream
- Galvanized torque-box and stabilizers
- Stable set-up in any position under full load in any rotational angle, any achievable elevation
- Travel height below 11'-1"

FEATURES:

- Hydraulic generator for 120/240 volts A/C power on and off the truck, Harrison Hydra-Gen rated at 12kw
- 220 Volt LED floodlights on sides of body, front of cab, aerial operator station ladder tip for night-time incidents (FRC Spectra SPA260-J15, SPA100-J20)
- 12 Volt LED scene lights on sides and back of body, ladder tip (FRC Spectra SPA900, SPA100-Q15)

QUINT, KEY FEATURES

CUSTOM SPARTAN MODEL GLADIATOR CAB AND CHASSIS;

- Medium four door (MFD) cab with no raised roof, aluminum cab construction
- Seating for 6 firefighters with 5 SCBA seats (i.e. all except the driver)
- 12" extended and reinforced front bumper
- Single rear axle
- Air-bag package for all occupant protection in front or side impacts
- Cummins diesel engine model X15-605; rated at 605 hp, 2050 lb-ft torque.
- Allison automatic transmission model series 4000 EVS
- Locking rear differential
- PTO for hydraulic generator drive
- PTO for aerial hydraulic drive
- In-cab cabinets on both sides (aka medical cabinets)

CUSTOM BODY, ALUMINUM CONSTRUCTION;

- Maximum compartmentation
- Roll-up doors for body side compartments
- Amdoor brand roll-up doors, painted body colour, with integral compartment lighting
- Adjustable shelving on tracks in compartments
- SCBA bottle storage compartments in sealed wheel arch compartments (4)
- Aluminum hinged hose bed cover

EQUIPMENT STORAGE;

- Minimum 300 cubic feet of compartment storage in body
- Ladder storage plus pike poles, rear access, minimum 85 feet of ground ladders in body: 35'/28'/16'/10'
- Main hose bed capacity;
    - One division of 8 lengths @ 100' ea. of 5" supply,
    - One division of 12 lengths @ 50' ea. of 2-1/2" double jacket (pre-connected),
- Pre-connected attack line capacity at pumphouse;
    - Three divisions of 6 lengths @ 50' ea. of 2-1/2" double jacket (pre-connected)Pump;

PUMP;

- Hale pump model Q-Max rated at 1750 IGPM at 150 psi, from draft

- Hale transfer case model "K", midship split shaft drive
- All discharges/suctions minimum size 3-inch, stainless steel piping
- Steamer inlets equipped with MIV, both sides, rear feed
- Tank to pump (TTP) minimum 4-inch size automated valve and piping
- Side-panel controls, electronic governor, manual or electronic valve controls except MIVs, ladder pipe which shall be electronic
- RHS discharges, 2 @ 2-1/2", and 1 @ 4"
- LHS discharges, 2 @ 2-1/2"
- FoamPro 2001 metered injection foam system, piped to two cross-lay pre-connects with external foam pick-up and onboard tank

TANKS:

- Water/booster tank manufactured from welded polypropylene, by UPF
- Water tank size; 400 Imp gal net capacity
- Class A foam tank size; 25 Imp gal net capacity

AERIAL:

- 75' aerial ladder, rear mount
- Minimum tip capacity of 500 pounds wet/dry, any angle
- Pinable waterway for water tower operation or rescue operation
- 1250 Imp gpm flow capacity from master stream at tip
- Ladder tip control of master stream
- Galvanized torque-box and stabilizers
- Stable set-up in any position under full load in any rotational angle, any achievable elevation

FEATURES:

- Hydraulic generator for 120/240 volts A/C power on and off the truck, Harrison Hydra-Gen rated at 12kw
- 220 Volt LED floodlights on sides of body, front of cab, aerial operator station ladder tip for night-time incidents (FRC Spectra SPA260-J15, SPA100-J20)
- 12 Volt LED scene lights on sides and back of body, ladder tip (FRC Spectra SPA900, SPA100-Q15)

RESCUE, KEY FEATURES

COMMERCIAL CAB AND CHASSIS

- Freightliner M2-112 crew cab with raised roof
- Seating for 5 firefighters
- Air-bag package for all occupant protection in front or side impacts
- Reinforced bumper in front
- Cummins diesel engine model ISL9-450; rated at 450 hp, 1250 lb-ft torque.
- Allison automatic transmission model series 3000 EVS
- Locking rear differential
- PTO for hydraulic generator drive

UTILITY, KEY FEATURES

COMMERCIAL CAB AND CHASSIS

- Dodge Ram 3500, crew-cab, pick-up with 6 foot +/- box
- Cummins diesel engine 6.7HO; rated at 400 hp, 1000 lb-ft torque
- Aisin automatic transmission
- Four-wheel drive, SRW
- Front suspension with snow-plow upgrade
- Option: Snow plow attachment and plow
- Option: Small bed fuel tank for emergency refuelling of fire apparatus at the scene

APPENDIX X; TABLE OF RECOMMENDATIONS

	Recommendations	Report Page
	MAJOR RECOMMENDATIONS	
1	GA recommends the hybrid organizational model because it is the best compromise in providing regional coordination and efficiencies yet maintains the local volunteer character of the fire department.	xiv
2	GA recommends providing centralized administration support, management and leadership. A full-time Director of Public Safety Services – Regional Fire Chief, and a full time Assistant Fire Chief with primary responsibilities for fire prevention are recommended. A part-time Divisional Chief is also recommended to take responsibility for developing and coordinating of firefighter qualifications and training.	xiv
3	GA recommends a District Fire Chief management committee as a key recommendation, to bring together all the local fire district management personnel; so that plans and decisions on common issues of concern and service delivery can be made.	xiv
4	GA recommends better accountability and standardization of policies, procedures, major equipment, training and qualification standards, and levels of service. Accompanying this is revised response districts that minimize travel times to all portions of W/WH. To help ensure maximum efficiency and effectiveness of resource utilization, recommendation are made to develop response scenarios where all resources are available to respond as needed and are not bounded by fire department district silos.	xiv
5	GA recommends the benchmark annual operating budget as a starting point going forward.	xiv
6	GA recommends the proposed 20-year capitalization plan, primarily for fire apparatus replacements, using a standardized approach to specification and group purchasing.	xiv
7	GA recommends that all purchasing of significant-cost items be coordinated.	xiv
8	GA recommends minimum standards for training and qualifications of firefighters; in order to achieve a consistent service level throughout the new municipality that meets public expectations. Also recommended is a benefits package for the volunteer firefighters that recognizes the long term physical and mental health risks that fire/rescue first-responders are exposed to. Recommendations include a fair and uniform honourarium system.	xiv
9	GA recommends that all fire prevention activities, including fire-inspection, fire-investigation, and fire-safety education be brought inhouse. These are mandated services and require coordination, proper execution, and prioritizing in order to meet legislative mandates.	xv
10	GA recommends that the current 1.5 FTE fire-inspectors in Planning and Development be reassigned to the regional fire service.	xv
11	GA recommends that four on-call fire-investigators be trained and equipped to investigate all fires and to gather necessary information on origin, cause and circumstances, and to liaise with the office of the Fire Marshal and RCMP in securing evidence as necessary.	xv
12	GA recommends that better coordination and support of local fire department efforts in fire-safety education be provided, including the possible involvement of non-firefighting personnel from the community in this activity.	xv
	DETAILED RECOMMENDATIONS	
13	GA recommends that when the new regional municipality officially comes into being April 1, 2020, that all the fire departments, municipal or otherwise, providing fire and rescue services within the region, including those that are contracted by the municipality, register with the new municipality on an annual basis.	11
14	GA recommends that the municipality include a multi-lateral automatic aid provision in their service agreement with each of the society fire departments. This provision will simplify utilizing the closest, appropriate, and adequate resources to incidents in all of the geographic area of the Region, irrespective of registered protection area (aka fire districts).	12
15	GA recommends that a review of the current registration form used by the Municipality of West Hants be used as the base registration document, and that it be amended to reflect the new regional municipality and its needs.	12
16	GA recommends the Kings County registration, clause 3.c. be edited for clarity. If the intention here is simply to require fires to be investigated then that should be stated clearly.	13
17	GA recommends that in the Kings County registration; either a) replace the term "*fire suppression*" with "*fire extinguisher training*" or b) delete the reference to "*fire suppression.*"	14

	Recommendations	Report Page
18	GA recommends in the Kings County registration, one of two options; a) delete cause 7.c. or b) reword the clause to reflect the following; *"The municipality and the Hantsport fire station will endeavour to amend its operating procedures and guidelines to meet the objectives of the Regional Municipality of Windsor -West Hants and Municipality of the County of Kings Fire service agreement"*	**14**
19	GA recommends that Duck Pond Road area of Kings County, as indicated on the map noted as Schedule 'A' of the Kings County agreement, be serviced by Southwest Hants. The Southwest Hants fire station is the closest station and the Duck Pond Road will fall within their recommended fire response district.	**15**
20	GA recommends that the arrangement with Glooscap FN be formalized through a service agreement between the two entities to establish the fire service programs and service levels that will be provided by West Hants.	**15**
21	GA recommends that a formal service agreement be established with the Walton Shore Volunteer Fire Department that specifies the services and service levels and other expectations that the Regional municipality has.	**15**
22	GA recommends that a consumables cost recovery clause be developed and considered for inclusion in any mutual-aid agreement.	**18**
23	GA recommends that any model the Council chooses that maintains the existence of individual incorporated fire departments (i.e. Status Quo model-1 or Hybrid model-3) should have a multi-lateral mutual-aid agreement in place between the municipality and each fire department, as well as with all other municipalities that the fire department might provide assistance to if they are to enjoy all the protections provided under §302 of the MGA. This would likely include Kings County, The Municipal District of East Hants, the District of Chester (Lunenburg County), and Halifax Regional Municipality.	**18**
24	GA recommends that the East Hants fire departments of Walton Shores and Uniacke should execute a Mutual-aid Agreement with the Regional Municipality. By virtue of being a Regional Municipality and employing a Regional fire service model if so chosen, the municipality will be signing mutual-aid agreements with other parties on behalf of all of the Regional fire stations.	**19**
25	GA recommends that the Kings County mutual-aid agreement should be reviewed and updated with any required amendments since the last update for this agreement is from 2001, and include execution by W/WH.	**19**
26	GA recommends that the new Regional municipality enter into a mutual-aid agreement with the Municipality of the District of Chester (MDC) in Lunenburg County and the New Ross and Chester Volunteer Fire Departments. MDC shares a border with the Region and with the fire districts of the New Ross Fire Department and the Chester Fire Department.	**19**
27	GA recommends that all mutual-aid agreements be signed by the municipalities involved, not only by the individual fire departments. The mutual-aid agreements currently in force are standard across the region. The main difference is who are the signatories to the agreements. Whereas the municipality has ownership of the majority of the capital investment of the regional fire services then the municipality has significant responsibility in providing mutual-aid services. Whereas there will be a new regional municipality commencing April 2020 all the mutual-aid agreements will require amending to reflect the new regional municipality.	**19**
28	GA recommends that regardless of the organizational model chosen by council, that a review and standardization of all policies, procedures, and guidelines of all types, that apply to the fire departments is undertaken quickly. The goal should be to produce consistency and fairness, and to meet the best practices of a collaborative fire and emergency service delivery program for the Region.	**21**
29	GA recommends that policy COGE007 be amended to more appropriately place responsibilities on station custodial staff. Sentence 4 of the policy has the potential to place a number of people and organizations at risk, not to mention the responders themselves.	**23**
30	GA recommends that the Windsor and West Hants false alarm, fire protection, burn permit and outdoor fires by-laws be reviewed and harmonized. The Bylaws relating to out of doors burning may need to address differing needs by area due to the rural nature of the Municipality of West Hants vs the very urban nature of Windsor.	**23**
31	GA recommends that if the false fire-alarm by-law is not enforced, that the by-law should be repealed.	**24**
32	GA recommends that the new fire department administration conduct a human resource needs assessment of the fire service in the Region. The recommendations on active front-line firefighter numbers is contained in Recommended Front-Line Staffing and Equipment starting on page 210 of this report, but there are numerous support (staff) positions not identified there.	**31**

	Recommendations	Report Page
33	GA recommends a review of the current recruitment and selection process, including currency with best practices, modifications required to meet the real needs of the organization, compliance with current Human Rights requirements, and alignment with corporate human resource policies.	31
34	GA recommends a review of fire department job descriptions, ensuring there is a job description for every position, volunteer or otherwise. Job descriptions should be complete with expectations and rewards. They outline necessary qualifications, time commitments (frequency and length), responsibilities and activities involved, the organization's accountability structure, and the performance evaluation methods.	31
35	GA recommends that membership in a fire department be restricted to those volunteer firefighters who actual reside in the fire district. Moving forward, the current practice of selectively choosing the fire department you prefer should no longer be permitted. As this practice robs the community of which a volunteer resides of a valuable resource. It also increases the risk of an accident as the volunteer rushes longer than necessary distances to attend the fire station when the pager goes off.	32
36	GA recommends that volunteer firefighter recruitment be a region-wide program for the regional fire service and that successful applicants be assigned to a regional station, based upon the closest station (i.e. fire district) to their residence.	33
37	GA recommends that the recruitment process commence with a properly designed marketing program throughout the region. This coordinated approach to recruiting will help to ensure standards are met and will ease the burden on individual stations. Turnover in volunteer fire departments is typically as much as 20% annually, but GA does not have the actual figures for WWH. It is likely that there is a need for an annual recruitment process, managed regionally with direct input and assistance from each of the stations.	33
38	GA recommends that the Regional Municipality invest in developing the leadership and management skills in the officers of all fire departments in the Region, as appropriate to their respective roles.	35
39	GA recommends that the Regional municipality register their volunteer firefighters with WCB before the eventual requirement for such registration occurs.	38
40	GA recommends the following recruitment and retention initiatives be implemented as part of a Region-wide program aimed at volunteer firefighter retention and in recognition of the special needs of volunteer firefighters; {see details on page}	40
41	GA recommends that the new Regional Municipality strike a committee of the appropriate fire service and municipal personnel, including finance personnel, to establish a fair, equitable, and affordable honourarium program across the region. The program should meet the following points; {see details on page}	47
42	GA recommends that the following table of qualifications be implemented as a standard baseline for officer promotions in all fire departments in the Region. {see details on page}	53
43	GA recommends the following promotional process. {see details on page}	54
44	GA recommends that performance evaluations be done by the immediate supervisor annually.	54
45	GA recommends that standard operating procedures/guidelines (SOP/Gs) be developed that outline a systematic approach for the rehabilitation of members operating at incidents and training exercises; in accordance with NFPA-1584. The procedures need to address cooling and warming, medical monitoring, Emergency Medical Care, member accountability, and documentation.	57
46	GA recommends that separate roles for ISO and OHS be established at each fire station.	60
47	GA recommends that; as required by regulations and standards that an official written occupational safety, health, and wellness policy be developed for the Regional Fire Services that that identifies specific goals and objectives; {see details on page}	60
48	GA recommends that the fire service evaluate the effectiveness of the occupational safety, health, and wellness program at least once every 3 years and submit an audited report of the findings to the DPS/FC and corporate CAO.	61
49	GA recommends acquiring a proper records management system (RMS). If related recommendations throughout this report are accepted, then an RMS training module adhering to NFPA-1401; *Recommended Practice for Fire Service Training Reports and Records* can be acquired as part of an overall Records Management System.	70
50	GA recommends that a three-year period be considered a reasonable period of time for a new recruit to become NFPA-1001 Level I qualified if that recruit aspires to attain a higher rank.	74

	Recommendations	Report Page
51	GA recommends a minimum mandatory training of six (6) hours per quarter to maintain Veteran driver status, plus an annual 8-hour training day. This is required to maintain skill proficiencies and teamwork skills.	76
52	GA recommends that all stations use the same method, specifically to employ the same colour helmets by rank, and standardize on vinyl reflective qualification stickers.	76
53	GA recommends that there be at last one certified Training Instructor (Minimum Level I Instructor) at each of the region's six stations.	77
54	GA recommends that an annual 3-day Regional Training Weekend be established and organized on an annual basis. Such a weekend could be rotated annually amongst the six station locations, each playing host in turn.	79
55	GA recommends that an individual, at least on a part time basis, be hired Regionally (Division Chief) to guide and assist in the development and delivery of Region-wide, standardized, focused, and appropriate training and personnel development to the fire departments and firefighters. If the desire is to have a regional single focused fire operational service, then all associated training must also be singularly focused. For this to occur, a regional-wide program, with homogenous training policies and procedures, with common goals, and common objectives needs to be implemented and managed.	81
56	GA recommends that a thorough evaluation of current fire-inspection practices and procedures be conducted to determine compliance with the *Act*. Changes should be immediately made where discrepancies are found or practices open up the municipality to avoidable liability.	110
57	GA recommends that qualified fire-investigators be retained by the Regional fire service for the purposes of investigating all fires for their origin, cause, and circumstances.	111
58	GA recommends that more resources, coordination, and emphasis be placed on fire-safety education activities. These activities should be delivered locally but coordinated regionally and in accordance with risks in the community.	112
59	GA recommends the implementation of Model 3; Hybrid Regional Fire Service, for all of the reasons discussed starting on page 120.	127
60	GA recommends the hiring of a full-time Director of Protective Services/Fire Chief.	127
61	GA recommends the hiring of a full-time Assistant Fire Chief.	127
62	GA recommends the hiring of a part-time Divisional Chief.	127
63	GA recommends the hiring of a full-time Administrative Assistant.	127
64	GA recommends the hiring of four part-time paid on call fire-investigators.	127
65	GA recommends the transfer of 1.5 FTE Fire-Inspectors from Planning & Development, Building, to the regional fire services.	127
66	GA recommends that future communications/dispatching contracts reference all services required, for example; "*provision of fire department dispatching and emergency communication services*".	132
67	GA recommends that Valley Communications have one or two staff attend a recognized certification program such as offered by the Association of Public-Safety Communications Officials (APCO).	134
68	GA recommends that the backup dispatch/communications facility's communications equipment be tested at least monthly.	135
69	GA recommends that at least once every six months the communications/dispatch backup facility shall be operated for one full shift as per FSANS standard and that records of all testing and operations of the backup facility be created and maintained, including all maintenance provided.	135
70	GA recommends that the dispatch/communications service provider undertake the development and implementation of business continuity plans and successions plans, if they have not already been made, as soon as possible.	135
71	GA recommends that the Regional Municipality investigate a cost-effective fully integrated Fire CAD/RMS program.	138
72	GA recommends that Valley Communications adhere to FSANS Fire Dispatch Standards	139
73	GA recommends that the Regional municipality and Valley Communications acquire the required software and firmware/hardware to enable the capture of any and all ANI/ALI data from the Primary PSAP.	139

	Recommendations	Report Page
74	GA recommends that the Regional municipality appoint a single contact person to manage emergency dispatch/records management, radio communications, and be the primary liaison between the municipality and Valley Communications.	139
75	GA recommends that Valley Communications test, and time, Language Translation services provided by ATT in Toronto.	139
76	GA recommends that the Municipality and Valley Communications implement a proper and ongoing incident call reporting and auditing program.	139
77	GA recommends that VComms acquire the necessary radio transmission recording equipment to record all fire department used channels.	147
78	GA recommends that the Regional fire departments operate on TMR channel 23 for all incident dispatches and incident operations, and TMR channel 22 for water shuttle and Traffic Control operations, etc.	147
79	GA recommends that the Municipality maintain the current VHF system for fire service paging only. The Municipality should strike a committee of the fire services to examine if there are any compelling reasons why the VHF system must be maintained for other than paging use.	147
80	GA recommends that the fire departments permit VComms to provide the contracted services for dispatching and communications as required by the service contract, by discontinuing the practice of taking over radio communications from fire stations.	147
81	GA recommends that the fire departments and VComms implement the use of industry standard radio transmitted benchmarks (KPIs) for all fire incidents.	147
82	GA recommends that dispatch protocols for MFR incidents be revised so that only one MFR capable unit is dispatched to single patient incidents.	147
83	GA recommends that the fire departments collectively develop and implement a standardized training program to make all personnel aware of required radio operating procedures, benchmarks, channel usage, and all other aspects critical for effective and efficient radio system usage.	147
84	GA recommends that fire stations be numbered starting with Summerville as number 1 and going clockwise from there.	152
85	GA recommends that a standard system of IDs be utilized for identifying functional positions on the fire-ground, starting with the regional staff and extending down through to all apparatus seat positions and to firefighters who arrive on-scene in a private vehicle.	153
86	GA recommends that standard radio protocol titles be established for all regular positions at an incident scene.	153
87	GA recommends that fire apparatus specifications be standardized across the region, by type and class of apparatus.	157
88	GA recommends that the Windsor boat be professionally inspected to determine its need for replacement.	157
89	GA recommends that a standardized, and coordinated, scheme of unique fire apparatus number identifications be established Region-wide, as follows; {detail on page}	157
90	GA recommends that steps be immediately taken to establish a robust internal data collection protocol for all incidents, not just fires. {detail on page}	158
91	GA recommends that a Region-wide False Fire-Alarm by-law be developed and enforced.	163
92	GA recommends that the Windsor and Three Mile Plains stations be appropriately resourced to deal with any population and residential growth that creates increased service demand.	175
93	GA recommends that the new Regional government carefully consider potential impacts on fire service capability with every new industrial, large commercial, or large residential planning application. The fire service should not be opposed to such developments, but must speak clearly about needs and plan accordingly for any such large-scale development.	177
94	GA recommends that there be response plans developed to ensure that all personnel Region-wide are well aware of bridge restrictions where fire apparatus cannot cross.	179
95	GA recommends that dry-hydrants be installed at all planned rural water supply points in the Region. Water supply points should be established within 5 kilometers by road to all hamlets and clusters of residential housing,	181

	Recommendations	Report Page
	and within 2.5 kilometers to all commercial risks. All dry-hydrants should be developed in accordance with the requirements of NFPA-1142, and should also be maintained in accordance with the standard.	
96	GA recommends that good records of all dry-hydrant maintenance, inspections, and testing should be kept as protection against liability and for reference and pre-planning purposes.	181
97	GA recommends that all dry-hydrants or other static water sources that are established on private property be accompanied by an executed agreement defining rights, duties, and liabilities.	181
98	GA recommends that complete fire statistics be collected and records kept, including all information requested by the NS Fire Marshal for inclusion in the provincial database. Records retention rules generally do not require retention of such data beyond five or seven years. It is further recommended that fire statistics be kept at least 15 years in order for trends to be clearly seen and analysed.	185
99	GA recommends, based on the travel-time predictions, the following fire station response districts. {detail on page}	197
100	GA recommends that where Uniacke previously responded into the east Ardoise area that this arrangement not continue. Analysis revealed that the travel-time to that area is virtually the same for both Brooklyn and for Uniacke. The additional complication, cost, and inefficiency of managing an additional fire service in that sparsely occupied area does not contribute measurably to potential outcomes.	198
101	GA recommends that the Duck Pond Road - Black River Lake area be serviced from the South West fire station.	198
102	GA recommends that the following first-response objective staff/time benchmarks for each of the following communities be established; in accordance with the recommended revised fire districts. {detail on page}	199
103	GA recommends that for planning purposes related to staffing, apparatus, and public information that these response objectives be implemented.	200
104	GA recommends that the Regional fire department develop Run-Cards to specify when and where certain types of incidents occur that the appropriate closest stations and appropriate resources are simultaneously dispatched. Simultaneous dispatch should occur for all fire/suspected fire events in all response areas. Simultaneous dispatch should occur for all other incidents, other than MFR incidents, in all Rural and Remote areas.	201
105	GA recommends that for potential large fire risk occupancies in rural areas, that adequate on-site water supplies be provided by the owner, such that relay pumping from draft can replace or strongly supplement water shuttled by tankers. These sites should be large all-weather access ponds meeting NFPA-1142.	209
106	GA recommends the following staffing complement of active volunteer firefighters for each station, and the recommended fleet of fire apparatus. {detail on page}	210
107	GA recommends that the following replacement schedule be adopted for the purposes of determining fire apparatus suitability for continued service. {detail on page}	215
108	GA recommends that a reserve pumper be placed in Brooklyn and Windsor stations, and the reserve Tanker be placed in Summerville.	215
109	GA recommends that replacement Tanker apparatus also include all components necessary to qualify as a pumper and a tanker. This includes little to no significant change from the current apparatus in some cases, but in other cases means the inclusion of adequate equipment and hose carrying capacity.	216
110	GA recommends a standardized vehicle specification be used Region-wide. Standardized apparatus descriptions are included in Appendix IX; Standardized Fire Apparatus Features starting on page 377.	216
111	GA recommends that specifications for the major classes of fire apparatus be standardized across all stations in the new regional municipality. This will generate savings in total cost of ownership for the municipality.	219
112	GA recommends that the Regional fire service strike a committee to investigate a standard brand and model series of SCBA with which to outfit all fire stations in the Region. Consideration should be given to the types of SCBA being used by mutual-aid partners as well, but in any case the SCBA used Regionally should be standardized.	228
113	GA recommends that every structural firefighter be provided with his/her own personal SCBA face mask. Provision of a properly fitting mask is necessary to achieve a pass in annual legislated quantitative Fit-Testing. A variety of mask sizes and models is usually necessary to achieve Fit Test performance.	228
114	GA recommends that the Regional fire service standardize on Hurst eDraulic hydraulic extrication/rescue equipment, and phase in replacement of the current equipment that is not eDraulic.	228

	Recommendations	Report Page
115	GA recommends that all fire stations be equipped with eDraulic Combi-Tools and that Windsor station be equipped with a set of heavy hydraulic jaws, cutters, and rams such that Windsor can provide Regional Heavy Rescue support to all stations. Details on the specific eDraulic equipment that is recommended is on page 291 of this report.	**229**
116	GA recommends that the Regional fire service immediately strike a committee to determine bunker gear needs and to test manufacturers' offerings, and to settle on one make. one model, one colour, and on standard features.	**229**
117	GA recommends that Proposals from vendors of the selected manufacturer be entertained and that a multi-year contract be negotiated with the vendor, allowing the DPS/FC to requisition PPE from the vendor at contract prices on an annual basis.	**229**
118	GA recommends that the Regional fire service standardize on one make and model of general use multi-gas detector for the fire stations.	**230**
119	GA recommends that the Regional fire service strike a committee to evaluate all the available makes and models of hose in the utilized sizes. The evaluation should include performance factors of weight, friction loss, kink resistance, abrasion resistance, liner separation, grip, quality, availability, construction, quality control at the factory. After ranking then price should be evaluated for those makes/models that have tied in the evaluation. Once selected that make/model should become standard for future purchases.	**230**
120	GA recommends that the Regional fire service strike a committee to evaluate the available makes and models of thermal imaging cameras. The evaluation should include all recognized performance factors. Testing of demonstration equipment should be involved. Standardization on future purchases of TICs should be based on the successful candidate, and be phased into all stations.	**231**
121	GA recommends that an architect familiar with fire station requirements, guidelines and applicable NFPA standards or a construction engineer be acquired to conduct an assessment to determine the feasibility of any required alterations for the Summerville and Windsor fire stations.	**244**
122	GA recommends that these Minor Capital expenditures be treated differently in future budgets and will address this recommendation in the benchmark portion of this analysis.	**254**
123	GA recommends that the new Regional Municipality implement service fees for reasonable cost recovery to highway responses.	**264**
124	GA recommends that the new Regional Municipality identify suitable services, and implement cost-recovery fees for these services. {detail on page}	**265**
125	GA recommends that the municipality pursue prosecution and seek fines for violations of the Fire Code, in accordance with the provisions in the *Fire Safety Act*.	**266**
126	GA recommends that one qualified and experienced fire apparatus maintenance service provider do all the servicing on all fire fleet vehicles.	**268**
127	GA recommends that a better understanding be undertaken on Windsor fire station actual costs as part of a possible justification for a new facility.	**270**
128	GA recommends that a fair and equitable honourarium policy be established that applies to all volunteer firefighters across the Region.	**271**
129	GA recommends that the following benefits be provided by the municipality to all volunteer firefighters; Provincial Workers Compensation Benefits ($62k insured amount), VFIS AD&D and disability coverage ($200k on-duty principal amount, disability weekly $700 maximum), VFIS MFAP (member and family assistance program for mental health), VFIS 24/7 (off-duty accident and sickness, 50/50 co-pay with firefighter who subscribes).	**272**
130	GA recommends that an insurance specialist be hired to review insurance policies and coverage options in order to prepare an RFP that obtains needed/desired coverage at best value. Self-insurance (i.e. deductible) risk assessments should be considered.	**273**
131	GA recommends that expenditures on minor capital equipment be increased since they are currently below sustainable service-requirements.	**274**
132	GA recommends that the need for the purchase of minor capital items be evaluated on the basis of the required inventory of items (e.g. how many 2½-inch fire hoses are needed) and each items' expected life-span. {detail on page}	**274**

	Recommendations	Report Page
133	GA recommends that a number of bunker gear sets be purchased annually. Blanket purchasing contracts should be signed that permit the fire department to purchase/requisition annually, say over a 5 or 7-year period, estimated maximum/minimum numbers of firefighters' PPE components, at agreed prices. {detail on page}	275
134	GA recommends that $300k (2019 dollars) be the target as a long-term plan for annual minor capital budgeting, until experience proves this is/not sufficient. However, as shown in the workbook that requirement for funds appears to be front-end loaded based on the expressed current needs of the fire departments. In the short term, Council may want to consider a temporary increase in that amount for the first three years. The benchmark budget shows $340k in 2020/21 for this reason.	278
135	GA recommends that the Director of Public Safety/Fire Chief manage the purchasing of minor capital equipment, for several reasons. With advice from the District Chief Management Committee he should set priorities on what equipment will be purchased that year.	278
136	GA recommends that the Director of Public Safety/Fire Chief have discretionary powers to make adjustments, within the approved minor capital budget total, to annually determine the exact mix of minor capital purchases according to immediate need.	278
137	GA recommends that any surplus minor capital funds at the end of the fiscal year (if any) be placed into a revolving reserve account for the future purchase of minor capital equipment.	278
138	GA recommends that the surplus minor capital revolving reserve account have a set maximum amount of approximately $100,000. If in any given future year there is an unprecedented or emergency need to make minor capital purchases and there are insufficient budgeted funds, a mechanism should be in place for the Director of Public Safety/Fire Chief to request Council to release additional funds to cover the need.	278
139	GA recommends that the following fire apparatus replacement schedule be adopted for the purposes of determining fire apparatus suitability for continued service and as a budget planning tool for fire apparatus replacement. {detail on page}	283
140	GA recommends that Windsor's other aerial (ALF) be scrapped without direct replacement and an unsuitable wildland/urban interface pumper be sold.	284
141	GA recommends for the future, the following numbers and types of first-line duty fire apparatus allocations. These numbers can be accomplished through attrition as current apparatus age-out. {detail on page}	284
142	GA recommends that two older (no longer first-line) pumpers and a tanker be kept serviceable/operational as maintenance reserves. The purpose of reserves is to temporarily replace apparatus that are out of service for a day or more. They will also remain available for major incidents.	284
143	GA recommends that a reserve pumper be placed in Brooklyn and Windsor stations, and the reserve Tanker be placed in Summerville.	285
144	GA recommends an annual contribution of approximately $650k to a fire capital reserve fund to reduce the annual capital fluctuations in the fire department budgets to a minimal amount. Adequate reserve funds would greatly reduce the need to debenture these predictable capital costs, thereby reducing the overall cost of capital purchases.	285
145	GA recommends the following table of scheduled fire apparatus replacements. {detail on page}	290
146	GA recommends that the Regional fire departments standardize on the heavy hydraulic equipment purchased and utilized.	291
147	GA recommends that Hurst eDRAULIC equipment be utilized exclusively.	291
148	GA recommends that not every station needs a full set of heavy hydraulic equipment. See more detail on this subject on page 228.	291
149	GA recommends that Windsor's rescue truck be designated as the Regional heavy rescue support apparatus, and be provisioned with multiple hydraulic rescue tools. All other stations should have a more modest set of hydraulics.	291
150	GA recommends that exhaust extraction systems for Summerville and South West stations be funded as soon as possible. They are scheduled for 2020 in the benchmark budget. The total estimated cost of these systems is $105k.	292
151	GA recommends that the new Regional municipality elect the highest WSIB protection. The addition of Region-wide firefighter accident, sickness and disability (AD&D) benefits, MFAP, and off-duty AD&D coverage is included in the projected cost increase.	294

END

May 7, 2021

Windsor West Hants Regional Municipality
100 King Street
Windsor, NS B0N 2T0
Attention: Todd Richard, Director of Public Works

RE: Fire Station Sites in Hantsport Nova Scotia

Further to your request, I have reviewed the two Geotechnical Reports for the two fire station sites that are being considered in Hantsport Nova Scotia.

1. 5 Oak Street, Hantsport, Geotechnical Report by Harbourside Geotechnical Consultants, dated September 23, 2020; and

2. 19 Chittick Avenue Hantsport, Geotechnical Report by ABLE Engineering Service Inc., dated November 27, 2019.

It is important to note that I am not a Geotechnical Engineer, but I am a Civil Engineer experienced in reviewing geotechnical reports for purposes of completing site civil designs and assessing sites for suitability. My work regularly includes review of geotechnical reports and determining if a site is suitable for the intended purpose and if so, what civil / excavation work needs to be done, including cost estimates for that work.

My review of these two sites are as follows:

Site 1 – 5 Oak Street

The geotechnical study for this site included 3 boreholes to a depth of approximately 40 feet. The boreholes show gravel with silt and sand fill material for the top 1.4m to 2.0m that would need to be removed or compacted. No organics were found in the boreholes of this site. This can be prepared for footings and slab, by removing the top layer of gravels and asphalt (300mm) and compacting the gravel silty sand layer. Minimal removal of unsuitable material at this site is expected. The existing grade of this site is close to the finished grade that the new building would be placed at therefore, no significant fills or cuts are required.

Site 2 – 19 Chittick Avenue

The worked completed on the geotechnical study for this site included 4 test pits to a depth of 3 feet to 5 feet. Test pits 1 to 3 show gravelly fill, ranging from compact to loose and containing organics.

Test pit #4 only went to a depth of 3 feet and the test pit record indicates gypsum at 3 feet. The record is unclear if this gypsum is mixed in with the second layer, or if gypsum bedrock is encountered. Because the test pit is only 3 feet deep and the other 3 test pits were 5 feet deep, it is possible that gypsum bedrock was encountered.

This site is a low-lying area, next to a stream, and is subject to flooding. The site would need to be raised up a minimum of 3.5 to 4 feet. Additionally, the top 4 feet of soil contains loose material with organics. This material should be removed and a total of up to 8 feet of imported structural fill would be required.

It is unclear if there is gypsum bedrock near the surface. Based on the test pit #4 data only being 3 feet deep and the test pit record simply stopping at 3 feet and saying “Gypsum” a follow up with ABLE would be needed to answer these questions. If gypsum is close to the surface, this would require further study to mitigate the risk of karst topography.

It should be noted that the test pits are only 3 to 5 feet deep, and this is less then what is typical for a geotechnical study.

Based on the two reports it is my opinion that site 1 (5 Oak Street) has significantly less risk and cost for the civil site works to have the building pad constructed.

If you have any questions or require additional information, please contact me.

Thank you,
DesignPoint Engineering & Surveying Ltd.

Glenn Woodford

Glenn Woodford, P.Eng.
Senior Engineer & Principal

West Hants Regional Municipality
May 11, 2021
Chief Administrative Officer Report

The following report captures activities and events between April 13, 2021 and the date of the report.

Governance

- COTW and Council meetings continue to meet during Covid. The Council environment will adjust pending changes from the Province as it relates to in-person meetings.
- Chief Administrative Officer Annual Review – The annual review process is nearing completion. A model created by the Canadian Association of Municipal Administrators (CAMA) is being used as the evaluation model.
- Inter-Municipal Service Agreements (IMSA) Meeting (s) – Mayor Zebian and I have been engaged with the Mayors and CAOs from Kings County to start the process of revisiting IMSAs and their governance structures. West Hants is impacted by our participation in the Valley Regional Enterprise Network (VREN) and Valley Community Fibre Network (VCFN). Several options are being explored with one being a Joint Service Board.
- Strategic Planning Sessions – The 2021 Strategic Plan has been approved by Council. The following themes will be prioritized throughout the coming year.

Communication	Economic Development
Environmental Stewardship	Community Diversity and Welcomeness
Community Mobility and Connectivity	

Administration

- Accessibility Advisory Committee – The AAC has met twice. The terms of reference have been reviewed and approved, presentations have been received further describing the mandate of the committee, the accessibility committee toolkit has been provided, a budget has been prepared for Council's review and experiential learning sessions are being planned. Creating the Accessibility Plan for the Region is a priority for 2021.
- Cogmagun Land(s) Purchase Process Update – The registration of the lands is now being concluded through our solicitor's office. Final sales will be conducted when the lands are registered, and agreements are signed.
- Former Hantsport Municipal Complex – The former municipal complex was on the market from April 12th and closed to bids on May 7th. The property was appraised at $210,000 and listed at $240,000.00. Offers will be presented to Council for their consideration at the May COTW during the in-camera session.

- The Municipal Complexes – Appraisals are completed for 100 King Street and 76 Morison Drive. The appraisals are included in the meeting package for Council's review.
- Social Committee – The planning for an in-person staff appreciation event is postponed due to gathering restrictions under COVID. The event and its planning will be revisited when restrictions are lifted.

Finance

- Budget Meetings – budget submissions and operational reviews have been carried out at the operations level in preparation of budget submissions to Council. All departments and services have submitted their draft operating and capital budgets. Budgets have been provided to Council for their review prior to budget deliberations.
- Valley Community Fibre Network (VCFN) – There is no current update regrading VCFN.

Community Development

- Hantsport Foodbank - progress continues with the relocation of the Hantsport Foodbank.
- Brooklyn Civic Center Meeting - Staff have met twice with Brooklyn Fire Services representatives regarding the municipality taking over the operations of the Civic Center side of the facility. Logistics have been coordinated for this transition to occur in 2021. The expenses and revenues associated with this space are noted in the Operating budget for Council's review.

Planning and Development

- Planning Advisory Committee / Heritage Advisory Committee (PAC/HAC) Meeting – The new PAC/HAC committee members have been appointed and received board training.
- Fences Arbitration Committee Meeting - The committee has met to respond to a complaint from a resident about cattle roaming at large. The municipality has a responsibility for ensuring fences are maintained. Animal welfare is also involved regarding the care and permitted ownership of the cattle by the owner. Animal Welfare are preparing to corral and remove the cattle from the owner's property. Ongoing surveillance is being done by the municipality. Councillor Jannasch and Tim Marsh, member of the Nova Scotia Federation of Agriculture are the two FAC members.
- Public Information Meetings – Meetings associated with developments at 233 Gray Street, Windsor and 20 Empire Lane, Windsor were conducted.

Economic Development

- Community Branding – The Community Branding Committee continues to meet. Committee members are very engaged and Prime Creative is leading the group through a thorough rewarding process. The brand is starting to emerge.
- Vending By-law Meeting – The by-law continues to be reviewed. It will return to Council for review when it is drafted.

Public Works and Infrastructure

- Hantsport Fire Station – Design and tendering continues with the Hantsport Fire Station through the PWs department. The site selection has returned to the Council table for reflection and further review. Staff have provided all site and project related materials for Council's review.

Protective Services

- Regional Fire Services / Budget Preparations – Director Rochon and I have had ongoing meetings with all fire Chiefs regarding operating and capital budgets. The individual budgets continue to be refined to ensure they are presented in the same manner to promote consistency for Council's review. Debt servicing has risen for fire services due to the large values associated with apparatus and fire station capital related items.
- Regional Fire Chiefs Meeting – The Chiefs continue to meet monthly with support from Administrative Supervisor, Shelleena Thornton and myself.
- REMO – COVID meetings occur monthly with the following stakeholders and representatives; Incident Commander, REMO Coordinator, Nova Scotia EMO, Finance, Community Development, Planning, Public Works, NSTIR, Fire, RCMP, IT, Department of Community Services, Hants Community Hospital, Glooscap 1st Nations, Communications, Safety and Logistics. Rick Sherrard continues to work on the following initiatives that have been outstanding.
    - Revision of WHRM EMO Plan
    - Co-Creation of Remote Rural Emergency Response Pilot Presentation
        - EMO
        - RCMP
        - Fire
    - Planning and Ops Committee Meetings
    - Table-Top Exercise Preparation
    - Ongoing
- COVID – The municipality continues to adapt in response to changing COVID protocols. As reported through emails, operations have been modified to respond to COVID impacts. Ongoing communications have been posted to inform the public of changes.

Sincerely,

Mark Phillips

Mark Phillips
Chief Administrative Officer
West Hants Regional Municipality

Avon River Causeway Correspondence

(aka Hwy. 101 Twinning, Aboiteau, Causeway, Lake Pisiquid)

First Name	Last Name	Correspondence Date	Meeting / logged
Danny	Dill	2020-06-30	2020-07-14 COTW
Quentin	Davison	2020-07-06	2020-07-14 COTW
Alyson	Bremner	2020-07-07	2020-07-14 COTW
Cecil	Rolfe	2020-07-13	2020-07-14 COTW
Pat	Porter	2020-07-13	2020-07-14 COTW
Nikki-Marie	Lloyd	2020-08-02	2020-09-08 COTW
Heather	Boylan (Martock)	2020-09-01	2020-09-08 COTW
Greg	O'Leary	2020-09-03	2020-09-08 COTW
Dr. Abby	Kirumira	2020-09-02	2020-09-08 COTW
Dean	Manning	2020-09-08	2020-09-08 COTW
David & Michelle	Rideout	2020-09-08	2020-09-08 COTW
Colleen	Walsh-Bouman	2020-09-08	2020-09-08 COTW
Nicholas & Alyson	Juurlink/Bremner (Linked Farms)	2020-09-08	2020-09-22 Council
Tasha	Rogers	2020-09-08	2020-09-22 Council
Brad	Carrigan	2020-09-23	2020-10-13 COTW
Karen	Carrigan	2020-09-23	2020-10-13 COTW
Elaine	Morehouse	2020-09-24	2020-10-13 COTW
Gary	Morehouse	2020-09-24	2020-10-13 COTW
Dr. A	Kirumira	2020-09-24	2020-10-13 COTW
Blake	Sarsfield	undated	2020-10-13 COTW
Greg	Webster	2020-10-01	2020-10-13 COTW
Bobby	Kidston	2020-10-02	2020-10-13 COTW
NSTIR	(Province of NS)	2021-01-13	2021-01-26 Council
Darren	Porter	2021-03-19	2021-03-23 Council
Rylan	Carrigan	2021-03-29	2021-04-13 COTW
Robin	Bremner-Popma (Hants Co Fed of Agri)	2021-03-29	2021-04-13 COTW
Roslyn	MacDuff	2021-03-29	2021-04-13 COTW
Darlene	Taylor	2021-03-23	2021-04-13 COTW
Daniel	Oulton	2021-03-26	2021-04-13 COTW
Karen	Carrigan	2021-03-26	2021-04-13 COTW
Marie & Andrew	Connolly	2021-03-26	2021-04-13 COTW
Robin	Thomson (Atlantic Division Canoe Kayak Canada)	2021-03-30	2021-04-13 COTW
Barbara	Hughes	2021-03-29	2021-04-13 COTW
Laura	Fisher	2021-04-01	2021-04-13 COTW
First Name	**Last Name**	**Correspondence Date**	**Meeting / logged**

Avon River Causeway Correspondence

(aka Hwy. 101 Twinning, Aboiteau, Causeway, Lake Pisiquid)

Nikki-Marie	Lloyd	2021-04-06	2021-04-13 COTW
Ken	Donnelly (Hwy 101 Twinning CLC)	2021-04-01	2021-04-13 COTW
Darren	Porter	2021-04-06	2021-04-13 COTW
Karen	Lynch	2021-04-09	2021-04-13 COTW
Carilee	Eddy	2021-04-15	2021-04-27 Council
Nikki-Marie	Lloyd	2021-04-19	2021-04-27 Council
Sheldon	Hope	2021-04-19	2021-04-27 Council
Adrienne	Wood	2021-04-22	2021-04-27 Council
Magda	Montgomery	2021-04-22	2021-04-27 Council
Sheldon	Hope	2021-04-26	2021-04-27 Council
Andrew	Smiley	2021-05-02	2021-05-11 COTW
Carrilee	Eddy	2021-05-03	2021-05-11 COTW
Denise	Forand	2021-04-27	2021-05-11 COTW
Erin	Naugler	2021-05-02	2021-05-11 COTW
Janet	Comeau	2021-05-02	2021-05-11 COTW
Kristyn	Anderson	2021-05-02	2021-05-11 COTW
Laura	Fisher	2021-04-01	2021-05-11 COTW
Nick	Rafuse	2021-05-03	2021-05-11 COTW
Nicole	McLeod	2021-05-02	2021-05-11 COTW
Robyn	Cook	2021-05-02	2021-05-11 COTW
Sheldon	Hope	2021-05-02	2021-05-11 COTW
Tammy	Hilden	2021-05-02	2021-05-11 COTW
Tracey	Sexton	2021-05-03	2021-05-11 COTW
Ginette	Pitcher	2021-05-03	2021-05-11 COTW
Greg	Miller	2021-05-05	2021-05-11 COTW
David & Michelle	Rideout	2021-05-05	2021-05-11 COTW
Sylvia & Vince	Burgess	2021-05-05	2021-05-11 COTW
Scott (Adrienne)	Miniou (Wood)	2021-05-03	2021-05-11 COTW
Barbara	Sullivan	2021-05-06	2021-05-11 COTW
Sandra & Skip	Hogan	2021-05-06	2021-05-11 COTW
Marie & Andrew	Connolly	2021-05-06	2021-05-11 COTW
Karen	Carrigan	2021-05-07	2021-05-11 COTW
Adrienne	Wood (Petition)	2021-05-07	2021-05-11 COTW
Lisa	Hines	2021-05-07	2021-05-11 COTW
First Name	**Last Name**	**Correspondence Date**	**Meeting / logged**
Cam	Hartley	2021-05-07	2021-05-11 COTW
Troy & Vicki	Harvie	2021-05-07	2021-05-11 COTW

Avon River Causeway Correspondence

(aka Hwy. 101 Twinning, Aboiteau, Causeway, Lake Pisiquid)

Jenn	McDermott	2021-05-08	2021-05-11 COTW
Jennifer	Daniels	2021-05-09	2021-05-11 COTW
Krista & Colin	Duncan	2021-05-09	2021-05-11 COTW
Robin	Bremner-Popma	2021-05-07	2021-05-11 COTW
Roslyn (Darlene) [Barb]	MacDuff (Taylor) [Hughes]	2021-05-08	2021-05-11 COTW
Wayne & Dianne	Hines	2021-05-09	2021-05-11 COTW
Bob & Sandra	Langdon	2021-05-10	2021-05-11 COTW
Brad	Hood	2021-05-10	2021-05-11 COTW
Ed & Cathy	Kerr	2021-05-10	2021-05-11 COTW
Ann	MacArthur	2021-05-10	2021-05-11 COTW
Carole Anne	Casey	2021-05-10	2021-05-11 COTW
Sarah	MacDonald	2021-05-10	2021-05-11 COTW
Andre & Donna	Arsenault	2021-05-11	2021-05-11 COTW

Shelleena Thornton

Subject: FW: Keep the freshwater lake

From: Andrew Smiley < >
Date: May 2, 2021 at 7:45:03 PM ADT
To: PublicOnlyCouncilEmail <allcouncil@westhants.ca>
Subject: Keep the freshwater lake

Caution
This email comes from an outside sender. Verify the sender and use caution with any requests, links or attachments.

I own 21 rental units in Windsor as well as a house on Cloverdale Dr on the waterfront. I'm very concerned about the possibility that the fresh water lake will be allowed to be tidal again. As well, I've spoken to most of my tenants and they share the feeling and share the opinion that the people asking for the return of salt water are the vocal minority.

From: Barb Sullivan
To: PublicOnlyCouncilEmail
Subject: Re: Proposed changes to Lake Pisiquid
Date: Thursday, May 6, 2021 1:46:46 PM

Caution
This email comes from an outside sender. Verify the sender and use caution with any requests, links or attachments.

Mayor Zebian and Council Members,

The Breast Quest Dragon Boat Society, a registered charity, has paddled on Lake Pisiquid since 2004. We are committed to paddling so that we can experience and demonstrate the physical and emotional benefits of exercise in maintaining good health for breast cancer survivors.
We currently have 30 members who provide support for breast cancer patients during their cancer journey and who show hope for an active lifestyle ahead. Families, friends and the general community are an integral part of our support system.
Although currently unable to paddle due to Covid restrictions, we are looking forward to a resumption of paddling when safe to do so.
We strongly voice our opposition to any changes to Lake Pisiquid that will curtail our ability to provide a valuable service to the breast cancer community and we encourage Council members to commit to a solution that considers the outcomes for the entire community of Windsor/West Hants.
Thank you for your attention to this concern.

Barbara Sullivan, Secretary
Breast Quest Dragon Boat Society

Shelleena Thornton

Subject: FW: Avon River Causeway

From: Carrilee E < >
Date: May 3, 2021 at 10:02:51 AM ADT
To: Abraham Zebian <AZebian@westhants.ca>, Rupert Jannasch <RJannasch@westhants.ca>, Scott McLean <smclean@westhants.ca>, Mark McLean <mmclean@westhants.ca>, Jeff Hartt <jhartt@westhants.ca>, Debbie Francis <DFrancis@westhants.ca>, Bob Morton <bmorton@westhants.ca>, Ed Sherman <esherman@westhants.ca>, Paul Morton <PMorton@westhants.ca>, Richard Murphy <rmurphy@westhants.ca>, Laurie Murley <LMurley@town.windsor.ns.ca>, Jim Ivey <jivey@westhants.ca>
Cc: "Minister / Ministre (DFO/MPO)" <Min.XNCR@dfo-mpo.gc.ca>, "mark.mclean@dfo-mpo.gc.ca" <mark.mclean@dfo-mpo.gc.ca>, "kody.blois@parl.gc.ca" <kody.blois@parl.gc.ca>, "colin.mitchell.207@parl.gc.ca" <colin.mitchell.207@parl.gc.ca>, "minister.environment@novascotia.ca" <minister.environment@novascotia.ca>, Premier <PREMIER@novascotia.ca>, "chuck@chuckporter.ca" <chuck@chuckporter.ca>, Chuck Porter MLA <cportermla@eastlink.ca>, "mindnr@novascotia.ca" <mindnr@novascotia.ca>, "Bernadette.Jordan@parl.gc.ca" <Bernadette.Jordan@parl.gc.ca>, "Bernadette.Jordan.C3@parl.gc.ca" <Bernadette.Jordan.C3@parl.gc.ca>
Subject: Avon River Causeway

Caution
This email comes from an outside sender. Verify the sender and use caution with any requests, links or attachments.

This email is to register my support for the current fish passage operation at the Avon River Causeway.
Thank you,
Carrilee Eddy
Windsor, NS

Shelleena Thornton

Subject: FW: Avon River

From: Carrilee E < >
Date: May 3, 2021 at 10:54:24 AM ADT
To: "azebian@westhants.ca" <azebian@westhants.ca>, "rjannasch@westhants.ca" <rjannasch@westhants.ca>, "smclean@westhants.ca" <smclean@westhants.ca>, "mmclean@westhants.ca" <mmclean@westhants.ca>, "jhartt@westhants.ca" <jhartt@westhants.ca>, "dfrancis@westhants.ca" <dfrancis@westhants.ca>, "bmorton@westhants.ca" <bmorton@westhants.ca>, "esherman@westhants.ca" <esherman@westhants.ca>, "pmorton@westhants.ca" <pmorton@westhants.ca>, "rmurphy@westhants.ca" <rmurphy@westhants.ca>, "lmurley@westhants.ca" <lmurley@westhants.ca>, "jivey@westhants.ca" <jivey@westhants.ca>
Cc: Chuck Porter MLA <cportermla@eastlink.ca>, "kody.blois@parl.gc.ca" <kody.blois@parl.gc.ca>, "colin.mitchell.207@parl.gc.ca" <colin.mitchell.207@parl.gc.ca>, Premier <PREMIER@novascotia.ca>
Subject: Avon River

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Further to my previous email reminding WHRM Council of my support for current causeway gate operations for fish passage, I also have questions for Council:
I thought there was a motion made before the Mayoral Election that indicated Council's intention to stay out of this issue as it was a Provincial and Federal matter - am I incorrect, or has that changed? If Council remains involved, will they consider options for all concerns and inform constituents of those findings?
How can we take advantage of sportfishing, birdwatching, river viewing opportunities here in Windsor and possibly in the Elderkin Creek and Dimock Point areas?
How can we include First Nations and thank the Water Protectors at Treaty Truckhouse #2 for their attention to the Avon River? I believe there is opportunity for Truth and Reconciliation Calls to Action here in WHRM.
Is there Federal funding for flood protection measures such as dykes/seawalls? How do we access this?
If the river remains open for fish passage, do we need more fire hydrants for firefighting?
If The Canoe Club needs to relocate, is there any municipal land to which we can move their club - whether on the other side of the Falmouth bridge or closer to Sangster's bridge? Or a lake in WHRM?
Is WHRM aware of any water shortage concerns to residents that should necessitate examining development that adds on to the current water system?
If Martock, farmers and residents along the river need aid in obtaining fresh water, how can we help them?
Are any of these potential costs able to be included within the post-amalgamation funding?
Thank you,
Carrilee Eddy
Windsor, NS

Shelleena Thornton

Subject: FW: Causeway Concerns

From: David and Michelle Rideout < >
Sent: Wednesday, May 5, 2021 8:01:28 AM
To: Bob Morton <bmorton@westhants.ca>
Subject: Causeway Concerns

We wanted to touch base with you on the causeway issue. We have been told that the county councillors don't feel there is an issue or cause for concern.

Our concerns are:
- from the level of our land and going by history, our land would be flooded, not only would we potentially lose our business we would also lose our home in time!
- farmers will lose their land, their crops, their livestock, their homes!
- who will rebuild the dykes that no longer exist?
- why do the "water protectors" say save the fish? Do they only want to save the salt water fish because if the causeway is completely removed so many freshwater life forms will be destroyed. Currently the waterfront smells horrendous form the dead lifeforms already dying from lack of water.
- We do not feel they are thinking the whole picture all the way through. We understand that maybe the causeway shouldn't have been built years ago however, it was and taking it completely out now will have worse effects and what has transpired over the last 40+ years.
- We have a beautiful waterfront, river and marshland.
- The issues we are now facing may also, in the future, affect other lakes on the water system (Mockingee, Zwicker, Card lakes). If they open the gates to allow for free tidal flow this may affect the water levels in the lakes above the power dams to increase water levels downstream. There may also be an issue for the future of other dams on the waterway being targeted to be removed or their levels being greatly affected.
- a huge concern for us is water supply. We currently use the stream to water out golf greens at Rosevale Golf Course. If we lose the water supply we may lose our business as well.
- as with Martock Ski Hill, if they lose the water supply they will be in the same boat.

A solution does exist, Option D, to allow for increased fish passage without losing the fresh water resource or affecting the water levels in all the lakes. Still allowing us to keep a great lake that is used for recreation, tourism, irrigation for farms, business, and habitat for so many freshwater fish, birds, turtles, muskrats Etc.

Here is a list of concerns that the land owners are facing. If you have any other concerns that I have missed please let me know.

-Loss of water level for multiple types of recreational use
-Decreased property value due to loss of water frontage
-Fine dust from the mud flats blowing around the waterfront
-Destruction of habitat for existing freshwater species
-Loss of freshwater supply for homes and businesses
-Destroyed vegetation along the waterway due to salt water
-Loss of community events such as "The Pumpkin Regatta"

We don't feel this has to be an all or nothing situation, also possibly a touchy subject but why have the treaty people been allowed to set up camp up protest? We believe if we set up camp to protest we would have been removed near

immediately. We have been quiet all this time because if we voice any sort of opinion at all about the water people “on the other side” for lack of better terms completely lose their composure and attack us with extreme rudeness. We can’t just stand by and let the people who don’t even live here take away the life we have built here. The protestors do not live anywhere near the area that will be affected by removing the causeway. Please help us in anyway you can.

Please if you can help at all,
Thank you for your time,
David and Michelle Rideout

Sent from my iPhone

Shelleena Thornton

Subject: FW: Save the Avon River system

From: Denise Forand < >
Date: April 27, 2021 at 12:32:14 PM ADT
To: Laurie Murley <LMurley@town.windsor.ns.ca>, kody.blois@parl.gc.ca, Chuck MLA <cportermla@eastlink.ca>, Bernadette.Jordan@parl.gc.ca
Subject: Save the Avon River system

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_____

Good morning Mayor Abe, Councillor's and CEO plus MLA's Kody and Chuck and Bernadette.

this is my opinions and thoughts to add to your correspondence for you to consider on the Causeway and to advise you that my vote is with Nature being better protected and balanced.

A. I believe we need to keep our Avon River flowing. Put in the small tidal 100' Bridge , repair the existing causeway gates , update them for the next fifty years and have them operating properly in favour of nature as it gives life.

B. I do not want a dead water lake that can't host any kind of life as it has no regular tidal flow for oxygen. Management of the gates need to work with science in favour of the nature's life cycles.

C. Almost all our NS rivers play together harmoniously with our salty life sustaining Oceans all around our beautiful province. Protect our Environment in the name of science and our future generations.

D. People have lived along this free flowing natural river (salt and fresh) for hundreds of years before the causeway. This 50 year error in judgement is just a bump in time for nature's migration patterns that are instinctive in all species for all time.

E. You have so many great opportunities now. Science and our Laws tells us what the facts are. I have noticed so much more activity along our great river inside the wall. Let's get our waterfront redone. Let's put this wasted time and money on something better for the whole area. Bridge it and move on.
Let's have science and architectures design our eco friendly system that offers solutions for our unique location inside the causeway.
Let's have a better natural balance. Work together.

Hopefully, all these opinions and thoughts of mine will tell you that we all have differences in our views of needs and wants, so stay neutral or follow the scientific facts and our Constitution. Plan for a new healthier water system to play in. Think outside the box. Myself I see,

using the silt to build a island or peninsula with beaches and walk way bridges over to the middle of the lake area and to allow water to flow all around it, hence dispersing the water for the river and the canoe club areas where it needed.

You councillors have a great chance to do something spectacular for our Gateway to the Valley, our junction of Rivers and to add to Windsor's many historical great firsts all because of location, location, location. Sunsets on a beach in Windsor, Amazing Boardwalks like other great location along great water ways. Beautiful designer cutting edge waterfront apartments with grand balconies enjoying sunsets, maybe even a Hotel to maintain/attract more professionals to our region. Again , only my thoughts. Thank you for taking the time to read my ideas for a premium river frontage downtown revival as it is the entrance to our economic , entertainment and historical township. Make a statement of pride to be seen from the causeway and highway, make them want to stop and stay.

Sincerely,
Denise Forand

Sent from my iPad

Shelleena Thornton

Subject: FW: Lake Pisiquid, Avon River, and the proposed Causeway

From: Erin Naugler < >
Date: May 2, 2021 at 10:55:46 PM ADT
To: rmurphy@westhants.ca
Cc: mazebian@westhants.ca, rjannasch@westhants.ca, smclean@westhants.ca, mmclean@westhants.ca, jhartt@westhants.ca, dfrancis@westhants.ca, bmorton@westhants.ca, esherman@westhants.ca, pmorton@westhants.ca, lmurley@westhants.ca, jivey@westhants.ca
Subject: Lake Pisiquid, Avon River, and the proposed Causeway

Good evening Councillor Murphy. I hope this message finds you well.

I have sent several messages to Minister Jordan regarding the current gate operations at the Windsor Causeway and have yet to have any response from her or her office outside of an automated response acknowledgement.

I watched the council meeting last Tuesday where the amended motion was passed for council to press forward to attempt to garner engagement from the Federal Minister as to her intentions to the future operation of the aboiteau. I thank you for asking for communication from our Federal Government on our behalf.

I'm not sure on your own opinion for the operation of the gates but as a resident in your district I wanted to tell you what Lake Pisiquid means to me.

I paddle at the Pisiquid Canoe Club. So have my four children. And my two step children. I have spent countless hours promoting the sport locally and volunteering to ensure the club has a strong membership and talented staff.

My oldest son started working at the canoe club at age 15, full time. He did this because he knew I I wouldn't be able to pay for his post secondary education. He paid for his first year in full with his own money, including residence, that he earned over three summers working full time. He did this even while training on Lake Pisiquid before and after 10 hour days of work. At age 16 he qualified Nationals in spring kayak for the K1 200m. He finished second fastest in Atlantic Canada. Training on lake Pisiquid. That August we travelled to Sherbrooke Quebec on my credit card, in a borrowed sprint kayak and my son finished 6th in Canada. He turned 17 while there for the races. And he trained on lake Pisiquid. March to November.

The canoe club currently 80+ kids enrolled for summer. All hoping to achieve their personal bests and qualify for Nationals.

My son is counting on this employment to continue paying for his education for the next school year. And right now we are uncertain if that is going to happen.

My twins and my two step children are currently in the high performance program and have no club to train from.

That's my personal attachment to the lake.

As an asthmatic, and the mother of an asthmatic, I have concerns about the silt dust ups that have been occurring and the affect it will have on our air quality. I often walk/run/bike around the causeway and the downtown. A week and half ago I couldn't go outside in the downtown due to the silt kick up in the air. That's a pretty big deal.

As a realtor in our region I can tell you that the waterfront and the recreation opportunities it affords are a big draw for people considering West Hants as a place to call home. I have concerns over the impact the current order from the Minister will have on our ability to draw new residents and business to the area. It wasn't that long ago that there was an announcement for a New large scale development near our waterfront. This has not come to fruition. The current state of the waterfront is having an impact on the economic growth of our region.

I have concerns for our farmers. I enjoy our local produce and meats. I'm Thankful that our carbon footprint can be small while supporting these farmers that have been feeding our region for generations. I'm proud to support local whenever I can. I teach this to my kids when they ask why I'm paying $5lb for ground beef instead of $3.99. These farmers and producers are making our community stronger by providing what we need locally. With sustainable farming and the best environmental practices available to them. Many of our farmers are award winners for sustainability and best practices on their farms. They have earned and deserve our support.

I'm worried for our families that draw water from this resource for their homes. Many ran out of water last summer and were unable to use the once abundant fresh water that flowed by their homes due to salt contamination.

I'm concerned for the affect on our Fire Dept. Their ability to run practices from the dry hydrants and the use of them for emergency fire services. Although I admit I'm Not as versed on the impact to the fire department as I could be.

Ski Martock. Richard, ski Martock. Our biggest seasonal employer . Our biggest economic draw. The impact to this business cannot be ignored. The owners are long time supporters of our Region. We are failing them when they need us most. I know they fall into Bob Morton's district but it's so very important that we are considering the entire picture when we are looking at the impact this Ministerial Order has on our Region. The economic spin off to our area from those that enjoy Ski Martock, and On Tree is so far reaching.
Bent Ridge is the only Winery in the Annapolis Valley that operates year round and it's because the people that visit Martock to ski and snowboard stop and support this business.
The property owned through falls lake that run air bnb depend on the operation of the ski hill to support their off season rentals. Try booking a rental over March Break, you can't. They are pre-booked the year before. I know, I have sold a number of proepries in the area that are used for air BnBs.

I'm concerned for the impact on the ecosystem that has grown and flourished upstream from the lake for the last 50+ years. The residents report of river banks eroding, dead fresh water clams, missing turtles that used to nest near their properties and more.

I'm asking you to engage your community members, especially in your district, and

know when we say we love our community it includes our waterfront, our fresh water resource for our community. We believe that our government can provide responsible management of the new gate system that includes dedicated fish passage in the form of fish ladders that was outlined in the Option D that proposed by the CBCL IN October 2018.

Erin Naugler,
Falmouth District 9 Resident
902-798-7577

Cc
Abraham Zebian, Mayor
Rupert Jannasch, Councillor District 1
Scott McLean, Councillor District 2
Mark McLean, Councillor District 3
Jeff Hartt, Councillor District 4
Debbie Francis, Councillor District 5
Bob Morton, Councillor District 6
Ed Sherman, Councillor District 7
Paul Morton, Councillor District 8
Laurie Murley, Councillor District 10
Jim Ivey, Councillor District 11

Shelleena Thornton

Subject: FW: Concerns about Lake Pisiquid

From: Ginette Pitcher < >
Sent: May 3, 2021 8:14 PM
To: Abraham Zebian <AZebian@westhants.ca>; Richard Murphy <rmurphy@westhants.ca>
Subject: Concerns about Lake Pisiquid
his email comes from an outside sender. Verify the sender and use caution with any requests, links or attachments.

Hello Mayor Zebian and Councillor Murphy,

I am writing to you today about my concerns about the continued drained state of Lake Pisiquid. It has been well over the original two weeks DFO mandated the gate opened, and there are rumors the lake may stay drained all summer. This greatly concerns me for a number of reasons.

I grew up in Nova Scotia's Annapolis Valley. I went to school in Halifax, and have lived in Falmouth for the past 14 years. I am a parent to two children, and am a consumer of local agricultural products. I am a federal public servant. I work at the Kentville "Research Station" for Agriculture & Agri-Food Canada. I love Nova Scotia and can't imagine living anywhere else.

This issue of fish passage through the Windsor causeway gates has been a "hot topic" for years. I am sure we can all agree that when the causeway was put in 50 years ago it was not well thought out. But it is there now and we cannot and should not try to revert to "how things were". The ecosystems on both sides of the causeway have adjusted to its presence and are thriving. To let the system go back to being tidal would ruin both ecosystems, not to mention put Windsor at risk of flooding again.

Since you live here, you already know that the Avon River is hydroelectrically controlled by Nova Scotia Power. The dams further upstream allow very little water to trickle down, and with the lake drained the water levels in the river are very low. In the heat of the summer, it may even dry up in spots, putting those precious fish that DFO is so concerned about, at risk.

You also know that there are many users of the fresh water side of the Avon River. Farms use the water to irrigate, Martock uses it to make snow. Both industries are put at risk if we continue to allow the salt water to flow upstream.

Another group that relies on the lake is the Pisiquid Canoe Club. They offer an amazing program to local kids, including my two, and several of their friends. The club has had much success in recent years getting our local paddlers onto the provincial paddling podium. If the lake stays drained, these kids wouldn't have access to a sport they love, and several local families would lose some much needed summer child care.

I agree that fish passage is important. But the fresh water ecosystem is equally important. We should not have to sacrifice that ecosystem to let the fish through. There are ways to keep the salt water on one side and the fresh water on the other side, while still letting the fish through. Many other countries are already doing it (like Holland). We just need to pay the money put in a proper system. We need all levels of government to get together and do this the right way.

As residents of West Hants yourselves, you are much closer to this issue than a federal minister would be. I hope that I can count on you to be a strong voice on this issue.

Thank you for your time. I hope to hear back from you soon.

Ginette Pitcher
- concerned resident of West Hants

Shelleena Thornton

Subject: FW: Windsor Causeway

From: Greg Miller < >
Sent: May 5, 2021 4:06 PM
To: Abraham Zebian <AZebian@westhants.ca>; Bob Morton <bmorton@westhants.ca>; Ed Sherman <esherman@westhants.ca>; Richard Murphy <rmurphy@westhants.ca>; Laurie Murley <LMurley@town.windsor.ns.ca>; Jim Ivey <jivey@westhants.ca>
Subject: Windsor Causeway

Hello Warden and Councillors,

I'd like to make a few comments and ask a few questions on the current situation regarding the causeway, lake/river.

First, I realize that the causeway is not a municipal matter. But the ramifications resulting from any changes are.

Second, I fully support the recommendation to retain a causeway/aboiteau with a fully functioning fish passage.

A couple of weeks back as I drove into Windsor I was amazed to see a dust storm occurring. The cause was obvious: dried out mud along the river shoreline and high winds. It made me wonder if this could be a regular occurrence, and I think it can be. A free flowing tidal river will regularly be at low tide. On a sunny windy day the banks will dry out and there will be another dust storm. Even a few over the course of a summer would have a negative impact on downtown Windsor.

The current situation around the lake/river is a major eyesore. What was an attractive lake and river is now a muddy, disgusting mess. And if the river is left free flowing that's what it will look like forever more. Again, that will have a major negative impact on downtown Windsor and beyond.

When the aboiteau gates were left open last Fall and the river left to flow freely there were huge negative consequences for many residents upstream, including the potential for Ski Martock to not be able to open. I'm sure I don't need to recount the plethora of consequences.

What I would like to know is:

Have any of you individually or collectively advocated on behalf of any of the negatively affected residents/businesses along the river?

Has there been any talk of demanding restitution for the residents?

Does council have a stated position on the causeway replacement? If not, why not?

Does council have a plan or a plan for a plan on how to deal with the fallout from a free flowing river?

Thank you, and I await your responses.

Greg Miller

Falmouth

Shelleena Thornton

Subject: FW: Lake Pisiquid

On May 2, 2021, at 9:07 PM, Janet Comeau < > wrote:

Hi Debbie,

I am reaching out as a West Hants resident concerned about the future of Lake Pisiquid.

Please count me as one of those who hopes to see lake Pisiquid remain as a lake.

Thank you for your service to our community,
Janet Comeau

Shelleena Thornton

Subject: FW: Help for pisiquid

From: Kristyn Anderson < >
Sent: May 2, 2021 9:29 PM
To: Richard Murphy <rmurphy@westhants.ca>
Subject: Help for pisiquid

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_____

Good evening Richard,
I'm not sure if you are my counsellor or not (I live in Falmouth) but I am hoping you will raise the issue of pisiquid for us. For the skiers, the wine drinkers, the local produce and meat lovers, and the paddlers; those who have no idea what is going on with that lake and are petrified to ask questions as it's a very divisive topic. I know there can be no winners, but as someone who has relied on that lake for child care for the past 5 summers, I need to know the plan.

With gratitude

Mindfully,

Kristyn Anderson MA, MSW, RSW, RMFT
PHD student, Health
Student Research Scholar - Healthy Populations Institute

Shelleena Thornton

Subject: FW: Avon River

From: **Laura Fisher** < >
Date: Thu, Apr 1, 2021 at 3:28 PM
Subject: Avon River
To: <Kody.Blois@parl.gc.ca>

To whom it may concern,

I am a resident of Falmouth, NS and the ongoing dispute over the Avon River and the Windsor causeway has me feeling very overwhelmed and quite frankly very worried. I have lived in Falmouth for over 15 years and our property is drastically affected by stormwater runoff, rain storms and tides. We are a low lying property as are many homes around the area and I believe that free tidal flow will be disastrous for our home and community. With climate change and a larger amount of powerful storms this is a major concern for our family. We have already had one flood after a terrible spring storm a few years ago. We have tried for many years to have something done about this and have had no help with any of it.

I am not against fish passage, but I do believe in 2021 we should be able to have both fresh water (Pisiquid Lake) and safe fish passage. I believe that the freshwater ecosystem is extremely important to sustain in our area, both economically, ecologically, and for public safety.

Our son along with thousands of others uses Ski Martock in the winter for affordable recreation. In the summer he paddles at the phenomenal program at Pisiquid Canoe Club. It would be devastating to families in our area to lose these wonderful recreational programs and for us to lose the waterfront that so many people enjoy and businesses count on.

I also worry about all of the farmers, wineries and homes along the river, the salt from the other side of the causeway will be so damaging to these businesses. I am really hoping that something can be done that will allow for the lake to remain, but for fish to pass safely and this can all be solved once and for all.

Thanks so much for the consideration.
Laura Fisher
902-

Shelleena Thornton

Subject: FW: Lake Levels

From: Andrew Connolly < >
Date: May 6, 2021 at 2:44:03 PM ADT
To: Mark McLean <mmclean@westhants.ca>
Subject: Lake Levels

Marie and Andrew Connolly
Ashdale Rd

May 6 2021

Hello Mark,

I want to bring to your attention to our concern about water levels on Lake Pisiquid Windsor. The future of our town and community is at stake.

What follows is a letter that I received on this subject from Adrienne Wood who is leading the group of concerned citizens in Windsor and area

Chuck Porter and Kody Blois are both aware and on side.

This letter is regarding the recent Ministerial Order as it relates to the Avon River and Lake Pisiquid in Windsor, Nova Scotia.

I am concerned yet that the government officials are only considering one variable in this saga: the fish passage. I know this is not an easy situation but there are so many pieces to consider:

- Effects on our food security: our farmers NEED this fresh water to produce food for our people. Their livestock and crops depend on it. Given the last year of uncertainty, the ability for our farmers to provide food to Nova Scotians should be of utmost priority.
- The effect on the economy of downtown Windsor. We have just received grant money from several sources (ACOA, the province, the municipality) to beautify the downtown core, targeting the waterfront area. This money and efforts will be in vain if our reality is a mud pit backdrop.
- The effect of the fine dust that arises when the weather is dry: this fine dust permeates the (closed) windows of our shops and homes. The fine dust settles on things like instruments in the music shop and will ruin them over time (this is just one example of the damage that happens from a local shop). The dust prevents people from hanging their clothes out to dry or spending time in their back yards. The dust affects those with respiratory health issues.
- The effect on recreation: the free flow will negatively impact our canoe club, kayak and paddleboard loans from the municipality (which was a highly popular program this past summer, especially given our current restrictions and regulations), regular kayakers and other recreational boat users that highly utilize the lake and river from spring through to the fall. The dust will impact those who walk around the Causeway lake trail (one of the most highly trafficked trails in the province), it will impact the youth who use the skateboard park.

- Effects on culture: the waterfront is a beautiful backdrop for regular summer concerts, for those looking to take in a beautiful sunset, to spend time by the water having picnics. A mud pit is a very different and unappealing backdrop than a beautiful fresh water lake.
- Effects on our wine/beer/tourism industry. The vineyards rely on this freshwater resource.
- Effects on Ski Martock: the family run business needs freshwater to make snow. This business attracts thousands of people per year to our region, which then supports other small businesses by proxy.

I urge you to consider ALL variables and areas of impact that are involved here. This is just a short list of areas that will be negatively affected or ruined if this order stays in place. A compromise has been found to allow for increased fish passage as well as all points above ("Option D"). Please consider our small businesses, our food security, our right to active living and recreation when making further choices in regard to this matter.

Sincerely Andrew and Marie Connolly

Shelleena Thornton

Subject: FW: Fresh Water

From: Nick Rafuse < >
Date: May 3, 2021 at 10:32:18 AM ADT
To: Richard Murphy <rmurphy@westhants.ca>
Cc: Abraham Zebian <AZebian@westhants.ca>
Subject: Fresh Water

Good Morning Councillor,

I am writing to you this morning to express my concern over the current situation regarding Lake Pisiquid. I am very disappointed to see the muddy salt water flow in the lake. Fresh water is crucial for our community on so many levels. The economics of it, the recreation side of it, and also community safety are just the tip of the iceberg. This is something we CANNOT lose in our community, and is something we need to support.

Regards,

Nick Rafuse
Falmouth

Nick Rafuse, BBA

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(c) 902-790-4434
(b) 902-790-2422
www.axemanconstruction.ca
"Great projects start from the ground up."

Shelleena Thornton

Subject: FW: Lake Pisiquid

From: Nicole McLeod < >
Sent: May 2, 2021 9:06 PM
To: Richard Murphy <rmurphy@westhants.ca>
Subject: Lake Pisiquid

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My children are members of the paddling club and I am concerned about what the situation with the water levels will mean for the club. The club offers so much to our young children with providing a place for them to grow and develop social and physical skills. The club allows individuals to gain confidence in a supportive environment.

I would like to know what the future of the club looks like.

Thanks
Nicole

Shelleena Thornton

Subject: FW: Pisiquid paddling club

From: Robyn Cook < >
Sent: May 2, 2021 8:55 PM
To: Richard Murphy <rmurphy@westhants.ca>
Subject: Pisiquid paddling club

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_____

Hi Richard, I wanted to reach out to see if you have any further information on what is happening with Pisiquid Lake. My daughter has been a year round paddler there for a number of years, and we are very concerned that there may not be a club or lake for them to paddle in the summer. We do see the absolute importance of this, as the impact it has on my daughters growth as an athlete and as a person has been significant. In this crazy year of Covid, paddling was the first thing that got her out of our house last spring, getting some structure back in her life. Our little club has great potential with paddlers making provincial teams at national caliber. There is something for everyone here, summer fun or year-round strenuous athleticism. We sincerely hope that our club can remain! We would love to hear any insight you could give us on this matter.

Kind regards
Robyn Cook and Robert Woodman

Shelleena Thornton

Subject: FW: Our lake and all that depends on it being fresh water.

From: Brian Hogan < >
Sent: May 6, 2021 1:17 PM
To: Jim Ivey <jivey@westhants.ca>
Subject: Our lake and all that depends on it being fresh water.

Hi Jim! Hope you are managing ok during this concerning time. We are very discouraged by what we are seeing and hearing from our representatives who are not presenting a clear picture of what is happening to Lake Pisiquid. We feel that all who rely on our safe fresh water lake are not being considered or heard to the point that our representatives are taking action. Many folks are discouraged and feel there is poor representation from those elected to weigh facts that are important to all. We trust that you appreciate the "lake" and all the fresh water emptying into it. This includes the livelihood of many in our community and surrounding area. We feel what is presently happening (emptying the lake) for lack of better words is an environmental tragedy. The amount of fish in the lake and upstream has never been a concern. The fish are there. Just ask our fishermen and farmers. Leaving our concerns with you to pass along. Hopefully they will not fall on deaf ears. This is a great concern and causes much discouragement when we look at what we have had and what it has meant to our township and surrounding areas. NOW, we see a very bleak future. Is this what we want?? Thank you for your time and for representing your friends and neighbours and your community. Sandra and Skip Hogan.

Shelleena Thornton

Subject: FW: Lake Levels Update

From: scott miniou < >
Sent: May 3, 2021 7:33 AM
Subject: Lake Levels Update

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FLWOA,
Consider reaching out to Councillor Ed Sherman (District 7)

Contact info:
Ed Sherman Councillor District 7
Facebook: https://www.facebook.com/EdDistrict7/
Email: esherman@westhants.ca
Phone: (902) 792-0690

Summary

- hand-signed petition will be initiated shortly (to be presented in Ottawa)
- pressure councillors to take more of a stand
- topic will be discussed at the next Committee meeting, Tuesday May 11
- Some councillors are claiming that they haven't heard from many people on this. They don't think the community is concerned
- please reach out to them, and/or ask others to reach out in your networks.
- Councillors/council need to understand that losing the watershed and lake will affect our region,

From: Adrienne Wood
Subject: Lake levels update
Hi everyone,
A small group of us have been meeting with Kody Blois and Chuck Porter over the last few weeks to try and reason with the Federal Dept. of Fisheries about the lake levels. We're not making a lot of progress yet, but we do have both Kody and Chuck working on it.

We have been encouraged to get a hand-signed petition going so that Kody can bring this to Parliament (apparently he can't bring our online petition there). I will be sending this out as soon as we have this ready - we'll need your help to get signatures.

Another thing we can be doing is pressuring our councillors to take more of a stand. There are only a few: Laurie Murley, Paul Morton, Debbie Francis, and Rupert Jannesh, that are willing to take a stand to protect our community on this issue. It will be brought up again at the next Committee meeting, Tuesday May 11. I would encourage you to contact your councillors, especially if you are represented by: Richard Murphy, Bob Morton, Mark McLean, or Ed Sherman. They need some pressure on them, some are claiming that they haven't heard from many people on this (??) so they don't think the

community is THAT concerned. We need to make more noise apparently.

Please reach out to them, and/or ask others to reach out in your networks. They need to understand that losing this watershed and lake will affect the WHOLE region, not just people in Windsor. It's not an isolated issue. The WHOLE region will suffer if we lose Martock. The WHOLE region will suffer if property levels decline and our tax base is affected. Etc.

We are also in the process of forming a Not-for-profit group, so we will have a formal title and ideally more power as a collective. I will be keeping you updated about this, we will need members once we get going. Thanks everyone, get out your letter writing skills, or better yet, make some calls to those councillors. Please and thank you. Adrienne

Shelleena Thornton

Subject: FW: Avon River

From: Sheldon Hope < >
Sent: May 2, 2021 10:16 PM
To: Richard Murphy <rmurphy@westhants.ca>
Subject: Avon River

Caution
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Councillor Murphy,

I would like to express my concern about the current situation at the Avon River Aboiteau. I am a Falmouth resident in you district and have written council on several occasions but realized that I neglected to include you specifically. I want to ensure that you have in fact heard from me and understand my position as relates to the river. I am a CLC member on this issue and am happy to speak with you via phone or in person anytime.

I am the Vice Commodore of the Pisiquid Canoe club, a position that I have held for the last 8 years. As I'm sure you are aware we operate a not for profit paddling program on lake Pisiquid where we have been steadily growing a very competitive program. In my time there we have transformed the club from a Summer day camp to a year round competitive paddling program with now upwards of 25 athletes who train at our club 12 months of the year. My partner and I have 4 of these athletes between and have another employed as a coach. All four of our athletes have been part of Team Atlantic during the past two years representing the top 10 athletes in their age group from Atlantic Canada. Pisiquid as a Club has put 10 athletes on this team across two age groups last Summer. This included the top two female under 14 Kayakers, the top two male under 12 athletes and the top male, Under 12 Canoe athlete to go along with numerous other team members. Our club has given these kids a real shot at competing nationally and if they progress, internationally. Even beyond that the club keeps its 100 plus Summer members outside away from screens each day and gives parents access to affordable child care that develops their child's self esteem, physical fitness, social skills and teamwork. To lose this program after 46 years would be an absolute travesty for this community and that is a very real threat at the moment.

As it stands Fisheries Minister Bernadette Jordan has issued a Ministerial order that has set the once beautiful lake Pisiquid to a drain dry level. This order was released with no consultation with stakeholders including Pisiquid, the upstream farms, upstream residents, Martock or anybody else. With no end date set, just a renewal every two weeks everyone impacted is left wondering how to plan? For us as a club, am I going to have a lake to run a program? If not what does that do for me and all of the other families who are expecting to have athletes there daily this Summer? Will my step son have a job? Or is that gone too? The lack of communication of intent from DFO has been incredibly frustrating and it has impacts on a wide swap of the West Hants population.

The decision made, with public consultation, in 2018 by our Provincial government via TIR was to replace the existing Aboiteau system with a new system that would allow improved fish passage and preservation of the lake. The "Option D" solution as it was called included both tidal gates to protect the town and upstream areas from flooding and dual fish ladders to improve the migration of fish. This is the solution that I am asking you as our district 9 councillor and the municipality as a whole to support. The value of preserving that freshwater system is immense. Not just for the Canoe club, which I believe brings tremendous value to the community but for the farmers who use it for irrigation, for the fire department who use it as an alternate source of water, ski Martock who uses it to make snow, the residents who draw water for their homes, the Breast Quest Dragon Boat who use the lake as their home, Girls on Boards who use the lake

each Summer and the countless others who enjoy the lake for recreation and enjoy its beauty. If salt water is allowed to continue to enter the system all of these things are at risk and in the case of the Canoe Club would be lost for certain.

I understand that you as a municipality do not have final say here but as our direct representation should be stating clearly to those decision makers what is best for the community. What is best for the community is the preservation of a freshwater resource that supports, farmers, residents, recreation, business and overall economic prosperity.

Sincerely,

Sheldon Hope
Falmouth

Shelleena Thornton

Subject: FW: Lake Pisiquid

From: Sylvia Burgess < >
Date: May 5, 2021 at 5:00:28 PM ADT
To: Laurie Murley <LMurley@town.windsor.ns.ca>
Subject: Lake Pisiquid

Feeling very frustrated with this ongoing situation, and feel the counsellors for our Municipality need to have a voice on this matter. We feel there has to be a compromise
for both the fish and the lake.

Are concerns are as follows to name a few:
1. Health (sand storms)
2. Fresh water is becoming more important in the world all the time
3. Fire (fresh water backup)
4. Ski Martock both economic spin of and fitness
5. Farmers and their crops
6. Economic development coming to the communities
7. Canoe club (social and fitness)
8.The fresh water fish that are now in our lakes
9.The eco system that had developed over the last 50 years
10. Flooding of our downtown (I have experienced personally the flooding on Water Street on high tide before the causeway was built
11. The erosion of land that people have built homes on over the past number of years if the free flow of the river is brought back.
As climate change continues higher sea tides are inevitable

We are not against the fish but feel there has to be a compromise to meet both issues.
This day in age there must be a way to solve this problem without ruining the lake and all we gain from it. It appears that our Federal Fisheries Minister does not have an interest in our Community.

What has happened to what we thought was Plan D

Hoping for your support in helping to find a compromise.

Thank-You
Vince and Sylvia Burgess

Sent from my iPad

Shelleena Thornton

Subject: FW: Lake Pisiquid

From: Tammy Hilden < >
Sent: May 2, 2021 9:32 PM
To: Richard Murphy <rmurphy@westhants.ca>
Subject: Lake Pisiquid

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Dear Mr. Murphy

I am writing this evening over concerns of the level of water in Lake Pisiquid and the lack of fresh water in the area. I do not pretend to be well educated on all aspects of the debate of leaving the gates open vs the the new improved fish passage and a fresh water lake.

What I know is that there is a fresh water ecosystem that has developed over the last 50 years on one side of the causeway and a healthy salt water marsh on the other. The debate of whether the causeway should or shouldn't have been in is mute at this point. Businesses, homes, communities have developed based on what is there now.

What I do know is that fresh water is a resource that we certainly can't waste. The residents of Falmouth in certain areas are at risk of flooding. We are extremely fortunate to have as many farms and wineries that are close by and feel that the fresh water that is needed to support these farms is something we can not let go.

Last but not least is also the recreational activities that the fresh water provides. Martock is one of the largest employers in the area not to mention the spin offs that having Martock operational. As well and one that is close to my heart is Pisiquid Canoe Club. This club can not operate with the current levels of water in the lake or high salt water levels. This club is the fastest growing club in Atlantic Canada. It also provides year round programming for kids as well as full time summer programming. It was also one of the activities that was first to open up during a pandemic and keep operating with having to move to virtual in last week due to escalating 3rd wave.

Having lived in other provinces (raised in Hants County), the importance of a beautiful downtown core, with vital business, employment opportunities, and recreational programs are important to bring families and and residents to the area.

I hope bringing back our fresh water lake is being made a priority.

Thank you for your time.
Tammy Hilden

Sent from my iPhone

Shelleena Thornton

Subject: FW: Avon River / Lake Pisiquid concerns

From: Tracey Sexton < >
Sent: Monday, May 3, 2021 4:16 PM
To: PublicOnlyCouncilEmail <allcouncil@westhants.ca>
Cc: kody.blois@parl.gc.ca; cportermla@eastlink.ca; Steven.MacMullin@dfo-mpo.gc.ca; Trevor.Lushington@df0-mpo.gc.ca; Michael.Wambolt@dfo-mpo.gc.ca; Kevin.Bekkers@novascotia.ca; Bernadette.Jordan@parl.gc.ca; PREMIER@novascotia.ca
Subject: Avon River / Lake Pisiquid concerns

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Dear West Hants Council Members,

I am writing to you today about my concerns to keep Lake Pisiquid in Windsor drained. This greatly concerns me and I needed to voice my opinion to you and other members who have an interest in this situation.

I have been a Resident of Falmouth for the past 24 years and have seen many changes to our great little community.

This issue of fish passage through the Windsor causeway gates has been a "hot topic" for years. I agree that fish passage is important But not the most important as there are many other factors at play here including what should be 1st priority; Public Health and Safety.
As we all try to make our way through our 1st Global Pandemic we have learned that our focus should be Mental Health.
The greatest support for Mental Health is Community and Physical Activity

Last summer during our 1st lock down the Pisaquid Canoe Club had the only recreational program available in this area. I signed up my 8 year old son and he had the time of his life! For the 1st time in 4 months he was happy, with other kids having fun being active, and learning new skills. His physical and mental health were healing. He was hooked loving every minute of it. We stayed for Fall programs and my heart sank when the drained the lake this spring before we even got back on the water.

The Pisiquid Canoe Club has been providing a paddling program to local youth and adults for nearly 50 years. Its primary focus is kids. They offer an amazing program to local kids, that now runs all year. The club has produced Olympic caliber paddlers in the past (Ryan Cochrane), and has had much success in recent years getting our local paddlers onto the provincial paddling podium. Their Summer program that is currently at risk provides an excellent opportunity for more than 100 kids to stay fit while having fun all summer for a really affordable rate. If the lake stays drained the kids of our Community wouldn't have access to a sport they love, and several local families would lose some much needed summer child care.
Losing the fresh water lake is not good for our community.

Ski Martock is a huge boost to the area - both to the local economy, and as a seasonal employer. People come from all over to ski, to enjoy the outside and get exercise, which is so important to their physical and mental health. Ski Martock also draws water from the river to make snow. Salt water would damage their equipment, and any snow they make with salty water would eventually melt and run down the hill causing damage to local properties. I am sure you know that salt water does kill. Just look at what happened in Hantsport when the aboideau failed and salt water poured into that river. Everything in the flood zone died and several homes got salt water in their wells, costing them thousands of dollars to install new water systems and making their houses virtually un-sellable.
Losing the fresh water lake is not good for our Community.

There are many other Community activities we love on the fresh water side of the Avon River. The Summer fest celebration, concerts on the water front, boats on the lake cruising around , the fireworks reflecting off the water.
All summer long boats and kayaks on the lake, sitting on the water front enjoying the view, eating on one of the local restaurant patios then taking a stroll along the fresh water lake. Let's not forget the Pumpkin Regatta. What a site to see! So much family fun centers around Lake Pisiquid. It really is the Heart of Windsor
And of course with all these amazing activities in our Community the local economy benefits with brings in more business and the whole Community grows. Losing the fresh water lake is not good for our community.

I have also heard the fresh water lake is a back up resoir for the Windsor Fire Department. If this is true that certainly is a safey risk for all of West Hants. The talk of flooding and rebuilding dykes is also of great concern to the Community members who own property on the river Losing the fresh water lake is not safe for our Community.

I am certainly no expert but I am sure we can all agree that when the causeway was put in 50 years ago it was not well thought out. But it is there now and we cannot and should not try to revert to "how things were". We can't go back, its not the responsible thing to do. The ecosystems on both sides of the causeway have adjusted to its presence and are thriving. To let the system go back to being tidal would ruin both ecosystems, not to mention put Windsor at risk of flooding again. Losing the fresh water lake is not good for our Community.

So I hope this doesn't have to be an either/or situation. There are ways to keep the salt water on one side and the fresh water on the other side, while still letting the fish through. Many other countries are already doing it (like Holland). We just need to make the right decision for our Community.
Losing the fresh water lake is not good for our Community.

Thank you you for your time. I hope to hear back from you soon.

Trace Sexton
- concerned resident of West Hants

Shelleena Thornton

Subject: FW: Lake Pisiquid concerns
Attachments: petition_signatures_jobs_28119901_20210430205901.pdf; ATT00001.htm

From: Adrienne Wood < >
Date: May 7, 2021 at 10:46:01 AM ADT
To: Abraham Zebian <AZebian@westhants.ca>, Jim Ivey <jivey@westhants.ca>, lmurley@westhants.ca, mmclean@westhants.ca, smclean@westhants.ca, Ed Sherman <esherman@westhants.ca>, rmurphy@westhants.ca, dfrancis@westhants.ca, bmorton@westhants.ca, pmorton@westhants.ca, rjannasch@westhants.ca, jhartt@westhants.ca
Good morning Councillors and Mayor Zebian,

I would like to share this and to bring it to your attention. This is a petition that was circulated online at the end of March 2021, regarding the potential loss of our fresh water resource, Lake Pisiquid and sections of the Avon River.

Attached below, are 125 pages of signatures in support of keeping our fresh water. That is 3000 people that are very concerned about losing this resource, for a variety of reasons including, but not limited to:

- **Food security** - our local farmers need this fresh water for their crops and livestock.
- **Ski Martock** - employs 200 people and draws in thousands to our region each year.
- Impacts on the **freshwater ecosystem** - there are 1000s of dead clams currently being investigated by DFO, another impending fish kill like we saw last year, and we are now seeing the effects on the duck population and breeding grounds up the river.
- **Impacts on the local economy** - the dust storms will make it difficult for patrons to sit outside and support our restaurants on hot, dry days.
- **Tourism** - the fresh water recreation/culture draws people here which supports the local economy of the region.
- **Recreation** - people paddle and swim daily on the lake during the summer, hundreds of people use the causeway trail and waterfront trail daily, all year round.
- **Fire protection** - in drought conditions, this lake is an important backup for the fire department. It was crucial in extinguishing the Edgehill Apartments fire a couple of years ago.
- **Flood protection** - the closed gates protect not only our town but our farmland from flooding. It is well known that during high tide incidents before the causeway, the water could flood as far as Victoria Park in Windsor.
- Negative Impacts on **property values**
- Impacts on **potential developments** - how will this affect the residential waterfront development? How will it affect the Develop Nova Scotia placemaking project?
- Impacts on the **wellbeing of our youth** if we lose the Canoe Club.
- **Impacts on health** - the negative impacts of the dust storms prevent people from being outside and using our waterfront trails; the lack of water to swim/paddle prevents easy active living choices, the dust affects those with respiratory issues.
- Impacts on **cottage country** - the lakes up river: Mockingee, Card, Zwicker, and Falls Lake are in jeopardy if more water is needed to fill the basin below. These lakes could be drained which could negatively affect those residents and landowners.
- **Riverbed erosion** - the lack of water is quickly causing erosion of the riverbed up stream. The erosion is already quite severe and we are only 1.5 months into this Ministerial Order.
- Negative impacts on our **overall tax base** if property levels decline.

I ask you to please consider **how many people** in this region are concerned about losing this resource and to consider **all** of the consequences of this decision and how it will affect our entire region.

Thank you for your time,
Adrienne Wood

change.org

Avon River Supporters

Recipient: Bernadette Jordan Department of Fisheries, Nova Scotia Department of Agriculture, Justin Trudeau, Canadian Department of Fisheries, Department of Environment, Minister Marie-Claude Bibeau, Iain Ran...

Letter: Greetings,

Save The Avon River

Signatures

Name	Location	Date
Alyson Bremner	Tusket, Canada	2021-03-31
Alana Bent	Avonport, Quebec, Canada	2021-03-31
Wanda Rowsell	Windsor NS, Ontario, Canada	2021-03-31
Nancy Maxner	Windsor NS, Nova Scotia, Canada	2021-03-31
maxine chandler	Kentville, Nova Scotia, Canada	2021-03-31
Tyler Marsh	Poplar Grove, Nova Scotia, Canada	2021-03-31
Cynthia Duey	Falmouth, Canada	2021-03-31
Courtney Blois	Gore, Nova Scotia, Canada	2021-03-31
Erin Bremner	Falmouth, Canada	2021-03-31
Wayne Hines	Halifax, Nova Scotia, Canada	2021-03-31
Jorelle Miller	Falmouth, Nova Scotia, Canada	2021-03-31
Bailey Collins	Falmouth, Nova Scotia, Canada	2021-03-31
Janet Redden	Nova Scotia, Ontario, Canada	2021-03-31
Melissa Parker	Greenhill, Nova Scotia, Canada	2021-03-31
Erin Naugler	Falmouth, Nova Scotia, Canada	2021-03-31
Edward Harbers	Avonport, Canada	2021-03-31
Jackie Haines	Wolfville, Canada	2021-03-31
Tanya Foggoa	Windsor, Canada	2021-03-31
Adrienne Wood	Windsor, Nova Scotia, Canada	2021-03-31
Sara Alexander	Falmouth, Nova Scotia, Canada	2021-03-31

Name	Location	Date
Erin MacDonald	Kentville, Nova Scotia, Canada	2021-03-31
Terrie Hope	Kentville, Nova Scotia, Canada	2021-03-31
Maria Fraser	Dartmouth, Nova Scotia, Canada	2021-03-31
James Pemberton	Halifax, Nova Scotia, Canada	2021-03-31
Siobhan Dill	South Rawdon, Nova Scotia, Canada	2021-03-31
Bethany Sperry	Halifax, Nova Scotia, Canada	2021-03-31
Leah Rissesco	RR# 3 Windsor, NS, Canada	2021-03-31
Heidi Caldwell	Falmouth, Nova Scotia, Canada	2021-03-31
Nick Rafuse	Windsor NS, Ontario, Canada	2021-03-31
Wanda Donelle	Falmouth, Nova Scotia, Canada	2021-03-31
Shelley Foggoa	Upper Kennetcook, Nova Scotia, Canada	2021-03-31
Leah MacDonald	Nova Scotia, Ontario, Canada	2021-03-31
carol dill	greenhill, Canada	2021-03-31
Pam Patterson	Falmouth, Canada	2021-03-31
M Jodrey	Windsor, Nova Scotia, Canada	2021-03-31
Brad Carrigan	Falmouth, Canada	2021-03-31
Heather Boylan	Windsor Forks, Quebec, Canada	2021-03-31
Roslyn MacDuff	Windsor, Nova Scotia, Canada	2021-03-31
Janice Dearman	Halifax, Nova Scotia, Canada	2021-03-31
Jamie Leopold	Beaver Bank, Canada	2021-03-31
Robin Bremner-Popma	Falmouth, Nova Scotia, Canada	2021-03-31
Victor Oulton	Martock, Nova Scotia, Canada	2021-03-31

Name	Location	Date
Angela Brooks	Windsor, Nova Scotia, Canada	2021-03-31
Dale Rissesco	Halifax, Canada	2021-03-31
Robert Brooks	Windsor, Nova Scotia, Canada	2021-03-31
Ryan Harbers	Falmouth, Nova Scotia, Canada	2021-03-31
Ted Arsenault	Windsor, nova scotia, Nova Scotia, Canada	2021-03-31
Krista Lunn	Falmouth, Canada	2021-03-31
Wayne Sexton	Falmouth, Nova Scotia, Canada	2021-03-31
Jeff OLeary	Falmouth, Canada	2021-03-31
Janet Lunn	Kentville, Nova Scotia, Canada	2021-03-31
Tyler Benjamin	Kingston, Nova Scotia, Canada	2021-03-31
Pam Cull	Halifax, Nova Scotia, Canada	2021-03-31
Ross Peach	KENTVILLE, Canada	2021-03-31
Lisa Hines	Windsor, Nova Scotia, Canada	2021-03-31
Paige Alexander	Falmouth, Nova Scotia, Canada	2021-03-31
Angie Sexton	Halifax, Canada	2021-03-31
Scott Robertson	Fall River, Nova Scotia, Canada	2021-03-31
Shauna Forsyth	Windsor, Canada	2021-03-31
Conrad Mullins	Windsor, Canada	2021-03-31
Bailee Slaunwhite	Windsor, Canada	2021-03-31
Rita Connolly	Sydney, Nova Scotia, Canada	2021-03-31
Rosemary Mullins	River John, Nova Scotia, Canada	2021-03-31

Name	Location	Date
Kathleen Costain	Eastern Passage, Canada	2021-03-31
Avery Senz	Halifax, Nova Scotia, Canada	2021-03-31
Bob Kimball	Dartmouth, Nova Scotia, Canada	2021-03-31
Dave Mailman	Windsor, Nova Scotia, Canada	2021-03-31
kathy wood	Westphal, Canada	2021-03-31
Jason Arscott	Truro, Nova Scotia, Canada	2021-03-31
Candace Herritt	Windsor, Nova Scotia, Canada	2021-03-31
Brandi Alexander	Mount uniacke, Nova Scotia, Canada	2021-03-31
Pat MacKinnon	Dartmouth, Nova Scotia, Canada	2021-03-31
Craig Sexton	Falmouth, Canada	2021-03-31
Louise Parker	Kentville, Nova Scotia, Canada	2021-03-31
Elizabeth Ainsworth	Windsor, Canada	2021-03-31
Austin Shaw-O'Leary	Falmouth, Nova Scotia, Canada	2021-03-31
Jonathan DeMont	Windsor, Nova Scotia, Canada	2021-03-31
Ida Herritt	Windsor, Nova Scotia, Canada	2021-03-31
Mike Foggoa	Mount Uniacke, Nova Scotia, Canada	2021-03-31
Linda Sheehy	Windsor, Canada	2021-03-31
Deborah Swinimer	Kentville, Nova Scotia, Canada	2021-03-31
brian benedict	windsor, Canada	2021-03-31
N A	Dartmouth, Canada	2021-03-31
Darrell Barkhouse	Windsor, Nova Scotia, Canada	2021-03-31
Reid MacDuff	Windsor, NS, Nova Scotia, Canada	2021-03-31

Name	Location	Date
Jean Hall	Windsor, Nova Scotia, Canada	2021-03-31
Bruce Atwell	Falmouth, Nova Scotia, Canada	2021-03-31
Liam Cole	Montréal, Quebec, Canada	2021-03-31
Bonnie Haywood	Halifax, Canada	2021-03-31
Misty Croney	Windsor, Nova Scotia, Canada	2021-03-31
Jonathan Swinamer	Halifax, Canada	2021-03-31
John Hiltz	Windsor, Canada	2021-03-31
Dean Baxter	Lower Sackville, Nova Scotia, Canada	2021-03-31
Roland Newcomb	Windsor, Nova Scotia, Canada	2021-03-31
Florence Kimball	Lawrencetown, Nova Scotia, Canada	2021-03-31
Tracey Sexton	Falmouth, Nova Scotia, Canada	2021-03-31
Tim Kimball	Dartmouth, Canada	2021-03-31
Al Mailman	Falmouth ns, Nova Scotia, Canada	2021-03-31
Justine Keast	Kentville, Canada	2021-03-31
Misty Young	Montréal, Quebec, Canada	2021-03-31
Darlene Taylor	Windsor, Nova Scotia, Canada	2021-03-31
Chris Sullivan	Halifax, Nova Scotia, Canada	2021-03-31
Megan Whitehead	Martock, Nova Scotia, Canada	2021-03-31
Bev Payzant	Windsor, Nova Scotia, Canada	2021-03-31
Robin Thomson	Dartmouth, Nova Scotia, Canada	2021-03-31
CHRIS KIMBALL	Dartmouth, Canada	2021-03-31
John Bresnan	Wolfville, Nova Scotia, Canada	2021-03-31

Name	Location	Date
Alysha Waddell	Windsor, Nova Scotia, Canada	2021-03-31
Bob Miller	Musquodoboit, Canada	2021-03-31
Andrew Steeves	Falmouth, Canada	2021-03-31
Veronica Turner	Middleton, Canada	2021-03-31
Chris Robinson	Hants county, Nova Scotia, Canada	2021-03-31
Sheldon Hope	Falmouth, Nova Scotia, Canada	2021-03-31
Ryan Langille	Newport, Nova Scotia, Canada	2021-03-31
Richard Skelton	Mount Denson, Canada	2021-03-31
Karen Carrigan	Windsor, Canada	2021-03-31
Andrew Rogers	Kentville, Nova Scotia, Canada	2021-03-31
Allan Pemberton	Currys Corner , NS, Nova Scotia, Canada	2021-03-31
Melanie Skelhorn	Windsor Forks, Canada	2021-03-31
Michelle Young-Hiltz	Windsor N.S., Nova Scotia, Canada	2021-03-31
Michael Donelle	Falmouth, Nova Scotia, Canada	2021-03-31
William Gaves	Windsor, Nova Scotia, Canada	2021-03-31
Sarah Hart	Windsor Forks, Nova Scotia, Canada	2021-03-31
Nancy Vincent Vincent	Mount Uniacke, Nova Scotia, Canada	2021-03-31
Rebecca Corkum	Nova Scotia, Nova Scotia, Canada	2021-03-31
Joanne Stuart	Mount Denson, Nova Scotia, Canada	2021-03-31
Gwen Langen	St. John's, Canada	2021-03-31
Larry Spence	Dartmouth, Nova Scotia, Canada	2021-03-31
Alice Holleman	Windsor, ns, Nova Scotia, Canada	2021-03-31

Name	Location	Date
Ruth Anne Greenough	Newport, Nova Scotia, Canada	2021-03-31
Carolyn Gaunt	Wolfville, Nova Scotia, Canada	2021-03-31
Jan Holleman	Kentville, Nova Scotia, Canada	2021-03-31
Danny Smith	Windsor, Nova Scotia, Canada	2021-03-31
Libby Partridge	Newport, Nova Scotia, Canada	2021-03-31
Nancy Morash	Avondale, Canada	2021-03-31
Colin Chambers	Nova Scotia, Ontario, Canada	2021-03-31
Kaitlyn Starratt	Windsor, Nova Scotia, Canada	2021-03-31
Janet Comeau	Windsor NS, Ontario, Canada	2021-03-31
Emma-Lee Taylor	Hantsport, Nova Scotia, Canada	2021-03-31
Brian hebb Hebb	windsor, Canada	2021-03-31
Jack Morash	Halifax, Nova Scotia, Canada	2021-03-31
Cynthia Northup	Halifax, Nova Scotia, Canada	2021-03-31
Jennifer Daniels	Windsor, Canada	2021-03-31
Eric Stephens	Windsor, Nova Scotia, Canada	2021-03-31
Lily Sampson	Dartmouth, Canada	2021-03-31
Michael Kimball	Truro, Nova Scotia, Canada	2021-03-31
Linda Riley	Windsor, Canada	2021-03-31
Ali White	Murray Harbour, Canada	2021-03-31
Allison Mailman	Windsor, Nova Scotia, Canada	2021-03-31
Tammy Hilden	Falmouth, Nova Scotia, Canada	2021-03-31
Heather Pick	Kentville, Nova Scotia, Canada	2021-03-31

Name	Location	Date
LILLIAN BROWN	HANTS COUNTY, Canada	2021-03-31
Suzanne Shaw	Halifax, Canada	2021-03-31
Nathan Schmeisser	Bridgewater, Nova Scotia, Canada	2021-03-31
Cody Mosher	Bridgewater, Nova Scotia, Canada	2021-03-31
Randy Hussey	Windsor, Nova Scotia, Canada	2021-03-31
Emily Biggs	Wolfville, Canada	2021-03-31
Pat Dexter	Falmouth, Canada	2021-03-31
Laura Fisher	Halifax, Nova Scotia, Canada	2021-03-31
Deanna Whitehead	Falmouth, Nova Scotia, Canada	2021-03-31
Tonia Wright	Dartmouth, Nova Scotia, Canada	2021-03-31
Gillian Williams	Halifax, Nova Scotia, Canada	2021-03-31
Crystal Fraughton	Halifax, Nova Scotia, Canada	2021-03-31
Magda Montgomery	Falmouth, Nova Scotia, Canada	2021-03-31
Wendy Higginbotham	Wolfville, Canada	2021-03-31
Dave Sparks	Nova Scotia, Ontario, Canada	2021-03-31
Breanna Kehoe	Windsor, Nova Scotia, Canada	2021-03-31
Monica Schafer	Halifax, Nova Scotia, Canada	2021-03-31
Shirley Drake	Falmouth, Nova Scotia, Canada	2021-03-31
Brandon Benedict	Windsor ns, Nova Scotia, Canada	2021-03-31
Matt Mccarthy	Kentville, Nova Scotia, Canada	2021-03-31
Ryan Cochrane	Lac-beauport, Quebec, Canada	2021-03-31
Christian Hall	Halifax, Nova Scotia, Canada	2021-03-31

Name	Location	Date
Marcel Amirault	Windsor, Nova Scotia, Canada	2021-03-31
Mike LaPierre	Falmouth, Canada	2021-03-31
Christina Baker	Falmouth, Nova Scotia, Canada	2021-03-31
Annette Little	Oxford, Canada	2021-03-31
Fraser Caldwell	Canning, Nova Scotia, Canada	2021-03-31
Kimberley Irvine	Ellershouse, Nova Scotia, Canada	2021-03-31
Joe Cuvilier	Hantsport, Nova Scotia, Canada	2021-03-31
Lonny Curry	Kentville, Nova Scotia, Canada	2021-03-31
Deborah Paquette	Dartmouth, Nova Scotia, Canada	2021-03-31
Wayne Hines	Halifax, Nova Scotia, Canada	2021-03-31
Crystal Hingley	Chester, Nova Scotia, Canada	2021-03-31
Craig Comeau	Three Mile plains, Canada	2021-03-31
Jennifer Mosher	Dartmouth, Nova Scotia, Canada	2021-03-31
Louise Conrad	Dartmouth, Nova Scotia, Canada	2021-03-31
Logan Hope	Newport, Canada	2021-03-31
Eric Connors	Kentville, Nova Scotia, Canada	2021-03-31
James Ells	Canning, Canada	2021-03-31
Kimberly Fisher	Halifax, Nova Scotia, Canada	2021-03-31
Nick Fry	Falmouth, Nova Scotia, Canada	2021-03-31
Dianne Aalders	Dartmouth, Canada	2021-03-31
T Burgess	Wentworth Creek, NS, Nova Scotia, Canada	2021-03-31

Name	Location	Date
Tiffany Arsenault	Kingston, Nova Scotia, Canada	2021-03-31
Lucianne Wies	Halifax, Nova Scotia, Canada	2021-03-31
Jessie Swinamer	Windsor, New Brunswick, Canada	2021-03-31
Joanna O’Leary	Halifax, Nova Scotia, Canada	2021-03-31
Jennifer Allen	Windsor Ns, Nova Scotia, Canada	2021-03-31
Sara Stewart	Bridgetown, Nova Scotia, Canada	2021-03-31
Phillip Dunbar	Windsor, Nova Scotia, Canada	2021-03-31
Nick Pellegrini	Windsor, Nova Scotia, Canada	2021-03-31
Bradley Carr	Falmouth, Nova Scotia, Canada	2021-03-31
Vicki Harvie	Falmouth, Nova Scotia, Canada	2021-03-31
Shelley Swinamer	New Minas, Nova Scotia, Canada	2021-03-31
Greg Webster	Cambridge, Nova Scotia, Canada	2021-03-31
Peter Macpherson	Tyne Valley, Prince Edward Island, Canada	2021-03-31
Maggen Kelly	Windsor, Nova Scotia, Canada	2021-03-31
Christine Fraser	Beaver Bank, Nova Scotia, Canada	2021-03-31
Brandon Jamieson	Windsor., Canada	2021-03-31
Tim Marsh	Avondale, Nova Scotia, Canada	2021-03-31
Jen Crouse	Bridgetown, Nova Scotia, Canada	2021-03-31
Gus Murray	Halifax, Nova Scotia, Canada	2021-03-31
Sharon Jones	Antigonish, Nova Scotia, Canada	2021-03-31
Jacob Woods	Dartmouth, Nova Scotia, Canada	2021-03-31

Name	Location	Date
Charlene MacMillan	Porters Lake, Nova Scotia, Canada	2021-03-31
Kristine Stewart	Mount Uniacke, Nova Scotia, Canada	2021-03-31
Jasent Fogarty	Falmouth, Canada	2021-03-31
Paul Paquette	Dartmouth, Nova Scotia, Canada	2021-03-31
Andrew Swinamer	New Minas, Nova Scotia, Canada	2021-03-31
Kimberly Strum	Windsor, Canada	2021-03-31
Kim Bailey	Woodstock, ON, Canadai, Canada	2021-03-31
Craig Faulkner	Windsor, Nova Scotia, Canada	2021-03-31
Bernadette Hannam	Dartmouth, Nova Scotia, Canada	2021-03-31
Kelly Dillman	Dartmouth, Nova Scotia, Canada	2021-03-31
Cole Fogarty	Falmouth, Canada	2021-03-31
Glenn Trider	Falmouth, Nova Scotia, Canada	2021-03-31
Kathy Johnston-Isenor	Falmouth, Nova Scotia, Canada	2021-03-31
Sarah Yousif	Calgary, Canada	2021-03-31
Ashley Wood	Windsor, Nova Scotia, Canada	2021-03-31
Sandy Hopkins	Halifax, Nova Scotia, Canada	2021-03-31
Jenny Eisener	Falmouth, Nova Scotia, Canada	2021-03-31
Kaileen Waddell	Windsor, Nova Scotia, Canada	2021-03-31
Cameron Macduff	Wolfville, Nova Scotia, Canada	2021-03-31
Robert Elliott	Windsor, British Columbia, Canada	2021-03-31
Jenn McDermott	Windsor, Nova Scotia, Canada	2021-03-31
Sylvia Burgess	Windsot, Nova Scotia, Canada	2021-03-31

Name	Location	Date
Ella Oulton	Martock, Nova Scotia, Canada	2021-03-31
Mandy Brown	Halifax, Nova Scotia, Canada	2021-03-31
Kait Berkvens	Dartmouth, Nova Scotia, Canada	2021-03-31
Greg Kelley	Martock, Nova Scotia, Canada	2021-03-31
Marilyn Penney	Dartmouth, Nova Scotia, Canada	2021-03-31
Jenna Miles	Dartmouth, Canada	2021-03-31
Heather M	Falmouth, Nova Scotia, Canada	2021-03-31
Victor Fredericks	Halifax, Nova Scotia, Canada	2021-03-31
Teresa Skipper	Halifax, Nova Scotia, Canada	2021-03-31
Connie Shay	Windsor, Nova Scotia, Canada	2021-03-31
Tony Tenwolde	Bridgewater, Nova Scotia, Canada	2021-03-31
Dana Lyon	Wolfville, Nova Scotia, Canada	2021-03-31
Doug Fraser	Dartmouth, Nova Scotia, Canada	2021-03-31
Taylor Hadskis	Bedford, Canada	2021-03-31
Tammy Mason	Boutilier's Point, Nova Scotia, Canada	2021-03-31
Claire Tramble	Halifax, Canada	2021-03-31
Savannah Sullivan	Halifax, Nova Scotia, Canada	2021-03-31
Maria Kirby Breen	Chester, Canada	2021-03-31
Donna Shantz	Scarborough, Ontario, Canada	2021-03-31
K M	Halifax, Canada	2021-03-31
Jeff Smith	Windsor, Nova Scotia, Canada	2021-03-31
Monique Wood	Windsor, Nova Scotia, Canada	2021-03-31

Name	Location	Date
Annaleisa Scigliano	Falmouth, Canada	2021-03-31
Annabelle MacDonald	Orono POBox72, Ontario, Canada	2021-03-31
Ben Redden	Ellershouse, Ontario, Canada	2021-03-31
John MacKay	Newport, Canada	2021-03-31
Holly Church	Berwick, Nova Scotia, Canada	2021-03-31
Amy Tobin	Dartmouth, Canada	2021-03-31
Meredith MacLean	New Minas, Nova Scotia, Canada	2021-03-31
Johnathon Benedict	Martock, Nova Scotia, Canada	2021-03-31
Gordon States	Lower Sackville, Nova Scotia, Canada	2021-03-31
Matt Swanson	Lower Sackville, Canada	2021-03-31
Sheldon Minee	Hantsport, Nova Scotia, Canada	2021-03-31
Yvette Nickerson	Kingston, Nova Scotia, Canada	2021-03-31
Nicole Barrett	Falmouth, Canada	2021-03-31
Jared Whiteway	Halifax NS, Canada	2021-03-31
mark klarenbach	Edmonton, Canada	2021-03-31
Dylan Brown	Sackville, Nova Scotia, Canada	2021-03-31
Catherine Macdonald	Truro, Nova Scotia, Canada	2021-03-31
Harold Riley	Windsor, Nova Scotia, Canada	2021-03-31
Ben Kerrivan	Lower Sackville, Nova Scotia, Canada	2021-03-31
Samantha Shute	Halifax, Nova Scotia, Canada	2021-03-31
Denise Miller	Windsor, Ontario, Canada	2021-03-31
anna kennedy	Bedford, Canada	2021-03-31

Name	Location	Date
Hilary Lunn	Lower Sackville, Nova Scotia, Canada	2021-03-31
Kelly hood	windsor, Canada	2021-03-31
Nancy Isnor-Boyd	Windsor, Nova Scotia, Canada	2021-03-31
Carolyn Fry	Falmouth, Nova Scotia, Canada	2021-03-31
Ben Whalen	Hantsport, Nova Scotia, Canada	2021-03-31
Aidan Marshall	Cole Harbour, Nova Scotia, Canada	2021-03-31
Pat Fraser	Sturgeon Falls, Ontario, Canada	2021-03-31
shay johnson	Gays River, Nova Scotia, Canada	2021-03-31
jim STEWART	Halifax, Nova Scotia, Canada	2021-03-31
Emma McKenzie	Bedford, Canada	2021-03-31
Angie Aarmstrong	Newport Station, Canada	2021-03-31
Jarett Johnson	Walsingham, Ontario, Canada	2021-03-31
jerry cunningham	Kentville, Nova Scotia, Canada	2021-03-31
Derek Parker	Windsor, Canada	2021-03-31
Suzanne Wilman	Dartmouth, Nova Scotia, Canada	2021-03-31
Lisa Barkhouse	Coldbrook, Nova Scotia, Canada	2021-03-31
Lloys Parker	Canning, Nova Scotia, Canada	2021-03-31
Jill McNeil	Dartmouth, Canada	2021-03-31
Barb Knowles	Newport, Canada	2021-03-31
Lorie Collins	Dartmouth, Nova Scotia, Canada	2021-03-31
Michelle Rideout	Halifax, Nova Scotia, Canada	2021-03-31
Tim Lynch	Lunenburg, Canada	2021-03-31

Name	Location	Date
Sharla Bartlett	Upper Burlington, Nova Scotia, Canada	2021-03-31
Marian Fulton	Hantsport, Nova Scotia, Canada	2021-03-31
Darrell Johnston	Windsor, Nova Scotia, Canada	2021-03-31
Higgins Heidi	North Sydney, Nova Scotia, Canada	2021-03-31
Isabelle Allen	Wolfville, Canada	2021-04-01
Conor Hope	Kentville, Canada	2021-04-01
Owen Leopold	Halifax, Nova Scotia, Canada	2021-04-01
Amy MacLean	Upper Falmouth, Canada	2021-04-01
Timothy Parnell	Windsor n.s., Ontario, Canada	2021-04-01
Megan Rideout	Windsor, Nova Scotia, Canada	2021-04-01
Lisa Fillmore	Halifax, Nova Scotia, Canada	2021-04-01
hailey blagdon	Lower Sackville, Nova Scotia, Canada	2021-04-01
Brad Jones	Edmonton, Canada	2021-04-01
James and Viola Green	Lunenburg, Nova Scotia, Canada	2021-04-01
Holly Lowthers	Newport, Nova Scotia, Canada	2021-04-01
Aidan Blagdon	Lower Sackville, Nova Scotia, Canada	2021-04-01
Byron Ward	Edmonton, Canada	2021-04-01
Elliot Bredin	Canada	2021-04-01
Caylene Manning	Halifax, Nova Scotia, Canada	2021-04-01
Andrew Hilden	Falmouth, Nova Scotia, Canada	2021-04-01
Barbara Hughes	Windsor Nova Scotia, Nova Scotia, Canada	2021-04-01

Name	Location	Date
Niki Patterson	Bridgewater, Nova Scotia, Canada	2021-04-01
Wyatt Keenan	Halifax, Nova Scotia, Canada	2021-04-01
Jason Lantz	Windsor, Nova Scotia, Canada	2021-04-01
logan swinamer	Bedford, Canada	2021-04-01
Troy Harvie	Halifax, Nova Scotia, Canada	2021-04-01
Scott Condon	Windsor, Nova Scotia, Canada	2021-04-01
June Edwards	Salmon Arm, BC, British Columbia, Canada	2021-04-01
Karen House	Brooklyn, Nova Scotia, Canada	2021-04-01
Melanie Ross	Windsor NS, Canada	2021-04-01
Karen Lynch	Windsor, Canada	2021-04-01
Chris Harding	Ellershouse, Nova Scotia, Canada	2021-04-01
Paul MacInnis	Halifax, Nova Scotia, Canada	2021-04-01
Tatum Smiley	Kentville, Nova Scotia, Canada	2021-04-01
Mike Barry	Mahone Bay, Nova Scotia, Canada	2021-04-01
Michèle Van Zoost	Canada	2021-04-01
Shelley Cooke	Halifax, Nova Scotia, Canada	2021-04-01
Jeff Nelson	Falmouth, Nova Scotia, Canada	2021-04-01
Renee Moore	Falmouth, Nova Scotia, Canada	2021-04-01
Robert Foley	Dartmouth, Canada	2021-04-01
Amber Pemberton	Falmouth, Nova Scotia, Canada	2021-04-01
Haley O’Leary	Halifax, Nova Scotia, Canada	2021-04-01

Name	Location	Date
Catherine Manning	Halifax, Canada	2021-04-01
Marilyn Cote	Windsor, Canada	2021-04-01
Moira Crowell	Windsor, Nova Scotia, Canada	2021-04-01
Joe Benedict	Falmouth, Nova Scotia, Canada	2021-04-01
Lisa Wilson-Bower	Canada	2021-04-01
Marilyn McKay	Kentville, Nova Scotia, Canada	2021-04-01
Kara Irving	Pugwash, Nova Scotia, Canada	2021-04-01
Mike Manning	Prospect, Nova Scotia, Canada	2021-04-01
Bette Kalt	Halifax, Nova Scotia, Canada	2021-04-01
Brian McDonough	Falmouth, Canada	2021-04-01
Margaret Girard	Dartmouth, Nova Scotia, Canada	2021-04-01
Brian Lynch	Halifax, Nova Scotia, Canada	2021-04-01
Greg OLeary	Martock, Nova Scotia, Canada	2021-04-01
Dominic Ruggles	Dartmouth, Nova Scotia, Canada	2021-04-01
chloe robichaud	Dartmouth, Canada	2021-04-01
Ryan Beazley	Bridgewater, Nova Scotia, Canada	2021-04-01
Dustin Hood	Falmouth, Nova Scotia, Canada	2021-04-01
Mackenzie Cameron	Wolfville, Nova Scotia, Canada	2021-04-01
David Williams	Union Corner, Canada	2021-04-01
Linda Craig	Charlottetown, Prince Edward Island, Canada	2021-04-01
Korryn Paquette	Dartmouth, Nova Scotia, Canada	2021-04-01

Name	Location	Date
julianna parker	Dartmouth, Nova Scotia, Canada	2021-04-01
Marjorie Brown	Brooklyn NS, Nova Scotia, Canada	2021-04-01
Melissa Harris	Halifax, Nova Scotia, Canada	2021-04-01
Jason Vaughan	Kentville, Nova Scotia, Canada	2021-04-01
Kevin Brown	Newport Corner, Nova Scotia, Canada	2021-04-01
Evelyn Stewart	Toronto, Canada	2021-04-01
Jonathan DeWolf	Halifax, Nova Scotia, Canada	2021-04-01
Scott Masters	Truro, Nova Scotia, Canada	2021-04-01
Roxanne LeBlanc	Calgary, Canada	2021-04-01
Arthur Hirtle	Windsor, Canada	2021-04-01
Jennifer Stagg	Ajax, Canada	2021-04-01
Andrew Harvey	Kentville, Nova Scotia, Canada	2021-04-01
Claudia Ledson	Falmouth, Nova Scotia, Canada	2021-04-01
Chadd Benteau	Kingston, Ontario, Canada	2021-04-01
Ralf Wiesendahl	Miramichi, Canada	2021-04-01
Karen Auby	Mount Uniacke, Nova Scotia, Canada	2021-04-01
casey henley	Plattsburgh, New York, US	2021-04-01
Kia Sawler	Windsor NS, Nova Scotia, Canada	2021-04-01
Michael Collins	Windsor, Nova Scotia, Canada	2021-04-01
Skyler Porter	Windsor, Nova Scotia, Canada	2021-04-01
Katrina Ashley	Elmsdale, Canada	2021-04-01
Darlene Parnell	Middle Sackville, Nova Scotia, Canada	2021-04-01

Name	Location	Date
Steven DeMont	Windsor, Nova Scotia, Canada	2021-04-01
natalie church	Windsor, Nova Scotia, Canada	2021-04-01
Erin Amirault	Windsor, Nova Scotia, Canada	2021-04-01
Wayde Pitts	Halifax, Canada	2021-04-01
Rhonda Mccarthy	Garlands crossing, Nova Scotia, Canada	2021-04-01
Dawn Schram	Kingston, Ontario, Canada	2021-04-01
Gordon Mooers	Bridgewater, Nova Scotia, Canada	2021-04-01
Helen Glenn	Halifax, Nova Scotia, Canada	2021-04-01
Melanie Ross	Mount Uniacke, Canada	2021-04-01
Ayden Payzant	Windsor, Nova Scotia, Canada	2021-04-01
Joanne Haley	Newport, Canada	2021-04-01
Victor Fudge	Windsor, Nova Scotia, Canada	2021-04-01
Barbara MacInnis	Toronto, Canada	2021-04-01
Rick Pitts	Hantsport, Nova Scotia, Canada	2021-04-01
Glen MacDuff	Timberlea, Nova Scotia, Canada	2021-04-01
Lisa MacAvoy	Falmouth, Nova Scotia, Nova Scotia, Canada	2021-04-01
Bailey MacDonald	Lawrencetown, Canada	2021-04-01
Laura Arenburg	Halifax, Nova Scotia, Canada	2021-04-01
Debra Savoie	Halifax, Canada	2021-04-01
Parastu M	Toronto, Canada	2021-04-01
Adam Inch	Halifax, Canada	2021-04-01

Name	Location	Date
Elizabeth Coffill	Falmoutg, Nova Scotia, Canada	2021-04-01
Khemraj Kassee	Kitchener, Canada	2021-04-01
L Moody	Port Coquitlam, British Columbia, Canada	2021-04-01
Emily Pemberton	Windsor, Nova Scotia, Canada	2021-04-01
Sam Eyland	Halifax, Nova Scotia, Canada	2021-04-01
Cameron Connors	Windsor, Canada	2021-04-01
Jeff Dunfield	Falmouth, n.s., Canada	2021-04-01
Kim Kane	Woodstock, Canada	2021-04-01
Stephani Allison	Windsor, Canada	2021-04-01
Roderick Purdy	Windsor, Canada	2021-04-01
nicole flynn	edmonton, Canada	2021-04-01
Valeria Falukozi	Stoney Creek, Canada	2021-04-01
Clare Lowe	Gabriola, Canada	2021-04-01
El Mundo	Canada	2021-04-01
Glen Kenny	897 Peck Meadow rd Greenfield Kings co. NS, Nova Scotia, Canada	2021-04-01
Diane Kinsman	Port Williams, Nova Scotia, Canada	2021-04-01
Jeral Anderson-Pearce	Toronto, Canada	2021-04-01
Margaret Lewis	Lower Sackville, Nova Scotia, Canada	2021-04-01
Donnie MacAskill	Windsor, Nova Scotia, Canada	2021-04-01
Dana Holmes	Rothesay, New Brunswick, Canada	2021-04-01
Marina Ris	zagreb, Croatia	2021-04-01

Name	Location	Date
Sam Dugué	Windsor Forks, Nova Scotia, Canada	2021-04-01
miranda christie	enfield, Canada	2021-04-01
Collin Levy	Windsor, Canada	2021-04-01
Steven Snair	Vaughan, Nova Scotia, Canada	2021-04-01
Colleen Rogers	Halifax, Nova Scotia, Canada	2021-04-01
Lydia MacLean	Wolfville, Nova Scotia, Canada	2021-04-01
Evelyn Scott	Woodville, Canada	2021-04-01
Todd Webber	Halifax, Nova Scotia, Canada	2021-04-01
Jocelyn Nix	Kempt Shore, Nova Scotia, Canada	2021-04-01
Matt Walsh	Upper Tantallon, Canada	2021-04-01
Brendan Wells	Dartmouth, Nova Scotia, Canada	2021-04-01
Karen Ozon	Dartmouth, Nova Scotia, Canada	2021-04-01
Dave McCarthy	Canada	2021-04-01
Susana Muñoz	Madrid, Spain	2021-04-01
Kirk Shaw	Port Williams, Canada	2021-04-01
Laura Meldrum	Windsor, Canada	2021-04-01
Peter Hiscott	Lake Echo, Canada	2021-04-01
Anne Banks	Falmouth, Nova Scotia, Canada	2021-04-01
Brandon Starratt	Falmouth, Nova Scotia, Canada	2021-04-01
Jason Sampson	Middle Sackville, Nova Scotia, Canada	2021-04-01
Breanna Pottie	Halifax, Canada	2021-04-01
terrina mandelin	Dartmouth, Nova Scotia, Canada	2021-04-01

Name	Location	Date
Judy Bruce	Wasaga Beach, Canada	2021-04-01
Duncan MacLeod	Halifax, Nova Scotia, Canada	2021-04-01
Susan Frenette	Halifax, New Brunswick, Canada	2021-04-01
Nick Zwaagstra	Halifax, Nova Scotia, Canada	2021-04-01
Chris Wilson	Berwick, Nova Scotia, Canada	2021-04-01
Jamie Whitty	Chester, Nova Scotia, Canada	2021-04-01
Dean Taylor	Borden-Carleton, PEI, Canada	2021-04-01
Jordan Fredericks	Halifax, Nova Scotia, Canada	2021-04-01
Kathy Greeno	Ottawa, Ontario, Canada	2021-04-01
DAVID RIDEOUT	Dartmouth, Nova Scotia, Canada	2021-04-01
Dalton Hood	Windsor, Ontario, Canada	2021-04-01
Sandy Forsyth	Windsor, Nova Scotia, Canada	2021-04-01
Lawrence White	Halifax, Nova Scotia, Canada	2021-04-01
Margaret Gnemmi	Halifax, Canada	2021-04-01
James rafuse	Chester, Canada	2021-04-01
Mark Cudmore	Moncton, New Brunswick, Canada	2021-04-01
Judith Chouinard	Halifax, Nova Scotia, Canada	2021-04-01
Tom McDonald	Dartmouth, Nova Scotia, Canada	2021-04-01
Una James	Dartmouth, Nova Scotia, Canada	2021-04-01
Eric Harvey	Haunts county, Nova Scotia, Canada	2021-04-01
Sandra Sampson	Yarmouth, Canada	2021-04-01
Robert Jamieson	Falmouth, Canada	2021-04-01

Name	Location	Date
T Jodrey	Falmouth, Nova Scotia, Canada	2021-04-01
yolanda schultes	Wittenbach, Switzerland	2021-04-01
Carol Dill	Windsor, Canada	2021-04-01
Joel Sheffield	Wolfville, Nova Scotia, Canada	2021-04-01
Claudia Herchan	Vaughan, Nova Scotia, Canada	2021-04-01
Craig bauchman	Falmouth, Nova Scotia, Canada	2021-04-01
CHRIS birchell	halifax, Canada	2021-04-01
Andrew Manning	Halifax, Nova Scotia, Canada	2021-04-01
Darren Young	Halifax, Nova Scotia, Canada	2021-04-01
Joel Kenny	Gaspereau, Nova Scotia, Canada	2021-04-01
Brayden Fletcher	Halifax, Nova Scotia, Canada	2021-04-01
Sherryl Campbell	Hubbards, Canada	2021-04-01
Rylee Collins	Lower Sackville, Nova Scotia, Canada	2021-04-01
Paige Alexander	Falmouth, Nova Scotia, Canada	2021-04-01
Tanya Boylan	Windsor, Quebec, Canada	2021-04-01
Amanda Leopold	Windsor, Canada	2021-04-01
Graham Duncan	Dublin, Ireland	2021-04-01
Jon LaPierre	Newport, Nova Scotia, Canada	2021-04-01
Jos Beaton	Halifax, Nova Scotia, Canada	2021-04-01
Jenna Rippey	Moncton, New Brunswick, Canada	2021-04-01
Natalie Campbell	Windsor, NS, Nova Scotia, Canada	2021-04-01
Melissa Lake	Hantsport, Nova Scotia, Canada	2021-04-01

Name	Location	Date
Robert Campbell	Windsor NS, Nova Scotia, Canada	2021-04-01
Lesley Rideout	Canada	2021-04-01
Betsy Payne	Halifax, Nova Scotia, Canada	2021-04-01
Rob Frost	Windsor, Nova Scotia, Canada	2021-04-01
Debbie Spears	Halifax, Canada	2021-04-01
Greg Miller	Falmouth, Canada	2021-04-01
MV L	Schneeberg, Germany	2021-04-01
Catherine Woodman	Vaughan, NS, Canada	2021-04-01
Andrew Bauchman	Windsor, Nova Scotia, Canada	2021-04-01
Abby Sutherland	Halifax, Canada	2021-04-01
Wendy Cochrane	Halifax, Nova Scotia, Canada	2021-04-01
thomas white	new minas, Canada	2021-04-01
Dan Lewis	Upper Leitches Creek, Canada	2021-04-01
Kim Cochrane	Halifax, Nova Scotia, Canada	2021-04-01
Valerie Newcomb	Windsor, Nova Scotia, Canada	2021-04-01
Gwenaël Dugué	Ottawa, Ontario, Canada	2021-04-01
Sonya Sullivan	Dartmouth, Nova Scotia, Canada	2021-04-01
Anne Montarou	Plaisir, France	2021-04-01
Jayden Cochrane	Falmouth, Canada	2021-04-01
Mirjam Talma	Buitenpost, Netherlands	2021-04-01
Michelle BAuchman	Windsor, Nova Scotia, Canada	2021-04-01
Jayde McConchie	Hampstead, Canada	2021-04-01

Name	Location	Date
Mackenzie Bauchman	Halifax, Nova Scotia, Canada	2021-04-01
Noah Cull	Falmouth, Canada	2021-04-01
Barbara Regan	Vaughan, Nova Scotia, Canada	2021-04-01
Frances Oliver	Falmouth, Canada	2021-04-01
Trinity Smith	Moncton, New Brunswick, Canada	2021-04-01
Hillary Gear	Bridgewater, Nova Scotia, Canada	2021-04-01
Adea Claude	Saint quentin, France	2021-04-01
Emma Benedict	Lower Sackville, Nova Scotia, Canada	2021-04-01
Elizabeth Cranfield	Canada Creek, Nova Scotia, Canada	2021-04-01
Annie Forbes	Halifax, Canada	2021-04-01
Richard Cochran	Windsor, Nova Scotia, Canada	2021-04-01
Scott Fitzgerald	Falmouth, Canada	2021-04-01
Gary Hussey	Lower Sackville, Canada	2021-04-01
bellinda rolf-jansen	Wijk Bij Duurstede, US	2021-04-01
Dolores Margaride	Aveiro, Portugal	2021-04-01
A. Otto	Auerbach, Germany	2021-04-01
Zoe Such	Vaughan, Canada	2021-04-01
SHEILA JAMIESON	Halifax, Nova Scotia, Canada	2021-04-01
Tyler Comeau	Kentville, Nova Scotia, Canada	2021-04-01
Maren Conrad	Lunenburg, Nova Scotia, Canada	2021-04-01
Brandon Graham	Windsor, Nova Scotia, Canada	2021-04-01
Jill McCoul	Windsor, Canada	2021-04-01

Name	Location	Date
Shelley Bibby	Windsor, Nova Scotia, Canada	2021-04-01
Gary Morehouse	Windsor, Nova Scotia, Canada	2021-04-01
Martha Purchase	Halifax, Nova Scotia, Canada	2021-04-01
Mags Roy Mein	Newcastle, UK	2021-04-01
rolf wiesler	Johannesburg, South Africa	2021-04-01
Leonie de Young	Toronto, Canada	2021-04-01
Lynda Hoogendoorn	Mississauga, Canada	2021-04-01
René Robert	Prescott, Ontario, Canada	2021-04-01
Petra Lippmann	Germany	2021-04-01
Darren MacDonald	Sydney, Nova Scotia, Canada	2021-04-01
Joanne McCoul	Windsor, Canada	2021-04-01
ESTELLE QUERE	ST REMY DE PROVENCE, France	2021-04-01
William sullivan	Nepean, Ontario, Canada	2021-04-01
Spenser Bauchman	Falmouth, New Brunswick, Canada	2021-04-01
Christeen Anderson	Crestview, Florida, US	2021-04-01
Dawson murphy	Windsor, Canada	2021-04-01
Adam Ferguson	Kentville, Nova Scotia, Canada	2021-04-01
Andrea Deveaux	Sydney, Canada	2021-04-01
Pypy Pypy	Georgetown, Malaysia	2021-04-01
Theo teBogt	Kentville, Nova Scotia, Canada	2021-04-01
Tammy Daurie	Kentville, Nova Scotia, Canada	2021-04-01
justin greeno	Halifax, Canada	2021-04-01

Name	Location	Date
Melissa Moore	Windsor, Nova Scotia, Canada	2021-04-01
Denise Hardy	Windsor, Nova Scotia, Canada	2021-04-01
Natalie Bauchman	Falmouth NS, Nova Scotia, Canada	2021-04-01
Jennifer Hartley	Falmouth, Nova Scotia, Canada	2021-04-01
Sharon Murray	Halifax, Nova Scotia, Canada	2021-04-01
Paul Arseneau	Middle Sackville, Canada	2021-04-01
BERNICE CARR	WINDSOR, Nova Scotia, Canada	2021-04-01
Joanne Bagley	Halifax, Canada	2021-04-01
Roxann KEELING	Eastern Passage, Canada	2021-04-01
Adrian GREENOUGH	Scotchvillage, Nova Scotia, Canada	2021-04-01
Henrika Meisner	Halifax, Nova Scotia, Canada	2021-04-01
Jim Maclean	Elliot Lake, Ontario, Canada	2021-04-01
Jordan Bauchman	Sydney, Nova Scotia, Canada	2021-04-01
Christopher Evans	Shobdon, UK	2021-04-01
Brenda Lee Blagdon	Middle sackville, Canada	2021-04-01
Racheal Hebb	LEMINSTER, Nova Scotia, Canada	2021-04-01
David George	Kentville, Canada	2021-04-01
Susan Shaw	Wolfville, Canada	2021-04-01
Christina Spencer	Wolfville, Canada	2021-04-01
Paulette LeNlanc	Halifax, Nova Scotia, Canada	2021-04-01
Lisa Burgess	Leminster, Nova Scotia, Canada	2021-04-01
Zack Nauss	Halifax, Canada	2021-04-01

Name	Location	Date
Jason Langen	Falmouth, Canada	2021-04-01
Kayla Eldridge	Falmouth, Nova Scotia, Canada	2021-04-01
tammy Ross	QUESNEL, Canada	2021-04-01
Sandra Chalmers	Penticton, British Columbia, Canada	2021-04-01
catherine cheneval	LYON, Spain	2021-04-01
Sam Miller	Kentville, Nova Scotia, Canada	2021-04-01
Michelle Elwood	Vaughan, Nova Scotia, Canada	2021-04-01
Marites Reimann	Oslo, Hordaland, Norway	2021-04-01
Rachel Caldwell	Lower Sackville, Nova Scotia, Canada	2021-04-01
sadie al	South Jakarta, Indonesia	2021-04-01
Susan Nunez	Sal Spring Island, Canada	2021-04-01
Kathleen Cooper	Saint Albert, Alberta, Canada	2021-04-01
Teresa Dill	Falmouth, Canada	2021-04-01
Robert Jones	Port Severn Ontario, Canada	2021-04-01
Regine LOEUIL	Hamoir, Belgium	2021-04-01
Caeleigh MacLean	Currys Corner, Canada	2021-04-01
Christine VanZoost	Falmouth, Canada	2021-04-01
melanie white	cambridge, Canada	2021-04-01
Eve McQueen-Allinger	Columbia, South Carolina, US	2021-04-01
Monika Viebahn	Windsor, Nova Scotia, Canada	2021-04-01
Djamila grouci	Paris, France	2021-04-01
Taylor Boyd	Falmouth, Canada	2021-04-01

Name	Location	Date
Alison Paul	Bradford, Ontario, Canada	2021-04-01
Hayley Swinamer	Kentville, Nova Scotia, Canada	2021-04-01
Andrew A	Dartmouth, Nova Scotia, Canada	2021-04-01
Brenden Verge	Halifax, Nova Scotia, Canada	2021-04-01
kate mackay	Lawrencetown, Canada	2021-04-01
Katherine Anderson	Airdrie, Alberta, Canada	2021-04-01
Tara Khoury	Halifax, Nova Scotia, Canada	2021-04-01
John Godley	Enfield, N.S., Nova Scotia, Canada	2021-04-01
Quentin Davison	Falmouth, Canada	2021-04-01
Anthony Wood	Halifax, Nova Scotia, Canada	2021-04-01
Ginette Pitcher	Falmouth, Canada	2021-04-01
wendy smith	Nelson, UK	2021-04-01
Maria Van Geel	Zdroisko, Poland	2021-04-01
Philip Davison	Falmouth, Canada	2021-04-01
Jon Careless	Toronto, Ontario, Canada	2021-04-01
Jenna Marinigh	Thunder Bay, Ontario, Canada	2021-04-01
Kerry Mewhort	Oliver, Canada	2021-04-01
Iris Longoria	Surrey, Canada	2021-04-01
Jennifer McDonald	Halifax, Nova Scotia, Canada	2021-04-01
Maribel Marulanda	New York, US	2021-04-01
Wanda George	Montréal, Quebec, Canada	2021-04-01
danielle jacques	bruxelles, Belgium	2021-04-01

Name	Location	Date
Mark Porter	Windsor NS, Nova Scotia, Canada	2021-04-01
Marc van de Waarsenburg	Middelburg, Netherlands	2021-04-01
Damaris Krois	Auburndle, Florida, US	2021-04-01
Nathan Sanford	Scotch Village, Canada	2021-04-01
Bethany Rozee	Windsor, Canada	2021-04-01
Debbie Wainman	Brooklyn, NS, Nova Scotia, Canada	2021-04-01
john belbin	Hantsport, Nova Scotia, Canada	2021-04-01
Claudia Neuhalfen	Bonn, Germany	2021-04-01
Briana Fletcher	Hebbville, Nova Scotia, Canada	2021-04-01
Jan Gielkens	Weert, Netherlands	2021-04-01
Bradley Stricker	Montreal, Canada	2021-04-01
Larry Zwicker	Wolfville, Canada	2021-04-01
Benjamin Dagley	Lunenburg, Canada	2021-04-01
Paula Walsh	Halifax, Nova Scotia, Canada	2021-04-01
R S	Koln, Germany	2021-04-01
dominique benoit	Villiers-en-Désoeuvre, France	2021-04-01
Shayna Tyler	Vallentigny, France	2021-04-01
Jonathan Strum	Falmouth, Nova Scotia, Canada	2021-04-01
Emmett Hamilton	Mount Uniacke, Canada	2021-04-01
Shelley MacDonald	Lower Sackville, Nova Scotia, Canada	2021-04-01
Danny Dill	Halifax, Nova Scotia, Canada	2021-04-01
Kaidee Harvey	Hants county, Nova Scotia, Canada	2021-04-01

Name	Location	Date
Eva Maria Genovese	Muttenz, Switzerland	2021-04-01
Mike Lundberg	Edmonton, Canada	2021-04-01
Wayne Northup	Halifax, Nova Scotia, Canada	2021-04-01
Pamela Hill	High River, Canada	2021-04-01
Isabelle I'm A Minor So I'm Not Sharing This Information	Urbandale, US	2021-04-01
Calum Shaw	Kentville, Canada	2021-04-01
Carol Beaulieu	London, Canada	2021-04-01
Brian Reynolds	Atlantic City, New Jersey, US	2021-04-01
Jodi Igard	Studio City, California, US	2021-04-01
Esther Garvett	Miami, Florida, US	2021-04-01
Paul Slipp	Hubley, Canada	2021-04-01
Briana Trimmings	Bedford, Nova Scotia, Canada	2021-04-01
Julie Port	Slough, UK	2021-04-01
Shauna Misner	West Brooklyn, Nova Scotia, Canada	2021-04-01
Ms. Linda A. Heath	Grafton, Ohio, US	2021-04-01
jessica osullivan	Montréal, Quebec, Canada	2021-04-01
Allison Fudge	Nova Scotia, Ontario, Canada	2021-04-01
Carolynn Waters	Calgary, Canada	2021-04-01
ursula schilg	Mayen, Germany	2021-04-01
Brian Lavers	Halifax, Nova Scotia, Canada	2021-04-01
George Martin	Loule, Portugal	2021-04-01

Name	Location	Date
Jennifer Manzi	London, Canada	2021-04-01
Steve Groze	Youngsville, Louisiana, US	2021-04-01
Michael Thompson	Paris, Canada	2021-04-01
Jacqueline Nolan	London, Canada	2021-04-01
Taylor Oleary	Halifax, Nova Scotia, Canada	2021-04-01
Stephanie Torres	Reading, US	2021-04-01
Dana Lynch	Jacksonville, Florida, US	2021-04-01
sylvyane lambert - husin	Benon, France	2021-04-01
darryl engerdahl	nelson, Canada	2021-04-01
Brian MacMillan	Halifax, Nova Scotia, Canada	2021-04-01
Thomas Nieland	Alamo, Texas, US	2021-04-01
Camille Gomez	West Covina, California, US	2021-04-01
Michelle Smith	Falmouth, Nova Scotia, Canada	2021-04-01
Susie Cassens	Fort Pierce, Florida, US	2021-04-01
Di Best	Windsor, Nova Scotia, Canada	2021-04-01
kris Juhl	Mckinleyville, California, US	2021-04-01
Sharon Stokes	Greenbelt, Maryland, US	2021-04-01
Chardonnens Sonja	Mannens, Switzerland	2021-04-01
Tyler Pickrem	Halifax, Nova Scotia, Canada	2021-04-01
jocelyne lapointe	Montréal, Canada	2021-04-01
Pam Miller	Tolar, Texas, US	2021-04-01
Dorothy Budden	Vancouver, Canada	2021-04-01

Name	Location	Date
Lukas Capon-Fraga	Whitinsville, Massachusetts, US	2021-04-01
J Harris	San Juan, Puerto Rico, US	2021-04-01
Jill Martin	Windsor, Nova Scotia, Canada	2021-04-01
Anneke v. Brussel Andries	Raamsdonksveer, Netherlands	2021-04-01
Erin Street	Seattle, Washington, US	2021-04-01
Ariana Neunuebel	San Diego, California, US	2021-04-01
Neil Jamieson	Falmouth, Nova Scotia, Canada	2021-04-01
Silvia Steinbrecher	Germany	2021-04-01
Cindy Rafuse	Bedford, Nova Scotia, Canada	2021-04-01
Heather Nowen	Dartmouth, Canada	2021-04-01
Thomas Cox	Bedford, Canada	2021-04-01
Christine Phillips	Windsor, Canada	2021-04-01
Flora C	Dartmouth, Canada	2021-04-01
Debbie Macmillan	Balloch, Scotland, UK	2021-04-01
Mya Cowper	Dartmouth, Canada	2021-04-01
Julia Lilley	Dartmouth, Canada	2021-04-01
Tyler Laidlaw	Middle Sackville, Canada	2021-04-01
sherri hodges	Phoenix, US	2021-04-01
Daniel Mario Gómez	Buenos Aires, Argentina	2021-04-01
Alexa Irvin	Dartmouth, Canada	2021-04-01
Chris Popma	Halifax, Nova Scotia, Canada	2021-04-01
Janet Macdonald	Windsor, Nova Scotia, Canada	2021-04-01

Name	Location	Date
Jenna Marks	Dartmouth, Canada	2021-04-01
Daniela Thiel	Monheim, Germany	2021-04-01
Arthur Nowen	Dartmouth, Nova Scotia, Canada	2021-04-01
Lauren Lake	Bridgewater, Canada	2021-04-01
Andrew McIntyre	Dartmouth, Canada	2021-04-01
Kristy Childs Legge	Waverley, Canada	2021-04-01
Heather Phillips	Falmouth, Nova Scotia, Canada	2021-04-01
Kali Mclellan	Falmouth, Nova Scotia, Canada	2021-04-01
Maeve LeBlanc	Beaver Bank, Canada	2021-04-01
Katie Hilton	Middle Sackville, Canada	2021-04-01
Mack Turnbull	Kentville, Nova Scotia, Canada	2021-04-01
Andrew Lowery	Lake Echo, Canada	2021-04-01
Anna Carew	Dartmouth, Canada	2021-04-01
Robert MacKay	Toney River, Nova Scotia, Canada	2021-04-01
T B	Halifax, Nova Scotia, Canada	2021-04-01
Elaine McCluskey	Dartmouth, N.S, Canada	2021-04-01
Jasmin Porschen	München, Germany	2021-04-01
Kate Harder	Glen Ellyn, Illinois, US	2021-04-01
Karen Bennett	Halifax, Canada	2021-04-01
Joshua Boyd	Falmouth, Nova Scotia, Canada	2021-04-01
Brianna Jones	Windsor Nova Scotia, Ontario, Canada	2021-04-01
Janine MacKinnon-Rafuse	Upper Vaughan, Canada	2021-04-01

Name	Location	Date
Staci Chandler	Windsor, Nova Scotia, Canada	2021-04-01
Alanna Bray-Lougheed	Halifax, Canada	2021-04-01
Tami Long	Halifax, Canada	2021-04-01
Stuart Levy	Fall River, Canada	2021-04-01
Makayla Geraci	Houston, Texas, US	2021-04-01
Jolene Kehoe	Halifax, Nova Scotia, Canada	2021-04-01
Steve Black	Southampton, UK	2021-04-01
Megan McNeil	Lower Sackville, Canada	2021-04-01
Ruth Bentkowski	Fort Worth, Texas, US	2021-04-01
Ella Yunace	Dartmouth, Canada	2021-04-01
Karen Wood	Windsor, Canada	2021-04-01
Astrid V.d. Geest	Stadskanaal, Netherlands	2021-04-01
Lawrence Weir	Saint John, Canada	2021-04-01
Emma Ackerman	Amissville, Virginia, US	2021-04-01
antonio colizza	montreal, Canada	2021-04-01
John Zettler	Windsor, Canada	2021-04-01
Victoria Tran	Bedford, Canada	2021-04-01
Josh Boylan	Windsor NS, Nova Scotia, Canada	2021-04-01
Julianne Tran	Bedford, Nova Scotia, Canada	2021-04-01
Joanne MacNeil	Falmouth, Nova Scotia, Canada	2021-04-01
Martin Brien	Halifax, Canada	2021-04-01
Andrea Johnston	Wolfville, Nova Scotia, Canada	2021-04-01

Name	Location	Date
Leslie Porter	637 Wiley ave. Windsor, N.S., Nova Scotia, Canada	2021-04-01
Xavier O’Mack	Tucson, Arizona, US	2021-04-01
Hayley Plante	Toronto, Canada	2021-04-01
Hayden Dill	Windsor, Canada	2021-04-01
jade ALF	Blois, France	2021-04-01
Josh Nowen	Halifax, Canada	2021-04-01
Grace Cox	Windsor, Canada	2021-04-01
Mark Wiseman	Halifax, Canada	2021-04-01
Harley Foubert	Halifax, Nova Scotia, Canada	2021-04-01
Ryelyn Gabrielle	Sydney, Nova Scotia, Canada	2021-04-01
Kathy MacIntosh	Halifax, Nova Scotia, Canada	2021-04-01
Seamus Daniel	Halifax, Canada	2021-04-01
Patrick White	Nova scotia, Canada	2021-04-01
Elizabeth Skelhorn	Windsor, Canada	2021-04-01
Eileen Ross	Halifax, Nova Scotia, Canada	2021-04-01
Emily Dauphinee	Halifax, Canada	2021-04-01
James Byers	Halifax, Nova Scotia, Canada	2021-04-01
Sierra Kelly	Windsor, Canada	2021-04-01
Jane Anderson	Halifax, Canada	2021-04-01
Matthew Lake	Greenwood, Nova Scotia, Canada	2021-04-01
emilee vaters	Bedford, Canada	2021-04-01

Name	Location	Date
Carter Naugler	Falmouth, Canada	2021-04-01
Emelie DeMont	Windsor, Nova Scotia, Canada	2021-04-01
Donna Watts	Cardiff, UK	2021-04-01
CRYSTAL MARSHALL	Howland, Ohio, US	2021-04-01
Brandon Kehoe	Windsor, Canada	2021-04-01
Jill Mills	Hammonds Plains, Canada	2021-04-01
Gabby Rolfe	Windsor, Canada	2021-04-01
Dominique LANG	Vaison-la-Romaine, France	2021-04-01
David Sims	Huntsville, Texas, US	2021-04-01
Luke Stienburg	Dartmouth, Canada	2021-04-01
Dawson Campbell	Lower Sackville, Nova Scotia, Canada	2021-04-01
Pam Dingwall	Coldbrook, Canada	2021-04-01
Allison Morrison	Windsor, Nova Scotia, Canada	2021-04-01
Conrad Zinck	Lake loon, Canada	2021-04-01
Mckenna Caldwell	Gays River, Canada	2021-04-01
Adam Brien	Fall River, Canada	2021-04-01
Brady Stubbs	Dartmouth, Nova Scotia, Canada	2021-04-01
Zach monk	Halifax, Nova Scotia, Canada	2021-04-01
noah lemoine	Kentville, Nova Scotia, Canada	2021-04-01
Grayson Cochrane	Windsor, Canada	2021-04-01
Melissa Fewer	Dartmouth, Canada	2021-04-01
Jenna Wile	Halifax, Nova Scotia, Canada	2021-04-01

Name	Location	Date
Sandra Zettler	Windsor Nova Scotia, Canada	2021-04-01
Jordan Matthews	Toronto, Ontario, Canada	2021-04-01
Chris Dacus	Bell Buckle, Tennessee, US	2021-04-01
Leeya Nagpal	Ottawa, Canada	2021-04-01
Lucas Keddy	Union corner, Nova Scotia, Canada	2021-04-01
doria wosk	miami, Florida, US	2021-04-01
Brandon Cuvelier	Dartmouth, Nova Scotia, Canada	2021-04-01
Jacob Naugler	Falmouth, Nova Scotia, Canada	2021-04-01
Luke Morris	Milford, Connecticut, US	2021-04-01
Ashley Trider	Brookside, Nova Scotia, Canada	2021-04-01
Amelia Frank	Halifax, Nova Scotia, Canada	2021-04-01
Jack Gillis	Halifax, Nova Scotia, Canada	2021-04-01
Leanne Clattenburg	Beaver Bank, Canada	2021-04-01
Tyler Hinam	Wolfville, Nova Scotia, Canada	2021-04-01
Thomas Davies	Halifax, Nova Scotia, Canada	2021-04-01
Matt Sampson	Halifax, Canada	2021-04-01
amy amirault	Kentville, Canada	2021-04-01
Brady Crossley	Dartmouth, Nova Scotia, Canada	2021-04-01
Jake Russell	Halifax, Nova Scotia, Canada	2021-04-01
Austin Lunn	Newport, Canada	2021-04-01
Andriana Bruno	Milford, Connecticut, US	2021-04-01
Kristie Miedema	Nova Scotia, Canada	2021-04-01

Name	Location	Date
Trudy Sheehy	Windsor, Nova Scotia, Canada	2021-04-01
Jordan Connick	Halifax, Nova Scotia, Canada	2021-04-01
Rylan Carrigan	Falmouth, Canada	2021-04-01
Xander Woodward	Halifax, Canada	2021-04-01
Simon Lassaline	Moncton, New Brunswick, Canada	2021-04-01
Timmy Puddifant	Dartmouth, Canada	2021-04-01
Eileen Benoit	Windsor, Canada	2021-04-01
John Leopold	Kentville, Nova Scotia, Canada	2021-04-01
Reid Ward	Falmouth, Nova Scotia, Canada	2021-04-01
Ethan Saulnier	Bedford, Nova Scotia, Canada	2021-04-01
Jessica Ring	Dartmouth, Canada	2021-04-01
Jevin Allen	Fredericton, New Brunswick, Canada	2021-04-01
Kyanna Hope	Falmouth, Canada	2021-04-01
Mark Smith	Halifax, Canada	2021-04-01
Anet Gumienik	Toronto, Canada	2021-04-01
Sierra Kelly	Windsor, Canada	2021-04-01
Colette O’Hara	Halifax, Nova Scotia, Canada	2021-04-01
Chris Malette	Halifax, Nova Scotia, Canada	2021-04-01
Tim Flood	Saint John, New Brunswick, Canada	2021-04-01
Tara McGraw	Saint John, New Brunswick, Canada	2021-04-01
Chantal Martin	Koné, New Caledonia	2021-04-01
Abe Croft	Bridgewater, Nova Scotia, Canada	2021-04-01

Name	Location	Date
Bree Maxwell	Bridgewater, Nova Scotia, Canada	2021-04-01
Alex Canning	Dartmouth, Canada	2021-04-01
Shannon Fraser	Dartmouth, Canada	2021-04-01
hannah sobey	Stewiacke, Nova Scotia, Canada	2021-04-01
Nancy Parsons	Fall River, Canada	2021-04-01
Daniel MacDonald	Lower Sackville, Canada	2021-04-01
Richard Reece	Waynesboro, Georgia, US	2021-04-01
Sarah te Bogt	Halifax, Nova Scotia, Canada	2021-04-01
Ieda Moriya	Yachiyo, Japan	2021-04-01
Savannah Patenaude	Kentville, Nova Scotia, Canada	2021-04-01
Devon Tingley	Falmouth, Canada	2021-04-01
mary Jane Penny	Wolfville, Canada	2021-04-01
Jeff Murphy	Ellershouse, Nova Scotia, Canada	2021-04-01
Tyler Evans	Dartmouth, Canada	2021-04-01
Elwyn Smethurst	Halifax, Canada	2021-04-01
Jill Slaunwhite	Halifax, Canada	2021-04-01
Dave Rourke	Kentville, Nova Scotia, Canada	2021-04-01
Francesca Radelich	Bedford, Canada	2021-04-01
Francine Belbin	Halifax, Nova Scotia, Canada	2021-04-01
Margaret Merlin-Wilson	Clam Bay, Nova Scotia, Canada	2021-04-01
Logan B	Wolfville, Nova Scotia, Canada	2021-04-01
Joanne Hall	Dartmouth, Nova Scotia, Canada	2021-04-01

Name	Location	Date
Sydney Caldwell	Windsor, Nova Scotia, Canada	2021-04-01
Tonette Sexton	Hants County, Canada	2021-04-01
Joanna Slaunwhite	Halifax, Nova Scotia, Canada	2021-04-01
Eliana Perez	Cypress, Texas, US	2021-04-01
Janice Munroe Dodge	West Hants, Nova Scotia, Canada	2021-04-01
Judy Lynch	Vaughan, Nova Scotia, Canada	2021-04-01
Bill Mann	Windsor, Nova Scotia, Canada	2021-04-01
Christina Frutuoso	Esch, Luxembourg	2021-04-01
Lacey Neily	Kentville, Nova Scotia, Canada	2021-04-01
Donna Gallant	Fredericton, New Brunswick, Canada	2021-04-01
Etzar Cisneros	Birmingham, Alabama, US	2021-04-01
Amber Myatt	Dartmouth, Canada	2021-04-01
Patricia Mock	Dartmouth, Nova Scotia, Canada	2021-04-01
Winfried Viebahn	Windsor, Nova Scotia, Canada	2021-04-01
Stephanie Murphy	Dartmouth, Nova Scotia, Canada	2021-04-01
Brittany Stevenson	Kentville, Nova Scotia, Canada	2021-04-01
Kavita Thomas	New York, New York, US	2021-04-01
Chris Macdonald	Halifax, Canada	2021-04-01
Catherine Maloney-Hofer	Halifax, Nova Scotia, Canada	2021-04-01
Paul Blackburn	Elizabethtown, Kentucky, US	2021-04-01
Mark Mcdonough	Thompson, Manitoba, Canada	2021-04-01
Mason Koch	Moncton, New Brunswick, Canada	2021-04-01

Name	Location	Date
Trinity Edwards	Halifax, Nova Scotia, Canada	2021-04-01
Erica Scarff	Burnaby, British Columbia, Canada	2021-04-01
Jessica Lush	Vaughan, Ontario, Canada	2021-04-01
Darlene Purcell	Cole Harbour, Canada	2021-04-01
kathryn schofield	Kentville, Nova Scotia, Canada	2021-04-01
Brianna Smith	Hammonds Plains, Nova Scotia, Canada	2021-04-01
Cheryl Hamm	Chester Grant ns, Nova Scotia, Canada	2021-04-01
Zach Fraser	Bedford, Nova Scotia, Canada	2021-04-01
Gaetan Tremblay	Halifax, Nova Scotia, Canada	2021-04-01
Connor McGregor	Dartmouth, Canada	2021-04-01
Rebecca Tran	Windsor, Canada	2021-04-01
brandi briand	Wolfville, Nova Scotia, Canada	2021-04-01
josie states	Windsor, Nova Scotia, Canada	2021-04-01
Deborah Dunham	Windsor, Nova Scotia, Canada	2021-04-01
Nelly Nyffeler	Derendingen, Switzerland	2021-04-01
Brianna Benedict	Scotch Village, Prince Edward Island, Canada	2021-04-02
Cynthia Becker	Windsor, Nova Scotia, Canada	2021-04-02
Kyle Blandin	Halifax, Canada	2021-04-02
Ashley Seamone	Ellershouse, Nova Scotia, Canada	2021-04-02
Nick Keddy	Vaughans, Prince Edward Island, Canada	2021-04-02
Rachelle Brown	Warren, Michigan, US	2021-04-02

Name	Location	Date
Tessa Oldershaw	Oakville, Ontario, Canada	2021-04-02
Tessa van Veen	Oakville, Ontario, Canada	2021-04-02
Morgan Wach	Dartmouth, Nova Scotia, Canada	2021-04-02
emma yule	Lower Sackville, Nova Scotia, Canada	2021-04-02
Rondane Hollar	Bronx, New York, US	2021-04-02
Lucy Riley	Kentville, Nova Scotia, Canada	2021-04-02
Brian Y	Whitby, Canada	2021-04-02
Annick Lamoureux	St-Jerome, Canada	2021-04-02
Olivia McKenzie	Three Mile Plains, Nova Scotia, Canada	2021-04-02
Lisa Newman	Oakville, Ontario, Canada	2021-04-02
Jessica MacDonald	Middle Sackville, Canada	2021-04-02
Bret Himmelman	Halifax, Nova Scotia, Canada	2021-04-02
Allan Melvin	Canning, Nova Scotia, Canada	2021-04-02
Joan Klatt	Oakville, Canada	2021-04-02
Wade Farquharson	Ottawa, Ontario, Canada	2021-04-02
Andrew Billard	NS, Canada	2021-04-02
Sara Drisdelle	Dartmouth, Nova Scotia, Canada	2021-04-02
Holly Doyle	Waverley, Canada	2021-04-02
Mary Dawson-Power	Dartmouth, Nova Scotia, Canada	2021-04-02
Peter MacDougall	Halifax, Nova Scotia, Canada	2021-04-02
Gama Leong	George Town, Malaysia	2021-04-02
Danny Davison	Falmouth, Canada	2021-04-02

Name	Location	Date
Annique Lezama	Dartmouth, Nova Scotia, Canada	2021-04-02
Amina B	Dartmouth, Canada	2021-04-02
Jennifer Corey	Lantz, NS, Canada	2021-04-02
Traci Page	Avonport, Nova Scotia, Canada	2021-04-02
Mary Jane Aubie	Windsor, Nova Scotia, Canada	2021-04-02
Vanessa Benjamin	Scotch Village, Canada	2021-04-02
Nathan Hebb	Windsor, Nova Scotia, Canada	2021-04-02
Shawn Davidson	New Minas, Nova Scotia, Canada	2021-04-02
mia Bulmer	Gatineau, Canada	2021-04-02
Lucy Traves	Halifax, Nova Scotia, Canada	2021-04-02
Courtney Plewes	Mississauga, Canada	2021-04-02
Mitchell Barran	Burnaby, British Columbia, Canada	2021-04-02
Heather MacIntyre	Halifax, Canada	2021-04-02
Dawn Albanese	Bensenville, Illinois, US	2021-04-02
Adam Majewski	Scarborough, Canada	2021-04-02
Darren Ward	Halifax, Nova Scotia, Canada	2021-04-02
rylee mackinnon	North Bergen, New Jersey, US	2021-04-02
ashley card	Bedford, Canada	2021-04-02
Grace Whebby	Dartmouth, Nova Scotia, Canada	2021-04-02
paula milsom	Dartmouth, Nova Scotia, Canada	2021-04-02
Brett Glover	Dartmouth, Nova Scotia, Canada	2021-04-02
Nicole Marryatt	Falmouth, Nova Scotia, Canada	2021-04-02

Name	Location	Date
sarika arora	Alpharetta, Georgia, US	2021-04-02
Marie-Claude LeRoux	Williamswood, Canada	2021-04-02
Christopher Sisco	Martock, Nova Scotia, Canada	2021-04-02
Isabel Johnston	Kentville, Nova Scotia, Canada	2021-04-02
Mary Hall	Dartmouth, Nova Scotia, Canada	2021-04-02
Kirk RRhoads	Mountain Home, Arkansas, US	2021-04-02
Nicole Wile	Falmouth, Canada	2021-04-02
Kelsey Cuvelier	Porters Lake, Nova Scotia, Canada	2021-04-02
Janet Eye	Kentville, Nova Scotia, Canada	2021-04-02
Susie Wen	Oakville, Canada	2021-04-02
Michele Morrison	Miramichi, Canada	2021-04-02
Randy Herritt	Falmouth, Nova Scotia, Canada	2021-04-02
Paul Mullen	Halifax, Canada	2021-04-02
Kevin Salter	Hants County, Nova Scotia, Canada	2021-04-02
Bobby Hathorn	Ellisville, Mississippi, US	2021-04-02
Makenna MacAukey	Saskatoon, Canada	2021-04-02
Bonnie O’LEARY	Halifax, Nova Scotia, Canada	2021-04-02
Ocean Lushman	Nine Mile River, Nova Scotia, Canada	2021-04-02
Sharon Dill	Kentville, Nova Scotia, Canada	2021-04-02
Biene Maja	Roma, Italy	2021-04-02
Debbie Woodman	Windsor, Nova Scotia, Canada	2021-04-02
Brian Murray	Windsor, Nova Scotia, Canada	2021-04-02

Name	Location	Date
ruby campbell	Shubenacadie, Canada	2021-04-02
Lucas Chambers	Falmouth, Nova Scotia, Canada	2021-04-02
Christine George	Enfield, Nova Scotia, Canada	2021-04-02
Maria Fornataro	Ottawa, Canada	2021-04-02
Hannah Smith	dartmoth, Canada	2021-04-02
Kimberley Gaudet	Dartmouth, Nova Scotia, Canada	2021-04-02
Lucas Williams	Oakville, Ontario, Canada	2021-04-02
Jim Pitcher	Prospect, Canada	2021-04-02
Emily Jreige	Dartmouth, Canada	2021-04-02
Meera O'Neill	Bedford, Nova Scotia, Canada	2021-04-02
Kevin Moore	Falmouth, Nova Scotia, Canada	2021-04-02
James Johnson	Dartmouth, Nova Scotia, Canada	2021-04-02
Abby Koch	Bedford, Newfoundland and Labrador, Canada	2021-04-02
gene weber	Dry Ridge, Kentucky, US	2021-04-02
Mike Daniels	Slave Lake, Alberta, Canada	2021-04-02
cathala corine	Pierrelatte, France	2021-04-02
Стас Аксёнов	Tyumen, Russia	2021-04-02
Ornmadee Baxter-Lovo	Cochrane, Alberta, Canada	2021-04-02
Benjamin Rolley	Port Hope, Canada	2021-04-02
Myah Cacao	Dartmouth, Canada	2021-04-02
Jessica Mackay	Halifax, Canada	2021-04-02

Name	Location	Date
Robyn bay	Edmonton, Canada	2021-04-02
Andrew Kent	Cheverie, Nova Scotia, Canada	2021-04-02
Lucy Pennyfather	Halifax, Canada	2021-04-02
Jodi Daniels	Windsor, Nova Scotia, Canada	2021-04-02
Martin Croney	Windsor, Canada	2021-04-02
Nikisha Ross	Jackson, Mississippi, US	2021-04-02
Zaya Akerley	Dartmouth, Canada	2021-04-02
Stuart Tabor	Dartmouth, Canada	2021-04-02
Juanita Cooper	Dartmouth, Canada	2021-04-02
mary murphy	Guelph, Canada	2021-04-02
Dawn-Marie Cater	Thompson, Manitoba, Canada	2021-04-02
Marcus Gottlieb	Highland Park, Illinois, US	2021-04-02
Michelle McLearn	Middleton, Canada	2021-04-02
Robert Lafleur	Chelsea, Quebec, Canada	2021-04-02
Elyse Jackson	Rigaud, Canada	2021-04-02
Chris Shields	Falmouth, Nova Scotia, Canada	2021-04-02
Azhar Hood	Falmouth, Nova Scotia, Canada	2021-04-02
Kim Penton	Thompson, Manitoba, Canada	2021-04-02
Alison Cook	Dartmouth, Canada	2021-04-02
Donald Tabor	Halifax, Canada	2021-04-02
jamie-lynn tucker	dartmouth, Canada	2021-04-02
Jacob Mckenna	Dartmouth, Quebec, Canada	2021-04-02

Name	Location	Date
Ashley Breen	Hantsport, Nova Scotia, Canada	2021-04-02
Walter Terrell	Scarsdale, New York, US	2021-04-02
Ken Gardiner	Bedford, Nova Scotia, Canada	2021-04-02
Cheryl Bullock	Windsor, Nova Scotia, Canada	2021-04-02
Pamela Vasquez	Salem, Oregon, US	2021-04-02
Genesis Gisclair	Larose, Louisiana, US	2021-04-02
Andrew Vallender	Ventnor, England, UK	2021-04-02
jerry fernandes	Toronto, Canada	2021-04-02
Mary Anne Alley	Stewiacke, Northwest Territories, Canada	2021-04-02
Sharon Demers	Davenport, Florida, US	2021-04-02
Walter Barnes	Bel Air, Maryland, US	2021-04-02
Mike Gallant	Fredericton, New Brunswick, Canada	2021-04-02
Mia Gamble	Canada	2021-04-02
NICOLETTE MAIGNANT	Waterbury, Connecticut, US	2021-04-02
Quintin NEULS	Kamloops, Canada	2021-04-02
Kiera Hewitt	Dartmouth, Nova Scotia, Canada	2021-04-02
Rebecca Tanner	Burbank, California, US	2021-04-02
Jamie Packer	Simcoe, Canada	2021-04-02
Christine Lytle	Hazlet, New Jersey, US	2021-04-02
Chris MacPherson	Lower Sackville, Nova Scotia, Canada	2021-04-02
Nancy Thelot	Union, New Jersey, US	2021-04-02

Name	Location	Date
Abby Collins	Halifax, Nova Scotia, Canada	2021-04-02
Rob Lindsay	Halifax, Nova Scotia, Canada	2021-04-02
Kari Stringer	Minneapolis, Minnesota, US	2021-04-02
Laura Oikle	Hantsport, Nova Scotia, Canada	2021-04-02
Daniel Bettencourt	Fremont, California, US	2021-04-02
M Kuhl	Evanston, Illinois, US	2021-04-02
Nina Kemppainen	Oxford, UK	2021-04-02
Tyler Frizzell	Airdrie, Alberta, Canada	2021-04-02
Cade Herman	Oak Ridge, New Jersey, US	2021-04-02
Roger Kulp	Albuquerque, New Mexico, US	2021-04-02
Theresia Maria	Deutschland, Germany	2021-04-02
annelie moser	idar-oberstein, UK	2021-04-02
colin gallagher	Glen Cove, New York, US	2021-04-02
stéphane iafrate	Cambo les bains, France	2021-04-02
Sarah Lerette	Falmouth, Nova Scotia, Canada	2021-04-02
jannie ros	Netherlands	2021-04-02
Shelley Quinn	Dartmouth, Canada	2021-04-02
Gary Ma	Vancouver, Canada	2021-04-02
Sue Cone	Hull, England, UK	2021-04-02
Keaton Brown	Halifax, Nova Scotia, Canada	2021-04-02
Brenda Creed	Middleton, UK	2021-04-02
julie reid	Bournemouth, UK	2021-04-02

Name	Location	Date
Bryan C	Auckland, New Zealand	2021-04-02
Greg Bond	Hants County, Nova Scotia, Canada	2021-04-02
Sharon Scott	Worthing, UK	2021-04-02
Tracey Carlisle	Surrey, Canada	2021-04-02
Peter newton	newport, England, UK	2021-04-02
Muhammed Kayani	Solihull, UK	2021-04-02
Liam Carr	Ilford, UK	2021-04-02
Waris Razvi	Edgware, UK	2021-04-02
Robin LeBlanc	Dartmouth, Nova Scotia, Canada	2021-04-02
Peter Finn	Stockport, UK	2021-04-02
Vahe GULVANESSIAN	London, UK	2021-04-02
chrissy tarrant	Derby, United Kingdom, UK	2021-04-02
V Jon	Gloucestershire, UK	2021-04-02
Kim Lewis-Lavender	London, UK	2021-04-02
Liz Roe	Faversham, UK	2021-04-02
Ian King	London, UK	2021-04-02
Hannah Cowling	Swindon, UK	2021-04-02
Wendy Butler	Birmingham, UK	2021-04-02
Jon Rafuse	Enfield, Nova Scotia, Canada	2021-04-02
Vasileios Grigoriou	Birkenhead, England, UK	2021-04-02
Diana Hallett	Camborne, UK	2021-04-02
Raymond Budd	London, UK	2021-04-02

Name	Location	Date
Suzanne Shaw-O’Leary	Falmouth, Nova Scotia, Canada	2021-04-02
Lisa George	Coventry, UK	2021-04-02
F Jacobs	Wembley, UK	2021-04-02
Ann Rayner	Portsmouth, UK	2021-04-02
bev urquhart	Headley Down, UK	2021-04-02
Julie Allen	Welwyn Garden City, UK	2021-04-02
Rob Martin	Great Sankey, UK	2021-04-02
Josephine Keys	Edinburgh, UK	2021-04-02
Rosalind Borg	Thurston, UK	2021-04-02
Ian Wilson	Fall River, Canada	2021-04-02
M Overson	Leeds, UK	2021-04-02
Kelvin Cooper	Hove, UK	2021-04-02
Sabine Möhler	sabine.stiker@web.de, Germany	2021-04-02
maria kljuce	Melbourne, Australia	2021-04-02
Melissa Buckwell	Mancot, UK	2021-04-02
Niina Anttinen	Espoo, Finland	2021-04-02
Wendy Forster	UK	2021-04-02
Samantha Newman	London, UK	2021-04-02
Maja Spasova	London, UK	2021-04-02
Thomas Meacher	Cambridge, UK	2021-04-02
Caroline Sévilla	Paris, France	2021-04-02
Ann Legge	Canning, Nova Scotia, Canada	2021-04-02

Name	Location	Date
John Stephenson	Ivegill, UK	2021-04-02
Sarah Naugle	Nova scotia, Ontario, Canada	2021-04-02
Chris Norman	Bristol, UK	2021-04-02
Marc DesRoches	Windsor, Nova Scotia, Canada	2021-04-02
Evan Shirley	Toronto, Canada	2021-04-02
Anna O'Brien	Dartmouth, Nova Scotia, Canada	2021-04-02
Craig Harrison	Morpeth, UK	2021-04-02
Ayesha Raheel	London, UK	2021-04-02
marielaure vignaud	France	2021-04-02
Alan Childs	Bexley, UK	2021-04-02
Mohammed Seghir	London, UK	2021-04-02
Bill Lobban	Lake Charlotte, Nova Scotia, Canada	2021-04-02
Julie Lafferty	Dartmouth, Canada	2021-04-02
Claude O’Hara	Canada	2021-04-02
Euan James	Dundee, UK	2021-04-02
Jim Takahashi	Christchurch, New Zealand	2021-04-02
Paul Redden	Wolfville, Nova Scotia, Canada	2021-04-02
Gail Cartwright	Boston, England, UK	2021-04-02
Melinda Nicholls	Rainham, UK	2021-04-02
Jacqueline Abbott	CALNE, UK	2021-04-02
Jonathan Piers Tyler	Braunton, UK	2021-04-02
Barb Carroll	Newport Corner, Canada	2021-04-02

Name	Location	Date
Janice Nye	Penwortham, UK	2021-04-02
andrew reid	Howey, UK	2021-04-02
Rose Benn	Mansfield, UK	2021-04-02
Marina Verryn-Stuart	Kentville, Nova Scotia, Canada	2021-04-02
Rebecca Timmins	Wiltshire, UK	2021-04-02
Shivani Dhamija	Halifax, Canada	2021-04-02
Kristian Vacontios	Bristol, UK	2021-04-02
Holly Ross	Falmouth, Canada	2021-04-02
Debbie Smith	Stewiacke, Nova Scotia, Canada	2021-04-02
alexander orman	Southwick, UK	2021-04-02
Nick Phillips	Sevenoaks, UK	2021-04-02
Doug Lowthers	Middle Porters lake, Nova Scotia, Canada	2021-04-02
Diana Dee	Valley Village, California, US	2021-04-02
Gillian Brett	Calne, UK	2021-04-02
Jennifer Gibbons	Weston-super-Mare, UK	2021-04-02
Rosi Zang	Aschaffenburg, Germany	2021-04-02
Brian Desborough	Harrow, UK	2021-04-02
lisa lowthers	Coldbrook, Canada	2021-04-02
Ronan Lyon	Summerville,NS, Ontario, Canada	2021-04-02
Patrick Kinsman	Dartmouth, Nova Scotia, Canada	2021-04-02
Sinclair Petra	Erlensee, Germany	2021-04-02
Joshua Curphey	Peterborough, UK	2021-04-02

Name	Location	Date
Nicholas Lazarus	London, UK	2021-04-02
Anne-Catherine Lavallee latour	Magog, Quebec, Canada	2021-04-02
marc antony	Ilford, UK	2021-04-02
Elizabeth Smith	New Braunfels, Texas, US	2021-04-02
Nathan Harbers	Wolfville, Nova Scotia, Canada	2021-04-02
Mark Wells	Truro, Canada	2021-04-02
Sarah Macdonald	Windsor, Nova Scotia, Canada	2021-04-02
Sandra Biddiscombe	Dartmouth, Nova Scotia, Canada	2021-04-02
Alan Mumford	Halifax, Nova Scotia, Canada	2021-04-02
Виктория Логинова	Russia	2021-04-02
Olivia Murphy	Dartmouth, Nova Scotia, Canada	2021-04-02
Alastair Smith	Dartmouth, Nova Scotia, Canada	2021-04-02
Linda Guthro	Sheet Harbour, Nova Scotia, Canada	2021-04-02
Krista Duncan	Kentville, Nova Scotia, Canada	2021-04-02
Keanan Dostie	Welland, Canada	2021-04-02
maria collins	Montréal, Canada	2021-04-02
Rolf Mense	Puerto Lumbreras, Spain	2021-04-02
Belynda Gray	Upper Musquodoboit, Canada	2021-04-02
Maren Bradley	Ottawa, Canada	2021-04-02
Wendy Stone	Woodford, UK	2021-04-02
James Harvey	Windsor, Nova Scotia, Canada	2021-04-02
Garrett Horne	Dartmouth, Nova Scotia, Canada	2021-04-02

Name	Location	Date
Мария Степанова	Saint Petersburg, Russia	2021-04-02
Sarah Sabean	Falmouth, Nova Scotia, Canada	2021-04-02
Tanya Brown	Bedford, Nova Scotia, Canada	2021-04-02
Frankie Ladouceur	Halifax, Nova Scotia, Canada	2021-04-02
Nancy Hines	Halifax, Nova Scotia, Canada	2021-04-02
Paul Jackson	Croydon, UK	2021-04-02
Lucy MacArthur	Sherborne, UK	2021-04-02
Raimee Avery-Pick	Falmouth, Prince Edward Island, Canada	2021-04-02
Rose Burns	Enfield, Canada	2021-04-02
Kimberley Host	Eindhoven, Netherlands	2021-04-02
Martin Nicholson	Burton, UK	2021-04-02
Shannon MacLeod	Falmouth, Nova Scotia, Canada	2021-04-02
Stephanie Lewis	Brighton, UK	2021-04-02
Shannon Myles	Trois-Rivières, Canada	2021-04-02
Noralf Mork	Dereham, UK	2021-04-02
Hunter Brown	Halifax, Canada	2021-04-02
Katrina Stork	Pointe-claire, Quebec, Canada	2021-04-02
Soma Gurung	Lincoln, UK	2021-04-02
Bryan Kitchen	Bury, UK	2021-04-02
Chad Dorey	Halifax, Nova Scotia, Canada	2021-04-02
Alex Brodbeck	Pointe-claire, Quebec, Canada	2021-04-02
Steve Sheehy	Windsor ns, Nova Scotia, Canada	2021-04-02

Name	Location	Date
roccp leblanc	Dartmouth, Nova Scotia, Canada	2021-04-02
Brandi Kehoe	Beaver Bank, Nova Scotia, Canada	2021-04-02
Ken Killingbeck	Liverpool, UK	2021-04-02
Tina Swinamer	Dartmouth, Canada	2021-04-02
les candal	Kewstoke, England, UK	2021-04-02
Krista Bennett	Halifax, Nova Scotia, Canada	2021-04-02
Mark Anderson	Dartmouth, Nova Scotia, Canada	2021-04-02
Tylor Waterman	Stittsville, Ontario, Canada	2021-04-02
Paul Milligan	Berwick, Nova Scotia, Canada	2021-04-02
John Repsch	london, UK	2021-04-02
Marilyn Roberts	Walton, Canada	2021-04-02
Saronn Pov	Halifax, Nova Scotia, Canada	2021-04-02
Steve Richard	Porters Lake, Nova Scotia, Canada	2021-04-02
Vanessa Campbell	Dartmouth, Nova Scotia, Canada	2021-04-02
Diane Kehoe	Halifax, Nova Scotia, Canada	2021-04-02
Dave Morrison	Lantz, Nova Scotia, Canada	2021-04-02
Tony Gallant	Windsor, Nova Scotia, Canada	2021-04-02
Aleah Lane	Dartmouth, Nova Scotia, Canada	2021-04-02
Ben Tardioli	Ottawa, Ontario, Canada	2021-04-02
April Huntley	Union Corner, Nova Scotia, Canada	2021-04-02
Rowan Gray	Dartmouth, Canada	2021-04-02
Marilyn Graziano	Bedlington, Germany	2021-04-02

Name	Location	Date
Olivia Stephen	Halifax, Nova Scotia, Canada	2021-04-02
Sophie Parker	Halifax, Canada	2021-04-02
Emma Miller	Halifax, Canada	2021-04-02
Chris Hood	Windsor Forks, Canada	2021-04-02
Grace Hartlen	Dartmouth, Canada	2021-04-02
Emily Lafleur	Antigonish, Nova Scotia, Canada	2021-04-02
Paul Overton	Camberley, UK	2021-04-02
Chris Milden	London, UK	2021-04-02
Marie Rousseau	Halifax, Nova Scotia, Canada	2021-04-02
Lily Hopper	Stillwater lake, Nova Scotia, Canada	2021-04-02
Liana Myles	Upington (South Africa), American Samoa, US	2021-04-02
Hanneke Mol	Poortvliet, Nebraska, US	2021-04-02
Micheal Held	UK	2021-04-02
Claire nottegar	Dartmouth, Canada	2021-04-02
natayla perry	Wolfville, Canada	2021-04-02
jo mawby-baker	Alvingham, UK	2021-04-02
Susan Powers	Mill Hill, London, UK	2021-04-02
Charlotte Reid	Chippenham, UK	2021-04-02
Karen Billings	Stoke-on-trent, UK	2021-04-02
Treena Bertaux	Dartmouth, Nova Scotia, Canada	2021-04-02
PETER Lavender	Liverpool, Nova Scotia, Canada	2021-04-02

Name	Location	Date
Morgan Wren	Dartmouth, Canada	2021-04-02
Mike Fleet	Lower Sackville, Canada	2021-04-02
Shaelynn Duplisea	Halifax, Canada	2021-04-02
Paul DeMont	Halifax, Nova Scotia, Canada	2021-04-02
Ned De'Niro	London, UK	2021-04-02
Sebastian Acuna	Windsor NS, Nova Scotia, Canada	2021-04-02
Abigail O'toole	Kentville, Nova Scotia, Canada	2021-04-02
Joanne Lockwood	Scarborough, UK	2021-04-02
Kate Kenner	Guilford, Vermont, US	2021-04-02
Bruce Chiasson	Halifax, Nova Scotia, Canada	2021-04-02
Jenna H	Dartmouth, Nova Scotia, Canada	2021-04-02
Leslie Greeno	Three Mile Plains, Nova Scotia, Canada	2021-04-02
Bre Leopold	Halifax, Canada	2021-04-02
brandi wells	Mount denson, Nova Scotia, Canada	2021-04-02
Judith O’Hara	Windsor, Nova Scotia, Canada	2021-04-02
lin cheong	Toronto, Canada	2021-04-02
Caitlin Yorke	Halifax, Nova Scotia, Canada	2021-04-02
Jason Ward	Halifax, Nova Scotia, Canada	2021-04-02
Mallory MacLeod	Halifax, Nova Scotia, Canada	2021-04-02
Deborah Richardson	Windsor, Nova Scotia, Canada	2021-04-02
J Varcoe	Wentnor, UK	2021-04-02
Alexandra Proudfoot	Halifax, Canada	2021-04-02

Name	Location	Date
Tracy Salter	London, UK	2021-04-02
Maddie Farr	Dartmouth, Canada	2021-04-02
Susan Yeaton	Port Williams, Nova Scotia, Canada	2021-04-02
Josh Smith	Hantsport, Nova Scotia, Canada	2021-04-02
John Welsh	Kettering, UK	2021-04-02
julie paskin	Skegness, UK	2021-04-02
Samantha Hall	Derby, UK	2021-04-02
Denise Elliott	Bristol, UK	2021-04-02
Amber Molen	Andijk, Netherlands	2021-04-02
Autumn Cox	Dartmouth, Canada	2021-04-02
Mitchell Archibald	Halifax, Nova Scotia, Canada	2021-04-02
Judy Rees	Glenalta, Australia	2021-04-02
Jennifer Bowes	Mountsorrel, UK	2021-04-02
Scott Stewart	North Sydney, Nova Scotia, Canada	2021-04-02
Charles Worthington	Halifax, Nova Scotia, Canada	2021-04-02
Cam Hartley	Halifax, Nova Scotia, Canada	2021-04-02
Brandon A	Mound, Minnesota, US	2021-04-02
Raphaël PONCE	Aucamville, France	2021-04-02
Susanne Townsend	Bedford, Canada	2021-04-02
Allie MacEachern	Wolfville, Nova Scotia, Canada	2021-04-02
Charles Banks	Middle East Please, Nova Scotia, Canada	2021-04-02
Cheryl Jeffers	Dartmouth, Nova Scotia, Canada	2021-04-02

Name	Location	Date
Britney Plume	Fall River, Canada	2021-04-02
Jeremy MacDonald	Halifax, Nova Scotia, Canada	2021-04-02
Lynda Boon	Consett, UK	2021-04-02
Ana Gruber	Wolfratshausen, Germany	2021-04-02
Olivia Jean Lansing	Bedford, Canada	2021-04-02
Mia Makhlouf	Halifax, Nova Scotia, Canada	2021-04-02
BEVERLEY MORRIS	leicestershire, UK	2021-04-02
Deborah Felix	Dartmouth, Nova Scotia, Canada	2021-04-02
Marc Cinq-mars	Aurora, Canada	2021-04-02
Corey Lahey	Saint Albans, Australia	2021-04-02
Jessica Horne	Dartmouth, Nova Scotia, Canada	2021-04-02
Allison Robinson	Halifax, Nova Scotia, Canada	2021-04-02
Ella Hanson	Dartmouth, Nova Scotia, Canada	2021-04-02
Andrew Wile	Halifax, Nova Scotia, Canada	2021-04-02
Annah-Bénédicte Mbongo	Pointe-Claire, Canada	2021-04-02
Sam Brown	Halifax, Nova Scotia, Canada	2021-04-02
Anna MacLellan	Halifax, Nova Scotia, Canada	2021-04-02
Kelli Mouat	Dartmouth, Nova Scotia, Canada	2021-04-02
Lily Burt	Havre Boucher, Canada	2021-04-02
Linda Harris	Martock, Nova Scotia, Canada	2021-04-02
Thomas Miller	Dublin, Ireland	2021-04-02
Elke Kloos	Staig, Germany	2021-04-02

Name	Location	Date
Joan Palmer	Greater London, UK	2021-04-02
Duriye isaoglu	London, UK	2021-04-02
Evan Moser	Wolfville, Nova Scotia, Canada	2021-04-02
Patrick Allen	Farnham, UK	2021-04-02
eric hart	Ilkeston, UK	2021-04-02
Mark Skinner	Canada	2021-04-02
Roland Varga	Halifax, Nova Scotia, Canada	2021-04-02
Michael Dill	Windsor, Nova Scotia, Canada	2021-04-02
Lily Baert	Dartmouth, Canada	2021-04-02
John Horsfall	Bristol, UK	2021-04-02
Peter Vacara	Stroud, UK	2021-04-02
Raine Myers	Dartmouth, Nova Scotia, Canada	2021-04-02
Pinkie pie	Miami, Florida, US	2021-04-02
Emma Saunders	Calgary, Alberta, Canada	2021-04-02
Sarah Grant Smith	Fall river, Canada	2021-04-02
Renata Puppin	Milan, Italy	2021-04-02
Laura Mackinnon	Halifax, Nova Scotia, Canada	2021-04-02
Jordan Smith	New Minas, Nova Scotia, Canada	2021-04-02
Madison MacKay	Amherst, Nova Scotia, Canada	2021-04-02
Wout de Koe	Halifax, Nova Scotia, Canada	2021-04-02
Sherry Lerette	Windsor, Nova Scotia, Canada	2021-04-02
JOYCE ALEXANDER	Edinburgh, Scotland, UK	2021-04-02

Name	Location	Date
Robert Bennett	Martock, Canada	2021-04-02
Tammy Holyk	100 Mile, Canada	2021-04-02
ruthy shvalbe	thornhill, Canada	2021-04-02
maya cochrane	Windsor, Canada	2021-04-02
Shelby Cole	Falmouth, Canada	2021-04-02
Pete Rendall	Bristol, UK	2021-04-02
laurence vanham	5310 leuze, Belgium	2021-04-02
Emma MacIntosh	Dartmouth, Nova Scotia, Canada	2021-04-02
ian kennedy	Keith, UK	2021-04-02
Jeff Meaden	New Minas, Nova Scotia, Canada	2021-04-02
Pearl Hackett	Instow, England, UK	2021-04-02
Francine Sandras	Bauvin, France	2021-04-02
Danii F. Paolucci	Perugia, Italy	2021-04-02
Elaine Morehouse	Halifax, Nova Scotia, Canada	2021-04-02
Katelyn Anthony	Kentville, Canada	2021-04-02
Phillip Fogarty	Halifax, Nova Scotia, Canada	2021-04-02
Valerie Smith	Kentville, Nova Scotia, Canada	2021-04-02
Brian Smith	Kentville, Nova Scotia, Canada	2021-04-02
Grace Henderson	Halifax, Canada	2021-04-02
Maryann Staron	Evergreen Park, Illinois, US	2021-04-02
Kevin Hartt	Halifax, Nova Scotia, Canada	2021-04-02
Andréa Branco	Sao Paulo, Brazil	2021-04-02

Name	Location	Date
Rita Allan	Brimington, UK	2021-04-02
Amelia Smith	Hammonds Plains, Nova Scotia, Canada	2021-04-02
Matt Pace	Halifax, Nova Scotia, Canada	2021-04-02
Jacob Lane	Windsor, Nova Scotia, Canada	2021-04-02
finn bootland	Halifax, Nova Scotia, Canada	2021-04-02
Debbie Brent	Columbia, Maryland, US	2021-04-02
Félix Raymond	Sainte-julie, Canada	2021-04-02
lorraine draper	Solihull, UK	2021-04-02
Jacklyn Sexton	Falmouth, Canada	2021-04-02
Frank Reinhardt	Goffs, Nova Scotia, Canada	2021-04-02
Georgia Wallace	Halifax, Nova Scotia, Canada	2021-04-02
stan nicolette	Bucharest, Romania	2021-04-02
Kyle Chandler	Falmouth, Canada	2021-04-02
Samuel Smith	Sarnia, Canada	2021-04-02
William Miller	Halifax, Canada	2021-04-02
Wilma V Brandwijk	Vlaardingen, Netherlands	2021-04-02
Jacob Murray	Dartmouth, Nova Scotia, Canada	2021-04-02
Bella Kools	Ridderkerk, Netherlands	2021-04-02
Julie Marks	Dartmouth, Nova Scotia, Canada	2021-04-02
Siegrid Roedel	Germany	2021-04-02
Taylor Broddy	Yellowknife, Alberta, Canada	2021-04-02
Ray Glenen	Lower Sackville, Nova Scotia, Canada	2021-04-02

Name	Location	Date
James Phelps	St. Louis, Missouri, US	2021-04-02
Jessica Hogg	Dartmouth, Nova Scotia, Canada	2021-04-02
Karen Judge	Wateringbury, UK	2021-04-02
Jeff Keizer	Dartmouth, Canada	2021-04-02
Brigitte Hermanns	Düsseldorf, Germany	2021-04-02
Sarsh Clattenburg	Halifax, Nova Scotia, Canada	2021-04-02
Gabi Thibault	Halifax, Canada	2021-04-02
Shelley Best	Halifax, Nova Scotia, Canada	2021-04-02
Nita Nathaniel	Northolt, UK	2021-04-02
Nils Almquist	Aberdeen, UK	2021-04-02
PETER STREET	Neston, UK	2021-04-02
Jeremy Mock	Dartmouth, Ontario, Canada	2021-04-02
Sandra Snelders	Lowell, Massachusetts, US	2021-04-02
Edie Schroeder	Dartmouth, Nova Scotia, Canada	2021-04-02
Heather Mitchell	Dartmouth, Nova Scotia, Canada	2021-04-02
Alan Davidson	Halifax, Nova Scotia, Canada	2021-04-02
Darby Sheehy	shubenacadie, Canada	2021-04-02
Amanda Gannon	Mount uniacke, Quebec, Canada	2021-04-02
Mikella McNulty	Dartmouth, Nova Scotia, Canada	2021-04-02
sue sch.	Florida, Florida, US	2021-04-02
Caroline Teale	Chiswick, UK	2021-04-02
Elizabeth Leahy	Dartmouth, Nova Scotia, Canada	2021-04-02

Name	Location	Date
Kiara Peppar	Bedford, Canada	2021-04-02
Shayna Sanford	Windsor, Nova Scotia, Canada	2021-04-02
James Boylan	Windsor Forks, Nova Scotia, Canada	2021-04-02
Erin Meagher	Halifax, Nova Scotia, Canada	2021-04-02
Lesa Macdonald	Winds, Nova Scotia, Canada	2021-04-02
Meredith Innes	Caledonia, Ontario, Canada	2021-04-02
Tara Ash	Dartmouth, Nova Scotia, Canada	2021-04-02
Elisabeth Bechmann	Polten, Austria	2021-04-02
Alain Neven	Seraing, Belgium	2021-04-02
Frankie B. Wylde	Newmarket, Canada	2021-04-02
Lynn Burgess	Dartmouth, Canada	2021-04-02
Michelle Meagher	Montréal, Quebec, Canada	2021-04-02
Ben Fisher	Halifax, Nova Scotia, Canada	2021-04-02
Frédéric Jaubert	Pont de Chéruy, France	2021-04-02
Kathryn Ryan	Aurora, Canada	2021-04-02
Cathy Boyle Boyle	Halifax, Nova Scotia, Canada	2021-04-02
Susan Macleod	Oshawa, Ontario, Canada	2021-04-02
John Roberts	Birmingham, England, UK	2021-04-02
Rebecca Archibald	Canada	2021-04-02
Henry Galliott	Halifax, Nova Scotia, Canada	2021-04-02
Martin Gem	Wallington, UK	2021-04-02
Mairin Sullivan	Halifax, Canada	2021-04-02

Name	Location	Date
Danielle Forbes	Halifax, Nova Scotia, Canada	2021-04-02
paul smith	Hove, UK	2021-04-02
Chris Smith	Hantsport, Nova Scotia, Canada	2021-04-02
Murray Jones	Cambridge, Canada	2021-04-02
Lisa Salazar	Shasta Lake, California, US	2021-04-02
Mark Candow	Halifax, Nova Scotia, Canada	2021-04-02
Brett Pickrill	North Saanich, British Columbia, Canada	2021-04-02
David Southwood	Winterbourne Dauntsey, UK	2021-04-02
Tammy Jones	Halifax, Nova Scotia, Canada	2021-04-02
Craig MacDuff	Upper Sackville, Nova Scotia, Canada	2021-04-02
Lainey Bussey	Truro, Canada	2021-04-02
Savannah Rahey	Bridgewater, Nova Scotia, Canada	2021-04-02
Kelly Clark	Sarnia, Ontario, Canada	2021-04-02
Nicole Roussou	Piraeus, Greece	2021-04-02
Miss claudia Miller	Plymouth, UK	2021-04-02
Jennifer Giesbrecht	Windsor, Nova Scotia, Canada	2021-04-02
Lori Fougere	Vaughan, Canada	2021-04-02
Christena Smith	Windsor, Nova Scotia, Canada	2021-04-02
Joe Bonvie	Lower Scakville, Nova Scotia, Canada	2021-04-02
Juliette Gunn	Dartmouth, Nova Scotia, Canada	2021-04-02
Hunter Dwyer	Halifax, Nova Scotia, Canada	2021-04-02
maggie stead	UK	2021-04-02

Name	Location	Date
Jacqueline Moore	Dartmouth, Nova Scotia, Canada	2021-04-02
Owen Landry	Halifax, Nova Scotia, Canada	2021-04-02
Renee Cormier	Martock, Nova Scotia, Canada	2021-04-02
Brian Simms	Martock, Quebec, Canada	2021-04-02
Avery Johnson	Moose Jaw, Canada	2021-04-02
Roxanne Reid	Bragg Creek, Canada	2021-04-02
Faith Braine	Halifax, Nova Scotia, Canada	2021-04-02
Maisie Chen	Halifax, Canada	2021-04-02
Robie Scott	Saint Croix, Canada	2021-04-02
Shane Ewing	Kingston, Nova Scotia, Canada	2021-04-02
Jordan Spence	Windsor, Canada	2021-04-02
Diane Lalonde	North Lancaster, Canada	2021-04-02
Michele LaPorte	Niles, Illinois, US	2021-04-02
Ben Hull	Warrington, UK	2021-04-02
Dany Viney	Dartmouth, Canada	2021-04-02
Nan Newall	BrightsGrove, Canada	2021-04-02
Jeff Seaward	East chezzetcook, Nova Scotia, Canada	2021-04-02
L Saunders	Masterton, New Zealand	2021-04-02
Caitria Sommer	Halifax, Nova Scotia, Canada	2021-04-02
armer teufel reger	Nürnberg, Germany	2021-04-02
Brandon Kehoe	Wentworth Creek, Nova Scotia, Canada	2021-04-02
Sarah Dunham	Windsor, Nova Scotia, Canada	2021-04-03

Name	Location	Date
Garnet Harvey	Brooklyn, Nova Scotia, Canada	2021-04-03
Vance Swinamer	Kentville, Canada	2021-04-03
Elliot Shupe	Halifax, Nova Scotia, Canada	2021-04-03
Andrew Gardiner	Halifax, Nova Scotia, Canada	2021-04-03
Akayla Gardiner	Halifax, Nova Scotia, Canada	2021-04-03
Bethany Walsh	Dartmouth, British Columbia, Canada	2021-04-03
Shelly Stephen	Halifax, Nova Scotia, Canada	2021-04-03
Victoria Kenneally	New minas, Nova Scotia, Canada	2021-04-03
Jim Mailman	Three Mile Plains, Nova Scotia, Canada	2021-04-03
Eli Macmillan	Halifax, Nova Scotia, Canada	2021-04-03
steven frizzell	gypsum mines, Canada	2021-04-03
Ava Ross	Kentville, Nova Scotia, Canada	2021-04-03
Craig MacPherson	Falmouth, Nova Scotia, Canada	2021-04-03
Andrew Maggio	Dartmouth, Nova Scotia, Canada	2021-04-03
Jean Chagnon	Montréal, US	2021-04-03
Scott Robinson	Hammonds Plains, Nova Scotia, Canada	2021-04-03
Cindy Danielsson	Sheffield, UK	2021-04-03
Brendon Crossman	Windsor, Quebec, Canada	2021-04-03
rach imlay	Halifax, Nova Scotia, Canada	2021-04-03
Jason Ripley	New Minas, Ontario, Canada	2021-04-03
Stephanie Cuellar	New York, New York, US	2021-04-03
Elanya Uhlman	Falmouth, Ontario, Canada	2021-04-03

Name	Location	Date
Stephen Simpson	Micklefield, UK	2021-04-03
Gregory Macumber	Windsor, Nova Scotia, Canada	2021-04-03
Virginia Lee	Palm Beach Gardens & Lower Canard, NS, Florida, US	2021-04-03
Jenny Johnson	Falmouth, Nova Scotia, Canada	2021-04-03
A C	Middle Sackville, Canada	2021-04-03
maddy fitzgerald	Evanston, Nova Scotia, Canada	2021-04-03
Marion Schiffers	Brussels, Belgium	2021-04-03
Katherine Coutts	Halifax, Nova Scotia, Canada	2021-04-03
Sophie Zhang	Thornhill, Canada	2021-04-03
carrie burgess	Centre Burlington, Nova Scotia, Canada	2021-04-03
Kate Sullivan	Toronto, Canada	2021-04-03
Nikko Vichert	Canada	2021-04-03
Sylvia Sylliboy	Gays River, Nova Scotia, Canada	2021-04-03
Inge Stadler	Hilpoltstein, Germany	2021-04-03
Partha Chatterjee	Burdwan, India	2021-04-03
Mariette Van veen	Hilversum, Netherlands	2021-04-03
Mary Lagarde	Goudswaard, Netherlands	2021-04-03
Debbie Stitchman	Lower Sackville, Canada	2021-04-03
Carley Favell	Calgary, Canada	2021-04-03
Helen Chrysanthou	Walthamstow, UK	2021-04-03
marion weston	Leuchars, UK	2021-04-03

Name	Location	Date
Elizabeth Chaddock	Vaudreuil-dorion, Quebec, Canada	2021-04-03
Sigrid Spichal	Hamm, Germany	2021-04-03
Theresa Rodway	Bournemouth, UK	2021-04-03
Denise Anderson	Bexley, UK	2021-04-03
Dawn goyette	Benfleet, UK	2021-04-03
Christopher Collins	Teignmouth, UK	2021-04-03
Christina White	Bexhill-on-Sea, UK	2021-04-03
Mjke Fisher	Halifax, Nova Scotia, Canada	2021-04-03
Keith Coffill-Martock Marsh Body Board	Martock, Nova Scotia, Canada	2021-04-03
Sylvia Breuer	Canby, Minnesota, US	2021-04-03
Chloe Caraon	Windsor, Canada	2021-04-03
mike boutilier	Halifax, Canada	2021-04-03
Tamara Cabot	Vaughan, Nova Scotia, Canada	2021-04-03
Trinity Boudreau	Dartmouth, Nova Scotia, Canada	2021-04-03
Kay Hawkins	Rothwell, UK	2021-04-03
Maureen Dill	Windsor, Nova Scotia, Canada	2021-04-03
Cindy Ettinger	Halifax, Nova Scotia, Canada	2021-04-03
Paul Linfield	Kirkby in Ashfield, England, UK	2021-04-03
Zachary Dickson	Wolfville, Nova Scotia, Canada	2021-04-03
Pamela Bussey Hinam	Dartmouth, Nova Scotia, Canada	2021-04-03
Andrew Smiley	Halifax, Nova Scotia, Canada	2021-04-03

Name	Location	Date
Alicia Moses	Berwick, Canada	2021-04-03
Dawn Beckley	Gosport, UK	2021-04-03
Jen Whalen	Falmouth, Nova Scotia, Canada	2021-04-03
Peter Merritt	Lower Sackville, Nova Scotia, Canada	2021-04-03
Jesse Beaumont	Coventry, UK	2021-04-03
Judy Swinamer	Ellershouse, Canada	2021-04-03
Karin Zimmermann	Hersbruck, Germany	2021-04-03
jayasuriya premalal	4101 Feldkirchen An Der Donau, American Samoa, US	2021-04-03
Veronica Prince	Grays, UK	2021-04-03
Denise Pero	Enfield, Nova Scotia, Canada	2021-04-03
Seamus Dempster	Dartmouth, Nova Scotia, Canada	2021-04-03
Jean cunningham	Colne, England, UK	2021-04-03
Susan Cheetham	Oldham, UK	2021-04-03
Vanessa Thompson	Dartmouth, Canada	2021-04-03
Kayden Patterson	Halifax, Nova Scotia, Canada	2021-04-03
Sophie Lyle	Mayfield, UK	2021-04-03
Angela Clark	Lower Sackville, Canada	2021-04-03
Rianne Mcilwraith	Mississauga, Canada	2021-04-03
Joel Hogan	Wolfville, Nova Scotia, Canada	2021-04-03
Robert Walsh	Halifax, Canada	2021-04-03
David Sawler	Sydney, Nova Scotia, Canada	2021-04-03

Name	Location	Date
Jenay Messing	Halifax, Nova Scotia, Canada	2021-04-03
Jaykumar Panchal	Godhra, India	2021-04-03
Daniel Crowell	Calgary, Canada	2021-04-03
Everdina Fiebrandt	Netherlands	2021-04-03
Michael Sweet	Lower Sackville, Nova Scotia, Canada	2021-04-03
Jeff Bell	Luton, UK	2021-04-03
Judy Clemo	Hammonds’s Pains, Nova Scotia, Canada	2021-04-03
Kieran Brost	Dartmouth, Nova Scotia, Canada	2021-04-03
James Church	Newtown, Canada	2021-04-03
Alison Long	Amesbury, UK	2021-04-03
George O'Reilly	Dartmouth, Canada	2021-04-03
Maya Foster Thompson	Dartmouth, Canada	2021-04-03
Kira Wigg	Dartmouth, Nova Scotia, Canada	2021-04-03
Leah Cudmore	Halifax, Nova Scotia, Canada	2021-04-03
Susan Horrill	Grays, UK	2021-04-03
Roger Surette	Dartmouth, Nova Scotia, Canada	2021-04-03
Richard Smith	Windsor NS, Nova Scotia, Canada	2021-04-03
Bill Garland	Bedford, NS, Canada	2021-04-03
Jo-Anna Fraser	Dartmouth, Nova Scotia, Canada	2021-04-03
Alina Luo	Toronto, Canada	2021-04-03
alicia boutilier	hants borde, Canada	2021-04-03
Ann Langton	Oxford, UK	2021-04-03

Name	Location	Date
Garry Hart	Montréal, Quebec, Canada	2021-04-03
Donna Slauenwhite	Kentville, Nova Scotia, Canada	2021-04-03
Cynthia Turcotte	Halifax, Nova Scotia, Canada	2021-04-03
Pat Slaunwhite	Newport Corner, Nova Scotia, Canada	2021-04-03
Judith Arthur	Dartmouth, Canada	2021-04-03
cristiana de laurentis	Italy	2021-04-03
Karen Charlton	Halifax, Nova Scotia, Canada	2021-04-03
Charles Greaves	Windsor, Nova Scotia, Canada	2021-04-03
Joan Ramnauth	Markham On, Canada	2021-04-03
Noela Nallbani	Toronto, Canada	2021-04-03
Pansy Miller	London, Canada	2021-04-03
Ivy Mortensen	Canada	2021-04-03
Jessica Rodgers	Waterloo, Canada	2021-04-03
Bonnie Ferguson	Falmouth, Nova Scotia, Canada	2021-04-03
Babbi Gill	Abbotsford, Canada	2021-04-03
Sue Cochrane	Burlington, Canada	2021-04-03
Evan McGrath	Dartmouth, Canada	2021-04-03
john bjerg	Seaforth, Canada	2021-04-03
Victor Olmos	Edmonton, Canada	2021-04-03
Sydney Coyle	Toronto, Canada	2021-04-03
Suki McVeety	Mississauga, Canada	2021-04-03
Farhana Ahmed	Calgary, Canada	2021-04-03

Name	Location	Date
Patricia Jenkins	Chelmsford, UK	2021-04-03
Jenna Murphy	Dartmouth, Canada	2021-04-03
Jill Curry-Randall	Falmouth, Nova Scotia, Canada	2021-04-03
timi wood	Ottawa, Canada	2021-04-03
Xiane Ringor	Regina, Canada	2021-04-03
Hannah Lynch	Trenton, Canada	2021-04-03
laetitia faivre-duboz	Varangéville, France	2021-04-03
Kevin Belyea	North York, Canada	2021-04-03
Rylee Reed	Whitehorse, Canada	2021-04-03
Alain Desilets	Beaconsfield, Canada	2021-04-03
H Ahmadian	Toronto, Canada	2021-04-03
Gordy Achneepineskum	Massey, Canada	2021-04-03
Allan Crockett	Stellarton, NS, Canada	2021-04-03
Lana Shay	Hantsport, Nova Scotia, Canada	2021-04-03
Hsiuhua Yu	Vancouver, Canada	2021-04-03
Margie Macdonald	Halifax, Nova Scotia, Canada	2021-04-03
Stephen McCrory	Hamilton, Canada	2021-04-03
Barb Macuch	Saint Albert, Canada	2021-04-03
Scott Morton	Keswick, ON, Canada	2021-04-03
Saima Momin	Coquitlam, Canada	2021-04-03
Barb Cowell	Nanaimo, Canada	2021-04-03
Rashmi Rathod	Brampton, Canada	2021-04-03

Name	Location	Date
lise brooks	Gatineau, Canada	2021-04-03
Anna Wong	Richmond, Canada	2021-04-03
Avery Sluik	Grande Prairie, Canada	2021-04-03
Al Hart	Brampton, Canada	2021-04-03
Lovina Huang	Toronto, Canada	2021-04-03
Danielle Meagher	Pincourt, Quebec, Canada	2021-04-03
Mary Evans	Halifax, Canada	2021-04-04
Bill Thumm	Gibsons, Canada	2021-04-04
Ann-Marie Cochrane	Windsor, Nova Scotia, Canada	2021-04-04
madison speiran	Brantford, Canada	2021-04-04
Shon Lavand	Toronto, Canada	2021-04-04
Margi Barsamian	Edmonds, US	2021-04-04
Michell D Spittal	Surrey, Canada	2021-04-04
Blanche Hendy	Windsor, Nova Scotia, Canada	2021-04-04
Randy Hunter	Scarborough, Canada	2021-04-04
Fiona Finley	Abbotsford, Canada	2021-04-04
Steve Hart	Windsor, Nova Scotia, Canada	2021-04-04
damian valente	Oakville, Canada	2021-04-04
Barb Dalton	Brentwoodbay, Canada	2021-04-04
Cory Clarke	Montréal, Canada	2021-04-04
Rustam Moloo	North Vancouver, Canada	2021-04-04
Debbie Mahoney	Halifax, Nova Scotia, Canada	2021-04-04

Name	Location	Date
Alex Erith Ellwood	Halifax, Nova Scotia, Canada	2021-04-04
Tim McNutt	Falmouth, Canada	2021-04-04
Ifeoma Onwumelu	Calgary, Canada	2021-04-04
Veraine Tinkham	Yarmouth, Nova Scotia, Canada	2021-04-04
David Mackay	Nanaimo, Canada	2021-04-04
Debbie McNutt	Falmouth, Canada	2021-04-04
Julie Grainge	Darlington, UK	2021-04-04
chyanne fode	Medicine Hat, Canada	2021-04-04
Mark Poelzer	Spruce Grove, Canada	2021-04-04
Leonardo Zúñiga Morales	Edmonton, Canada	2021-04-04
Betty Chak	Toronto, Canada	2021-04-04
Marcel Andranis	Scarborough, Canada	2021-04-04
Murtaza Zaidi	Mississauga, Canada	2021-04-04
amber lynn purchase	Corner Brook, Canada	2021-04-04
Widdifield Widdifield	Orangeville, Canada	2021-04-04
Gilles Turenne	ALTONA - MANITOBA, Canada	2021-04-04
Mirella roccatani	Maple, Canada	2021-04-04
J Vez	Ottawa, Canada	2021-04-04
Adelle Rulli	Windham Centre, Canada	2021-04-04
Nathan Amar	Saint Catharines, Canada	2021-04-04
Devin DeCaluwe	Thornhill, Canada	2021-04-04
Mehdi Torkashvand	Montréal, Canada	2021-04-04

Name	Location	Date
Gwen Irv	London, Canada	2021-04-04
Lauranne Kitchekeesik	Thompson, Canada	2021-04-04
Jaiquin Todd	Canada	2021-04-04
Roy Fish	Cambridge, Ontario, Canada	2021-04-04
Sue Scott	Brantford, Canada	2021-04-04
Lisa Haker	Trenton, Canada	2021-04-04
Brett Swartzentruber	Stratford, Canada	2021-04-04
Mikaela Levesque	Athabasca, Canada	2021-04-04
Tracy Fairweather	New Westminster, Canada	2021-04-04
Soheila Shahin jouy	Aurora, Canada	2021-04-04
Raegan Menard	Thunder Bay, Canada	2021-04-04
Miranda O’Day	Edmonton, Canada	2021-04-04
Mark Antolini	Vaughan, Canada	2021-04-04
Katie Bednar	Welland, Canada	2021-04-04
Kristi Lawrance	Kitchener, Canada	2021-04-04
yoshino trudie	Ota-ku, Japan	2021-04-04
Janine Vinton	Hastings, Australia	2021-04-04
Andrea Maurice	Taylorsville, Utah, US	2021-04-04
Elizabeth weiss	Surprise, Arizona, US	2021-04-04
Rashan Gannon	Ipswich, UK	2021-04-04
Adam Bush	Bexhill-on-Sea, UK	2021-04-04
Mirjana Neskovich	Perth, Australia	2021-04-04

Name	Location	Date
leanne grant	Bendigo, Australia	2021-04-04
Dipankar Majumdar	Jalpaiguri, India	2021-04-04
Oolive uwu	Christchurch, New Zealand	2021-04-04
金本 裕子	世田谷区, Japan	2021-04-04
Linda Eaton	Canning, Nova Scotia, Canada	2021-04-04
Morgan Low	Louisbourg, Nova Scotia, Canada	2021-04-04
Austin Swinamer	Windsor, Nova Scotia, Canada	2021-04-04
Josh Stanhope	Kentville, Nova Scotia, Canada	2021-04-04
ray prevost	Sudbury, Canada	2021-04-04
Michelle Clarke	Falmouth, Nova Scotia, Canada	2021-04-04
Russell Huntley	Falmouth, Canada	2021-04-04
James Spencer	Shubenacadie NS, Canada	2021-04-04
Kevin Lynch	Halifax, Nova Scotia, Canada	2021-04-04
Moises Hernández	Toronto, Canada	2021-04-04
Emma K	Columbia, US	2021-04-04
Robert Bacon	Falmouth, Nova Scotia, Canada	2021-04-04
Wendy Bacon	Halifax, Nova Scotia, Canada	2021-04-04
Dee Critchlow	Torquay, UK	2021-04-04
SAGE Wiese	Toronto, Canada	2021-04-04
Hamid Varmazyar	Scarborough, Canada	2021-04-04
Shirley Pineno	Mantua, Nova Scotia, Canada	2021-04-04
Charles McClare	Espanola, Ontario, Canada	2021-04-04

Name	Location	Date
Stacey Buchanan	Falmouth, Ontario, Canada	2021-04-04
ian benedict	Belmont, Nova Scotia, Canada	2021-04-04
Irina Salauyeva	Athens, Greece	2021-04-04
Lloyd Benedict	Newport, Ontario, Canada	2021-04-04
Allie McCulloch	Hants, Nova Scotia, Canada	2021-04-04
David McLeod	Lockhartville NS, Nova Scotia, Canada	2021-04-04
lorie dickie	Kentville, Nova Scotia, Canada	2021-04-04
Doug Bastow	Tatamagouche, Canada	2021-04-04
Kyler Dingle	Halifax, Nova Scotia, Canada	2021-04-04
cailyn nemis	Halifax, Nova Scotia, Canada	2021-04-04
jen Macpherson	Mactaquac, Canada	2021-04-04
Steven Ruffhead	London, UK	2021-04-04
Ngan Cao	Ottawa, Canada	2021-04-04
Shelley Van Alstyne	Edmonton, Alberta, Canada	2021-04-04
Eileen Oneill	Lower Sackville, Canada	2021-04-04
James Armstrong	Windsor, Canada	2021-04-04
Daniel S	Canada	2021-04-04
Evan Fleming	Halifax, Nova Scotia, Canada	2021-04-04
Evan Pettipas	Halifax, Nova Scotia, Canada	2021-04-04
Zach MacDougall	Edmonton, Alberta, Canada	2021-04-04
Devin Harnish	Nova Scotia, Quebec, Canada	2021-04-04
Ellen Emslie	Beaver Bank, Nova Scotia, Canada	2021-04-04

Name	Location	Date
Rachel MacDonald	Port Morien, Nova Scotia, Canada	2021-04-04
Dawn Whyte	Milford, Nova Scotia, Canada	2021-04-04
Graham Hendren	Peterborough, Canada	2021-04-04
Vicky Orlowski	London, Canada	2021-04-04
Jack MacMillan	Fall River, Nova Scotia, Canada	2021-04-04
Charles White	Bridgewater, Canada	2021-04-04
Ann Dixon	London, UK	2021-04-04
Brooklyn Benight	Elmsdale, Nova Scotia, Canada	2021-04-04
Colby Joyce	Stanley, Nova Scotia, Canada	2021-04-04
Grahame GREEN	Mawdesley, UK	2021-04-04
Kyle Kitchen	Barrie, Canada	2021-04-04
Sandy Macdonald	Halifax, Nova Scotia, Canada	2021-04-04
Brenda Perks	Red Deer, Alberta, Canada	2021-04-04
Dorothy Emmett	Botcheston, UK	2021-04-04
Connie Pollock	Falmouth, Nova Scotia, Canada	2021-04-04
Wes Hammer	Dartmouth, Prince Edward Island, Canada	2021-04-04
Will Hicks	Dieppe, New Brunswick, Canada	2021-04-04
Hailey Levesque	Falmouth, Canada	2021-04-04
Julianne Horne	Cambridge, Canada	2021-04-04
Janet Pratt	Santa Monica, California, US	2021-04-04
Darren Ripley	Brownwood, Texas, US	2021-04-04

Name	Location	Date
Christina Scarfe	Halifax, Canada	2021-04-04
Ian Meagher	Windsor, Quebec, Canada	2021-04-04
Samantha Cooch	Saint Helens, UK	2021-04-04
Jessica Byrne	Windsor, Quebec, Canada	2021-04-04
Cathy Vallis	Princeport, Nova Scotia, Canada	2021-04-04
John Ta	Mississauga, Canada	2021-04-04
Monique Butler	Falmouth, Nova Scotia, Canada	2021-04-04
Joshua Chinn	Halifax, Nova Scotia, Canada	2021-04-04
A.G. Boyle	Calgary, Alberta, Canada	2021-04-04
Afshid Aminzadeh	Richmond Hill, Canada	2021-04-04
Shelley Lebrun	Kingston, Canada	2021-04-04
Cody Garnett	Fort Mcmurray, Alberta, Canada	2021-04-04
Dawn Winter-Gray	Lower Sackville, Nova Scotia, Canada	2021-04-04
Zack kamel	Calgary, Canada	2021-04-04
Wali Siddiqui	Scarborough, Canada	2021-04-04
Annette Agostino	Chilliwack, Canada	2021-04-05
Rebecca finch	Birmingham, UK	2021-04-05
Mary Muir	Stratford, Canada	2021-04-05
Laura Butler	Kentville, Canada	2021-04-05
Leif Kasmer	Nanaimo, Canada	2021-04-05
Gerald Mckee	Halifax, Nova Scotia, Canada	2021-04-05
Kenneth McPheron	Beloit, Wisconsin, US	2021-04-05

Name	Location	Date
David Johnston	Dartmouth, Canada	2021-04-05
Edward Nardone	Grand Rapids, Minnesota, US	2021-04-05
Darren Sims	Toronto, Canada	2021-04-05
Stuart Kingston	Oakville, Canada	2021-04-05
Mckenzie Latham	Victoria, Canada	2021-04-05
Tim Wimbleton	Stony Plain, Canada	2021-04-05
Anitha Ariyathas	Scarborough, Canada	2021-04-05
Deepika Gupta	Toronto, Canada	2021-04-05
Anna Latchford	Edmonton, Canada	2021-04-05
Sunghee Kim	Edmonton, Canada	2021-04-05
Amber Demars	Brampton, Canada	2021-04-05
Justin B	Gatineau, Canada	2021-04-05
Sydney Rittscher	Richmond, Canada	2021-04-05
Kristina Sedic	Zagreb, Croatia	2021-04-05
Jeannine DeAngelis	Chandler, US	2021-04-05
Lauren Cropper	Melton Mowbray, US	2021-04-05
nicole martin	Koblenz, Germany	2021-04-05
Stephanie Graham	Halifax, Canada	2021-04-05
Saiyed Hanif	Wembley, UK	2021-04-05
Amanda Gregory	Chippenham, England, UK	2021-04-05
Veronique Faisy	Paris, France	2021-04-05
Melissa Weir	Falmouth, Nova Scotia, Canada	2021-04-05

Name	Location	Date
Alana Bent	Kentville, Nova Scotia, Canada	2021-04-05
Phil Bacon	Vaughan, Nova Scotia, Canada	2021-04-05
Fegor MAGBEGOR	North York, Canada	2021-04-05
Michael Mahaney	Kentville, Nova Scotia, Canada	2021-04-05
Ahmed Adam	Canada	2021-04-05
Greg Mesheau	Dartmouth, Nova Scotia, Canada	2021-04-05
Mark Sidler	Toronto, Canada	2021-04-05
Diana Fernandez	Canada, Canada	2021-04-05
France Thibault	Ottawa, Canada	2021-04-05
Janice Millett	Dartmouth, Nova Scotia, Canada	2021-04-05
Poonam Guleria	Brampton, Canada	2021-04-05
Grace Chamney	Brantford, Canada	2021-04-05
Donna Britten	Falmouth, Nova Scotia, Canada	2021-04-05
Marion Nelson	Falmouth, Nova Scotia, Canada	2021-04-05
Alexa Weatherwax	Bala Cynwyd, US	2021-04-05
Carolyn Diemert	Kitchener, Canada	2021-04-05
Emily Tyrrell	Windsor, Canada	2021-04-05
Jeanette Calvert	London, UK	2021-04-05
Diane Craig	Lasalle, Canada	2021-04-05
King Jim	Halifax, Nova Scotia, Canada	2021-04-05
Gayle Rippey	Windsor, Canada	2021-04-05
Doris Leung	surrey, Canada	2021-04-05

Name	Location	Date
Salma Akter	Kingston, Canada	2021-04-05
Margaret ann Young	Halifax, Nova Scotia, Canada	2021-04-05
Dianne Jackson	Georgetown, Canada	2021-04-05
Manrup Sandhu	Brampton, Canada	2021-04-05
Harinder Bhogal	Brampton, Canada	2021-04-05
Jotinderpal Singh Virk	Brampton, Canada	2021-04-05
Lisa Diamant	winnipeg, Canada	2021-04-05
Jenny Mitson-Tindall	Canada	2021-04-05
Lee Croft	Canada	2021-04-05
Erik McIntyre	Thornhill, Canada	2021-04-05
Melissa Cuevas	Windsor, Canada	2021-04-05
WILLIS H HEBB	Ottawa, Canada	2021-04-05
Nicole Jordan	Calgary, Canada	2021-04-05
Natalia Jakimtschuk	Mississauga, Canada	2021-04-05
Mark Bosma	Halifax, Nova Scotia, Canada	2021-04-05
Avida Ledo	Mississauga, Canada	2021-04-05
Maureen Oesch	Guelph, Canada	2021-04-05
conrad morose	Brampton, Canada	2021-04-05
Sharon Han	Stoney Creek, Canada	2021-04-05
Breanne Humber	Surrey, Canada	2021-04-05
Josj Gardiner	Oshawa, Canada	2021-04-05
Joey Smith	Ottawa, Canada	2021-04-05

Name	Location	Date
Gareth Wilson	Barrie, Canada	2021-04-05
Sonya Livingston	Kitchener, Canada	2021-04-05
Benjamin Maharaj	London, Canada	2021-04-05
Kaden Hope	Halifax, Nova Scotia, Canada	2021-04-05
Cathie Cameron	Milton, Canada	2021-04-05
Marina Chan	Toronto, Canada	2021-04-05
Bethany Meaker	London, Canada	2021-04-05
Shannen Wolodko	Edmonton, Canada	2021-04-05
roger moore	Surrey, Canada	2021-04-05
Jessica Azzam	Orillia, Canada	2021-04-05
Jonathan stackhouse	Maple Ridge, Canada	2021-04-05
Lorrie Bischoff	Mississauga, Canada	2021-04-05
Yolanda Marin	Toluca, Mexico	2021-04-05
Alexa Camarena	Mississauga, Canada	2021-04-05
Scott Smith	Fall River, Canada	2021-04-05
Derek Hamilton	Cambridge, Canada	2021-04-05
Sarah North	Burlington, Canada	2021-04-05
Lena Mueller	Cambridge, Canada	2021-04-05
Shgufa Roshan	Toronto, Canada	2021-04-05
Alana Walker	Ottawa, Canada	2021-04-05
Julia Tinto	Toronto, Canada	2021-04-05
Alessia Del Medico	Mississauga, Canada	2021-04-05

Name	Location	Date
Susan Tumblin	Fall River, Canada	2021-04-05
Debra Flatts	London, UK	2021-04-05
N Banga	Vancouver, Canada	2021-04-05
Janis Gibbs	Brampton, Canada	2021-04-05
Cheryl Sousa	Burlington, Canada	2021-04-05
Christine Bussue	Pickering, Canada	2021-04-05
Rob Ford	Ottawa, Canada	2021-04-05
Kathy Lawrence	Halifax, Nova Scotia, Canada	2021-04-05
Ingrid Hengemuhle	Toronto, Canada	2021-04-05
Jakub Hyziak	Milton, Canada	2021-04-05
grace dibber	Beaumont, Canada	2021-04-05
Jordan Brown	Saint Thomas, Canada	2021-04-05
Lindsay Bauer	Cannington, Canada	2021-04-05
Rebecca Nadin	Port Perry, Canada	2021-04-05
Riley Tilson	orangeville, Canada	2021-04-05
A CARSON	KINGSTON, Canada	2021-04-05
Nisha Rani	Ajax, Canada	2021-04-05
Basya Gelb	Toronto, Canada	2021-04-05
Argide King	Welland, Canada	2021-04-05
Hiba El-Mokaddam	Montréal, Canada	2021-04-05
Jasmine Romany	Brantford, Canada	2021-04-05
jaiden rafuse	Montréal, Canada	2021-04-05

Name	Location	Date
arthur carey	Wolfville, Canada	2021-04-05
Alex Crocker	Vaughn, Nova Scotia, Canada	2021-04-05
Charlie Dingle	Halifax, Nova Scotia, Canada	2021-04-05
Kristen Wieske	Brantford, Canada	2021-04-05
Nora Agudelo	Calgary, Canada	2021-04-05
Bessie Merenda	Toronto, Canada	2021-04-05
Ramin Sorouri	West Vancouver, Canada	2021-04-05
Cassandra Sandford	Pickering, Canada	2021-04-05
Farid Vaezi	Calgary, Canada	2021-04-05
Claire Gagne	Cambridge, Canada	2021-04-05
Rabbi Kazi	Milton, Canada	2021-04-05
Heidi Müller	Giswil, Switzerland	2021-04-05
Janet Bennett	Liverpool, UK	2021-04-05
Philip Camacho	Calgary, Canada	2021-04-05
Ella Kormish	North Battleford, Canada	2021-04-05
Joanne Reed	London, Canada	2021-04-05
Saara Tota	Toronto, Canada	2021-04-05
Dylan M	Edmonton, Canada	2021-04-05
Samantha Gorun	Winnipeg, Canada	2021-04-05
Gaynor Priestley	Pickering, Canada	2021-04-05
Troy Elzner	Grafton, Canada	2021-04-05
Betty Sanderson	Bobcaygeon, Canada	2021-04-05

Name	Location	Date
Steve Gallagher	Edmonton, Canada	2021-04-05
Mike Gerol	Toronto, Canada	2021-04-05
Edward Soundy	Vancouver, Canada	2021-04-05
Jo-An Richard	Halifax, Nova Scotia, Canada	2021-04-05
Shannon Chatelain	Hamilton, Canada	2021-04-05
Lola Sanmetz	Thornhill, Canada	2021-04-05
larry beausoleil	London, Canada	2021-04-05
Shaun Shahbazi	Oakville, Canada	2021-04-05
Inderpal Saggu	Brampton, Canada	2021-04-05
Lucas Zettel	Shelburne, Canada	2021-04-05
Hassan Abanur	Ottawa, Canada	2021-04-05
Afra Qadri	Burlington, Canada	2021-04-05
Omer MAIMON	Richmond Hill, Canada	2021-04-05
Kendalyn Benedict	Belmont, Nova Scotia, Canada	2021-04-05
Matthew Provost	Atikokan, Canada	2021-04-05
dexing guan	Scarborough, Canada	2021-04-05
Sous Derderian	Scarborough, Canada	2021-04-05
Molly Cameron	Strathroy, Canada	2021-04-05
wally knee	Zurich, Canada	2021-04-05
Joan Dela Cruz	Mississauga, Canada	2021-04-05
Joshua Love	London, Canada	2021-04-05
Mehakbir Singh	Windsor, Canada	2021-04-05

Name	Location	Date
Rosario Simangan	Surrey, BC, Canada	2021-04-05
Gwyn Peacock	Halifax, Nova Scotia, Canada	2021-04-05
Shirley Danne	Mississauga, Canada	2021-04-05
Rebecca Van Campen	Springford, Canada	2021-04-05
Robin Popma	Dartmouth, Nova Scotia, Canada	2021-04-05
Stela Smith	Ottawa, Canada	2021-04-05
Ken Peacock	Halifax, Nova Scotia, Canada	2021-04-05
Julia D'Silva	Toronto, Canada	2021-04-05
Ella Olaj	Ottawa, Canada	2021-04-05
Carter Steer	Cranbrook, Canada	2021-04-05
Fizza Shah	Toronto, Canada	2021-04-05
Adam Brown	Midhurst, Canada	2021-04-05
Akash Balachandran	Keswick, Canada	2021-04-05
Rebecca Dearden	Surrey, Canada	2021-04-05
Danielle Belliveau	Oshawa, Canada	2021-04-05
Katie O'Mara	Mississauga, Canada	2021-04-05
Kelly Cummings	Paris, Canada	2021-04-05
Kathryn Ladano	Kitchener, Canada	2021-04-05
paula spence	Windsor, Canada	2021-04-05
Hanifa S	Mississauga, Canada	2021-04-05
Loreta Walker	Caledon, Ontario, Canada	2021-04-05
Ava T	Winnipeg, Canada	2021-04-05

Name	Location	Date
Harsh G	Brampton, Canada	2021-04-05
Isabelle Giovanelli	Etobicoke, Canada	2021-04-05
Bill Facknie	Lethbridge, Canada	2021-04-05
Marta Tosti	Toronto, Canada	2021-04-05
David Thompson	Jackson’s Point, Canada	2021-04-05
Paige Marshall	Davenport, US	2021-04-05
Benjamin Banks	Strathroy, Canada	2021-04-06
Marco Merten	Toronto, Canada	2021-04-06
ng ng	Toronto, Canada	2021-04-06
carrie west	muncie, Indiana, US	2021-04-06
Olena Kharytonova	Windsor, Nova Scotia, Canada	2021-04-06
Alexey Dudnik	Windsor, Quebec, Canada	2021-04-06
Jon Walsh	Edmonton, Canada	2021-04-06
Mary Dufour	Halifax, Nova Scotia, Canada	2021-04-06
Bryce Stewart	Victoria, Canada	2021-04-06
Kate Olesiuk	Kitchener, Canada	2021-04-06
Marissa Chana	Toronto, Canada	2021-04-06
David Guirand	Laval, Canada	2021-04-06
Kevin Boulanger	Toronto, Canada	2021-04-06
Irina Slutsker	Pointe Claire, Canada	2021-04-06
Vanessa Sarsfield	Canning, Nova Scotia, Canada	2021-04-06
Dimayuga Edwin	Mississauga, Canada	2021-04-06

Name	Location	Date
Christine Fazio	Mississauga, Canada	2021-04-06
Jed Burrows	Ancaster, Canada	2021-04-06
Anthony Canete	Lefroy, Canada	2021-04-06
Lynn Strong	Falmouth, Nova Scotia, Canada	2021-04-06
Kayla Franz	Medicine Hat, Canada	2021-04-06
Scott Mabee	Sydney, Canada	2021-04-06
Kelly Doucette	Tusket, Canada	2021-04-06
Collin Anderson	Ingersoll, Canada	2021-04-06
Gary Stothers	Sarnia, Canada	2021-04-06
Anthony Scrimenti	Guilderland, US	2021-04-06
C. Dufour	Regina, Saskatchewan, Canada	2021-04-06
Janine Stewart	Liverpool, Canada	2021-04-06
Brooklyn Damery	Orangeville, Canada	2021-04-06
Alexandra Biagini	Toronto, Canada	2021-04-06
faith yonemitsu	Uxbridge, Canada	2021-04-06
Simon Kertesz	Markham, Canada	2021-04-06
Bridget Grasby	Worthington, Canada	2021-04-06
Andre Belcourt	Victoria, British Columbia, Canada	2021-04-06
Koby Sabado	Toronto, Canada	2021-04-06
madison demerchant	Markham, Canada	2021-04-06
Jennifer Marsters	Newport Station, Nova Scotia, Canada	2021-04-06
Megan Little	Goderich, Canada	2021-04-06

Name	Location	Date
Elika Mohebbat	Toronto, Canada	2021-04-06
Nadine Supple	Dartmouth, Nova Scotia, Canada	2021-04-06
Karen Koenig	Pickering, Canada	2021-04-06
Shadi Doost	North Vancouver, Canada	2021-04-06
Brittany Neadow	Calgary, Canada	2021-04-06
Shae Wigand	Cambridge, Canada	2021-04-06
Kathy Jennett	Barrie, Canada	2021-04-06
Lavender Crumby	Edmonton, Canada	2021-04-06
Julia Nerb	Brampton, Canada	2021-04-06
Chandler Hart	Vancouver, Canada	2021-04-06
Denise Nava	Etobicoke, Canada	2021-04-06
Emily Simonaitis	Thunder Bay, Canada	2021-04-06
Angela Chen	Toronto, Canada	2021-04-06
Harmony White	Trent river, Canada	2021-04-06
Cayleigh Rutherford	Aurora, Canada	2021-04-06
Maria Baldino	Winnipeg, Canada	2021-04-06
Marin Jorgenson	Nanoose Bay, Canada	2021-04-06
Kally McMurray	Cobourg, Canada	2021-04-06
Brynn Scott	Halifax, Canada	2021-04-06
Ismat Arif	Rawalpindi, Pakistan	2021-04-06
Jessica Coady	Victoria, Canada	2021-04-06
Adele Harries	Whitehorse, Canada	2021-04-06

Name	Location	Date
Thomas Miller	Dublin, Ireland	2021-04-06
sue mi	Mississauga, Canada	2021-04-06
Shahin Jalali	North York, Canada	2021-04-06
stewart Buchanan	Halifax, Canada	2021-04-06
Eunice Gilks	Hampton, UK	2021-04-06
antigone bryant	Chula Vista, US	2021-04-06
Ann Sagelliv	Toronto, Canada	2021-04-06
Jacqueline Strychar	St Catharines, Canada	2021-04-06
Gwen Ochs	Clermont, Florida, US	2021-04-06
Katherine Herrera	Saint-Lambert, Canada	2021-04-06
Weronika Kazmierczak	Milton, Canada	2021-04-06
Dean Brunet	Falmouth, Nova Scotia, Canada	2021-04-06
Eric Surnoskie	Kitchener, Canada	2021-04-06
Amanda Boucher	Tilbury, Canada	2021-04-06
Helena Bartlett	North York, Canada	2021-04-06
Liana Pitel	Mount Brydges, Canada	2021-04-06
Chelsea Wright	Toronto, Canada	2021-04-06
Nathaniel Ladouceur	Windsor, Canada	2021-04-06
Michelle Viau-Bailey	Canada	2021-04-06
Alex Jurgens	Falmouth, Nova Scotia, Canada	2021-04-06
Susan Button	Dorion, Canada	2021-04-06
Cheryle feere	Port Dover, Canada	2021-04-06

Name	Location	Date
Matthew Hinkkanen	Newmarket, Canada	2021-04-06
Liana Gregorev	London, Canada	2021-04-06
Jennifer Hill	Keswick, Canada	2021-04-06
Jen Masters	Trenton, Canada	2021-04-06
Hannah Doforno	Windsor, Canada	2021-04-06
Terry Cornett	West Monroe, Louisiana, US	2021-04-06
Emily Cabral	Innisfil, Canada	2021-04-06
Kathy Surey	Kitchener, Canada	2021-04-06
Tara Lubkey	Wawanesa, Canada	2021-04-06
Amanda Lee	Oshawa, Canada	2021-04-06
Mikk Edur	Cambridge, Canada	2021-04-06
Kristin Holbrook	Forest, Canada	2021-04-06
Marina NW	Toronto, Canada	2021-04-06
Janine Woodley	Burlington, Canada	2021-04-06
Anna Anderson	Burlington, Canada	2021-04-06
Meaghan Conroy	Mississauga, Canada	2021-04-06
Racheal Hebb	Richmond, Canada	2021-04-06
Andrew Maclean	Halifax, Canada	2021-04-06
JOANN SINGLETON	Cambridge, Canada	2021-04-06
Amanda Carroll	Bell Island, Canada	2021-04-06
Luke S	Waterdown, Canada	2021-04-06
john beard	Prestbury, UK	2021-04-06

Name	Location	Date
Kyle Skinner	Lantz, Canada	2021-04-06
Tasmia Ilias	Toronto, Canada	2021-04-06
Melinda See	Edmonton, Canada	2021-04-06
Kevin Arenburg	Newport, Canada	2021-04-06
Kristen Ryan	Port Hope, Canada	2021-04-06
Heather Ferguson	Vancouver, Canada	2021-04-06
Jill Giggey	Saint John, Canada	2021-04-06
Gord Dyck	vulcan, Canada	2021-04-06
Reuben Hebb	Windsor, Canada	2021-04-06
Jyoshna Govender	Edmonton, Canada	2021-04-06
Mitchell Justus	Burlington, Canada	2021-04-06
Johnny Vrieze	London, Canada	2021-04-06
Ethan Chen	Canada	2021-04-06
fghjk cvbnm	Toronto, Canada	2021-04-06
Patricia Cook-Bergeron	Windsor Forks, Canada	2021-04-06
Destiny Awaits	Toronto, Canada	2021-04-06
Shawn Thomas	Kingsville, Canada	2021-04-06
Jessica Juvet	Toronto, Canada	2021-04-06
Linda Valiquette	Atwood, Canada	2021-04-06
Colton Huber	North Vancouver, Canada	2021-04-06
Danica Grosscurt	Strathroy, Canada	2021-04-06
Charlene McIlroy	Toronto, Canada	2021-04-06

Name	Location	Date
Shannen O'Brien	Keswick, Canada	2021-04-06
june bullied	Toronto, Canada	2021-04-06
Catherine Worrick	Kanata, Canada	2021-04-06
Cecilia Hernandez-Hosaka	Oakville, Canada	2021-04-06
Curtis Fowler	Brantford, Canada	2021-04-06
Tanya Vey	Lethbridge, Canada	2021-04-06
Ashianna Harji	Lethbridge, Canada	2021-04-06
Sophia Kay	Ottawa, Canada	2021-04-06
Gary Hollins	UK	2021-04-06
Lynda Macdonald	Wolfville, Nova Scotia, Canada	2021-04-06
Don Andrea	Middle Sackville, Nova Scotia, Canada	2021-04-06
Karen Prince	Halifax, Nova Scotia, Canada	2021-04-06
David Gorsline	Halifax, Nova Scotia, Canada	2021-04-06
Jamie Stone	Falls Lake, NS, Nova Scotia, Canada	2021-04-06
Jen Thiessen	St. Thomas, Canada	2021-04-06
Diana Klemencic	Bowmanville, Canada	2021-04-06
Arne Dusang	Dartmouth, Canada	2021-04-06
Doug McLellan	Halifax NS, Ontario, Canada	2021-04-06
Eddie Fleet	Windsor, Canada	2021-04-06
Peter Vandelinder	Windsor, Canada	2021-04-06
Glen Strang	Halifax, Nova Scotia, Canada	2021-04-06
Marcie Lane	Bedford, Nova Scotia, Canada	2021-04-06

Name	Location	Date
Morgan Westlin	Warburg, Canada	2021-04-06
Blurrrr Subah	Toronto, Canada	2021-04-06
Natasha Power	London, UK	2021-04-06
Julie Daly	Ottawa, Canada	2021-04-06
K P	Kitchener, Canada	2021-04-06
Edel Vernon	Lichfield, UK	2021-04-06
Gordon Yule	Halifax, Nova Scotia, Canada	2021-04-06
Amy Koolen	Forest, Canada	2021-04-06
Heather Lynch	Halifax, Nova Scotia, Canada	2021-04-06
Robert Chapman	Wellington, Nova Scotia, Canada	2021-04-06
Allan Johnson	Halifax, Nova Scotia, Canada	2021-04-06
Scott Goldman	Toronto, Canada	2021-04-06
V Dewar	Mount Royal, Canada	2021-04-06
Veronica Morris	Windsor, Canada	2021-04-06
Celestine Blanchard	Elliot Lake, Canada	2021-04-06
Cathy Pryde	Kitchener, Canada	2021-04-06
Lynne Townsend	Niagara Falls, Canada	2021-04-06
Nancy Towers	Timmins, Canada	2021-04-06
rachel Qi	Richmond Hill, Canada	2021-04-06
Jennifer Martin	Canada	2021-04-06
olivia jacque	New Hamburg, Canada	2021-04-06
Melanie Winsor	Windsor, Prince Edward Island, Canada	2021-04-06

Name	Location	Date
Conrad Mullins	Vaughan, Canada	2021-04-06
Brian Cheng	Toronto, Canada	2021-04-06
Darren Fulford	Oshawa, Canada	2021-04-06
Carol Dahr	Coleman, Prince Edward Island, Canada	2021-04-06
Xia Gu	Richmond Hill, Canada	2021-04-06
Mike Meade	Halifax, Nova Scotia, Canada	2021-04-06
Sabrina Sarzalejo	Montréal, Canada	2021-04-06
j c	London, UK	2021-04-06
Lewis Sharples	UK	2021-04-06
Aqsa Hussain	Leeds, UK	2021-04-06
Paul Armstrong	Camberley, UK	2021-04-06
Devin Ryan	Port Moody, Canada	2021-04-06
Natasha Mccarthy	Edmonton, Canada	2021-04-06
Dina Marko	Beaumont, Canada	2021-04-06
Veronika Thoma	Whitby, Canada	2021-04-06
gerrie prymak	Winnipeg, Canada	2021-04-06
Charles Dodman	Chester, UK	2021-04-06
Sue Lowe	Huddersfield, UK	2021-04-06
Liz Gleeson	London, Canada	2021-04-06
Darren Wood	Calgary, Canada	2021-04-06
Nikkal Anu	Edmonton, Canada	2021-04-06
Tamm Fenske	Regina, Canada	2021-04-06

Name	Location	Date
Marion Mullins	Vaughan, Nova Scotia, Canada	2021-04-06
Jeff Rooney	Vaughan, Nova Scotia, Canada	2021-04-06
Ellen Zhang	Canada	2021-04-06
. dot	Maple, Canada	2021-04-06
Asiah Goetze	Edmonton, Canada	2021-04-06
Marilyn Bigelow	Bicester, UK	2021-04-06
Tom Derlis	Caesarea, Canada	2021-04-06
Anita Ghazal	Laval, Canada	2021-04-06
Trevor Yungblut	Thorold, Canada	2021-04-06
H T	Toronto, Canada	2021-04-06
Miriam Feehily	Watford, UK	2021-04-06
Karen Simpson	Bradford, Ontario, Canada	2021-04-06
Brooke Kupka	Camrose, Canada	2021-04-06
Adrianne Alexander	Curry’s Cornee, Canada	2021-04-06
Farah Firdousi	Ajax, Canada	2021-04-06
Leona Gibbons	Toronto, Canada	2021-04-06
Donna Howard	Falls Lake, Prince Edward Island, Canada	2021-04-06
monica xin	Victoria, Canada	2021-04-06
Christina Maree	Waterloo, Canada	2021-04-06
Cassandra De La Calleja Moctezuma	Scarborough, Canada	2021-04-06
Ivy M	Richmond Hill, Canada	2021-04-06

Name	Location	Date
Carina Choi	Canada	2021-04-07
Ginny Moore	Aston Clinton, UK	2021-04-07
Jesse Porter	Clinton, Canada	2021-04-07
li zhu	Richmond Hill, Canada	2021-04-07
Lexi Fitzpatrick	Thorold, Canada	2021-04-07
Lenore Black	Markham, Canada	2021-04-07
Bob Petrie	Guelph, Canada	2021-04-07
Francois Leblanc	Calgary, Canada	2021-04-07
Shirley Nicol	Wetaskiwin, Canada	2021-04-07
Jessica Bennetts	Edmonton, Canada	2021-04-07
Ryan B	Merrickville, Canada	2021-04-07
Julia Romualdi	Timmins, Canada	2021-04-07
Jiang Guo	Richmond Hill, Canada	2021-04-07
Leanne Potter	Edmonton, Canada	2021-04-07
Natahne Nelson	Edmonton, Canada	2021-04-07
Kyla Hastings	Bridesville, Canada	2021-04-07
Christian Cole	Belleville, US	2021-04-07
Jessica Lee	Scarborough, Canada	2021-04-07
leo zeng	Richmond Hill, Canada	2021-04-07
Neeti Trivedi	Newmarket, Canada	2021-04-07
Sally Ho	Markham, Canada	2021-04-07
Hope Metszies	Edmonton, Canada	2021-04-07

Name	Location	Date
Jürgen Weigelt	Middle Sackville, Nova Scotia, Canada	2021-04-07
Lisa Violette	London, Canada	2021-04-07
Moony Mahdi	Fort Mcmurray, Canada	2021-04-07
Jamie Nudd	Okotoks, Canada	2021-04-07
Michael Latartara	Woodbridge, Canada	2021-04-07
John Moszyk	St Louis, Missouri, US	2021-04-07
layla costin	Victoria, Canada	2021-04-07
Rebeca Ortega	Edmonton, Canada	2021-04-07
Amelia Baetz	Waterford, Canada	2021-04-07
Melissa Uberig	Jarvis, Canada	2021-04-07
Angela Panozzo	Toronto, Canada	2021-04-07
MD SHARIF MUNTASIR	Lethbridge, Canada	2021-04-07
Kevin Finney	Las Vegas, US	2021-04-07
Omar Sandoval	Desert Hot Springs, US	2021-04-07
Ovani Hernandez	Balch Springs, US	2021-04-07
Michael Walling	Tulsa, US	2021-04-07
Fulya Yurtseven	Oakville, Canada	2021-04-07
Angela Peterson	Ottawa, Canada	2021-04-07
Agnivesh Manoj	Cochin, India	2021-04-07
Donnell Jones	Washington, US	2021-04-07
Joshua Gutierrez	Channelview, US	2021-04-07
Matthew Janik	North Vancouver, Canada	2021-04-07

Name	Location	Date
Katie Gonzalez	Los Angeles, US	2021-04-07
Joel Diaz	Laguna Hills, US	2021-04-07
Muhammad Jan	Calgary, Canada	2021-04-07
Anthony Vasquez	Lodi, US	2021-04-07
Ryan Ovens	Canada	2021-04-07
Sukhmunn Kaur	Brampton, Canada	2021-04-07
Joshua Cifuentes	Germantown, US	2021-04-07
Camryn Meffe	Saint Catharines, Canada	2021-04-07
Serena Eastwood	Brampton, Canada	2021-04-07
John Turner	Chandler, US	2021-04-07
Kartik Sunil	Mumbai, India	2021-04-07
Matthew Andren	Spokane, US	2021-04-07
Desteny Guzman	San Bernardino, US	2021-04-07
I’m bored	Salem, US	2021-04-07
Ricky Valadez	Wilder, US	2021-04-07
Emma Savage	Widnes, UK	2021-04-07
Felipe Montes	Sacramento, US	2021-04-07
Andrew Joubert	Potchefstroom, South Africa	2021-04-07
Osvaldo Alvarez	Toppenish, US	2021-04-07
Courtney Krieger	Edmonton, Canada	2021-04-07
Elizabeth Larson	Kenilworth, UK	2021-04-07
Ema Manova	Langley, Canada	2021-04-07

Name	Location	Date
Richard Hollebon	Weybridge, UK	2021-04-07
Jock Patton	North Bay, Canada	2021-04-07
Brandon Lynch	Sangre Grande, Trinidad & Tobago	2021-04-07
Celine Lang	Edmonton, Canada	2021-04-07
Melek KHEDIRA	Tunisia	2021-04-07
Kevin Burgh	Great Yarmouth, UK	2021-04-07
Christian Lopez	Las Cruces, US	2021-04-07
Jenna Rowe	West Bromwich, UK	2021-04-07
David Orwin	Chesterfield, UK	2021-04-07
Philip Nichols	Bristol, UK	2021-04-07
Ava Wilson	Vienna, US	2021-04-07
Ann Marie Turner	Hamilton, Canada	2021-04-07
Mckayla Heinrich	Medicine Hat, Canada	2021-04-07
Janet Heath	Widnes, UK	2021-04-07
Fred Muskett	Hassingham, UK	2021-04-07
Tony Thorogood	Chelmsford, UK	2021-04-07
stella shackle	Blofield, England, UK	2021-04-07
Shivansh Gulati	Waterloo, Canada	2021-04-07
Gillian Bradley	Sheffield, UK	2021-04-07
Joanne Van Ness	Luton, UK	2021-04-07
Logan Bainbridge	Christchurch, New Zealand	2021-04-07
Robert Mciver	Glasgow Metropolitan Area, UK	2021-04-07

Name	Location	Date
Susan Gillis	Dartmouth, Nova Scotia, Canada	2021-04-07
Oluwatobiloba Ogunbi	Lagos, Nigeria	2021-04-07
Mark Kozak	Calgary, Canada	2021-04-07
Blayah Soria	Lynwood, US	2021-04-07
Mike Zinck	Coleman, Prince Edward Island, Canada	2021-04-07
Stacy Jones	Hamilton, Canada	2021-04-07
Mry Wilkes	Tewkesbury, UK	2021-04-07
Lauren Cronin	Bradford, UK	2021-04-07
Roman Tsitkin	North Port, US	2021-04-07
Monica Stanek	Toronto, Canada	2021-04-07
Adrienne David	Ottawa, Canada	2021-04-07
Oscar Garrido	Spartanburg, US	2021-04-07
Mylene Doucet	Toronto, Canada	2021-04-07
Corey Clavette	Ottawa, Canada	2021-04-07
Lennie Markwick	Sudbury, Canada	2021-04-07
Kevin Cordeiro	Canada	2021-04-07
Michael Hillier	Totnes, UK	2021-04-07
Curtis Bick	Huntsville, Canada	2021-04-07
Mason Bloch	Merrill, US	2021-04-07
Merle Williams	Toronto, Canada	2021-04-07
Haley Grainger	Toronto, Canada	2021-04-07
George Pagan	Bridgeport, US	2021-04-07

Name	Location	Date
Richard Harder	200 loon drive, Nova Scotia, Canada	2021-04-07
Sharon Keeney	Boise, US	2021-04-07
Ryan Kehoe	Borehamwood, UK	2021-04-07
Kyle-Anthony Brown	Kingston, Jamaica	2021-04-07
barry petty	ferndown, UK	2021-04-07
Norma Asencio	London, Canada	2021-04-07
haven salter	Trenton, Canada	2021-04-07
Kayf Neeyamuthkhan	Brampton, Canada	2021-04-07
KATLYN SCHWANTZ	Cambridge, Canada	2021-04-07
Olivia Gustafson	Illinois, US	2021-04-07
Brandon Nieves	Charlotte, US	2021-04-07
Maxim Lo	Calgary, Canada	2021-04-07
kevin lin	Scarborough, Canada	2021-04-07
Richard Champion	Vaughan, Prince Edward Island, Canada	2021-04-07
Chelsea Chamberland	Val Caron, Canada	2021-04-07
Jay MacPhail	Abbotsford, Canada	2021-04-07
Adam Banks	Delmas, sk, Canada	2021-04-07
trav3510 trav3510	Canada	2021-04-07
Kira Vale	Dunoon, UK	2021-04-07
Sarah Lanier	Aiken, US	2021-04-07
Madyson Edwards	St thomas, Canada	2021-04-07
Frances Finn-Latteier	Vancouver, Canada	2021-04-07

Name	Location	Date
Robin Besch	Niagara Falls, Canada	2021-04-07
Vivian Carr	Moncton, Canada	2021-04-07
Justin Q	Canada	2021-04-07
Dawna Teahen	Toronto, Canada	2021-04-07
Maxine Edwards	Welland, Canada	2021-04-07
g gebler	Milwaukee, US	2021-04-07
Nathaniel Travis	Dartmouth, Nova Scotia, Canada	2021-04-07
Natasha G	Toronto, Canada	2021-04-07
Natalee Wise	Pickering, Canada	2021-04-07
Clare Carson	Nanaimo, Canada	2021-04-07
Veronica Rodovinsky	Richmond Hill, Canada	2021-04-07
WeCanDoThis StopAsianHateCrimes	Ottawa, Canada	2021-04-07
Wayne Keyland	Derby, UK	2021-04-07
Tania Stirpe	Toronto, Canada	2021-04-07
Dominick Jefferson	Dedham, US	2021-04-07
Julie Wiebe	Winnipeg, Canada	2021-04-07
Stan Parnell	Burlington, Canada	2021-04-07
Lucas Kulak	Stony plain, Canada	2021-04-07
Stanley Rossiter	Halifax, Nova Scotia, Canada	2021-04-07
Constanza Alvarez	Kitchener, Canada	2021-04-07
Rose Stefanos	Montréal, Canada	2021-04-07

Name	Location	Date
Ritika Oswal	Pune, India	2021-04-07
Trevor Baker	Portsmouth, UK	2021-04-07
Larissa Rieben-Brown	Saskatoon, Canada	2021-04-07
Enicha Medina	Worcester, US	2021-04-07
Quinn Faltain	Pretoria, South Africa	2021-04-07
Jeff Carter	Bothell, US	2021-04-07
Jivin J	Brampton, Canada	2021-04-07
Warlord Warboysmc	Kitchener, Canada	2021-04-07
Stephen Macvey	Courtenay, Canada	2021-04-07
stupid faggot	Toronto, Canada	2021-04-07
Sebastian Staples	Calgary, Canada	2021-04-07
Jack Leacock	Waterloo, Canada	2021-04-07
Laura St John	SSM, Canada	2021-04-07
Lili Daniels	Toronto, Canada	2021-04-07
kylie brock	Ephrata, US	2021-04-07
Alfredo Paramo	East Wenatchee, US	2021-04-07
Cristian Olivares	Salinas, US	2021-04-07
Julie Yun	Northridge, US	2021-04-07
Jose Verdugo	Fresno, US	2021-04-07
barbara dunslow	Toronto, Canada	2021-04-07
Julissa Sanchez	Los Angles, US	2021-04-07
Connie Frith	Keswick, Canada	2021-04-07

Name	Location	Date
Rosanna Bruni	Aosta, Italy	2021-04-07
Janice McLaren	BEAMSVILLE, Canada	2021-04-07
Azeb Abraha	Maple, Canada	2021-04-07
kiarash Akhtar	Calgary, Canada	2021-04-07
Courtney Fisher	Battleford, Canada	2021-04-07
Rayane G	Windsor, Canada	2021-04-07
Susan Maskill	Otley, UK	2021-04-07
Lou Wilson	Alder Flats, Canada	2021-04-07
Alaa Alnaseri	Vaughan, Canada	2021-04-07
Melissa Kitchen	Kamloops, Canada	2021-04-07
Piotr Bielka	Hamilton, Canada	2021-04-07
Mimi Hamilton	Winnipeg, Canada	2021-04-07
Paul Mears	Dartmouth, Nova Scotia, Canada	2021-04-07
Suki Bitch	Toronto, Canada	2021-04-07
Rick Gruber	Lakeshore, Canada	2021-04-07
Rachel Aslam	Toronto, Canada	2021-04-07
Fern Mannarino	Sault Sainte Marie, Canada	2021-04-07
Darrell Davis	Three Mile Plains, Nova Scotia, Canada	2021-04-07
Drake Craig	Burlington, Canada	2021-04-07
Lisa Fairman	Trenton, Canada	2021-04-07
Kurt and Lynne Welbourn	Ancaster, Canada	2021-04-07
sarena knapik	Toronto, Canada	2021-04-07

Name	Location	Date
Emilie falconer	Toronto, Canada	2021-04-07
Carla M	Toronto, Canada	2021-04-07
Idrissa Kamara	Calgary, Canada	2021-04-07
David G	Ashton, Canada	2021-04-07
Jaspreet Singh	Canada	2021-04-07
Cathy Kingsman	Maple Ridge, Canada	2021-04-07
Shayan Chehrazi	Kanata, Canada	2021-04-07
Trisha Iszkula	Hamilton, Canada	2021-04-07
Alexandra Moore	., Canada	2021-04-07
Joanna Calisto	Mississauga, Canada	2021-04-07
Joshua Hodgson	Markham, Canada	2021-04-07
Kellie Smith	Azilda, Canada	2021-04-07
Shelby Rabb	Mississauga, Canada	2021-04-07
Robert morton	Newmarket, Canada	2021-04-07
Aylish K	Doncaster, UK	2021-04-07
Harriet Binkley	toronto, Canada	2021-04-07
Janine Veilleux	London, Canada	2021-04-07
Sadie Fox	Stoke on Trent, UK	2021-04-07
Leanne Boraas	Edmonton, Canada	2021-04-07
Emily Koroneos	Toronto, Canada	2021-04-07
Dave Maycock	Granisle, Canada	2021-04-07
adnan MEHMET	Port Moody, Canada	2021-04-07

Name	Location	Date
John Kobley	CALGARY, Canada	2021-04-07
Alesha Carson	Calgary, Canada	2021-04-07
Ramesh Vishwanathan	Oakville, Canada	2021-04-07
Blair Hearsum	Brampton, Canada	2021-04-07
R Derksen	Surrey, Canada	2021-04-07
Tiffany White	Niagara Falls, Canada	2021-04-07
Julie Popowicz	Stony Plain, Alberta, Canada	2021-04-07
Bruce Cameron	Ottawa, Canada	2021-04-07
Ann Lizotte	Hamilton, Canada	2021-04-07
Louise Zieffle	Calgary, Canada	2021-04-07
Ayah Mohamed	Edmonton, Canada	2021-04-07
Sheri Lemieux	Nobleford, Canada	2021-04-07
Mike labar	Red Deer, Canada	2021-04-07
Trinity MacElwain	Calgary, Canada	2021-04-07
Jordan Brown	Markham, Canada	2021-04-07
Jace Watson	Omaha, US	2021-04-07
Colin Allemeier	Calgary, Canada	2021-04-07
Joshua brown	Toronto, Canada	2021-04-07
Nick ilovski	Whitby, Canada	2021-04-07
Mille Nuen	Peterborough, Canada	2021-04-07
Mikel Paul	Toronto, Canada	2021-04-07
Leanne Levy	Holden, Canada	2021-04-07

Name	Location	Date
Mary Hymers	Moncton, Canada	2021-04-07
Babar Raif	Waterloo, Canada	2021-04-07
Nancy Deswaef	Burlington, Canada	2021-04-07
Austin G.	nowhere, Canada	2021-04-07
Dreanna Da Costa	Ottawa, Canada	2021-04-07
Tatiana Celemin	Edmonton, Canada	2021-04-07
Trevor Fotia	North Vancouver, Canada	2021-04-07
Jessica Manila	Mississauga, Canada	2021-04-07
Tabitha Martin	Olds, Canada	2021-04-07
Sydney Marklinger	Calgary, Canada	2021-04-08
Amanda Herwig	Calgary, Canada	2021-04-08
Pedro Weber-Cruz	Aberdeen, US	2021-04-08
Cassi Klatt	Marion, US	2021-04-08
Lance Friesen	Fairview, Canada	2021-04-08
Rush Lol	no, Canada	2021-04-08
Leann Kennedy	Ottawa, Ontario, Canada	2021-04-08
Chris Foley	Kentville, Nova Scotia, Canada	2021-04-08
makayla weatherilt	Peterborough, Canada	2021-04-08
Jackie Fuga	Edmonton, Canada	2021-04-08
Maggie Facca	Calgary, Canada	2021-04-08
Robert Arbou	Calgary, Alberta, Canada	2021-04-08
marie Keogh	Walsall, UK	2021-04-08

Name	Location	Date
Bob Langdon	Halifax, Nova Scotia, Canada	2021-04-08
Michael Mackenzie	Windsor Nova Scotia, Nova Scotia, Canada	2021-04-08
Jim Johnson	Dartmouth, Nova Scotia, Canada	2021-04-08
Matthew Dunfield	Windsor, Canada	2021-04-08
Chris Evans	Hantsport, British Columbia, Canada	2021-04-08
Selena Ng	Brooklyn, New York, US	2021-04-08
Mike Hancho	Dartmouth, Nova Scotia, Canada	2021-04-08
Ben Best	Canada	2021-04-08
Patrick Lothian	Windsor, Quebec, Canada	2021-04-08
Janina Grage	Germany	2021-04-08
Pam Rustige	New Minas, Nova Scotia, Canada	2021-04-08
Paul Vincent	Mississauga, Canada	2021-04-08
Laura Clemenhagen	Collingwood, Ontario, Canada	2021-04-08
Austin Pigeon	Welland, Canada	2021-04-08
Camp Chikopi	Magnetawan, Canada	2021-04-08
Elizabeth Prevost	Win6, Nova Scotia, Canada	2021-04-08
Ted Roworth	Toronto, British Columbia, Canada	2021-04-08
Adam Oldershaw	Oakville, Ontario, Canada	2021-04-08
Kevin Howard	Mississauga, Canada	2021-04-08
Mercedes Klassen	Lethbridge, Canada	2021-04-08
Reba-Lynn Burgos	Windsor, Canada	2021-04-08

Name	Location	Date
Brenda Arndt	Ridgeway, Ontario, Canada	2021-04-08
Karen Allison	Dartmouth, Canada	2021-04-08
Megan Turner	Telford, UK	2021-04-08
Sabena Kobalakrishnan	Wembley, UK	2021-04-08
Gareth Rickards	Salford, UK	2021-04-08
Alyssia Marques	Innisfil, Canada	2021-04-08
Wendy Baber	South Gloucestershire, UK	2021-04-08
Debra Marrriott-Webster	Neston, UK	2021-04-08
alyssa lindsay	Nuneaton, UK	2021-04-08
Patrick Riess	Canada	2021-04-08
David Kembery	UK	2021-04-08
Val Kerry	Arnold, UK	2021-04-08
shayoni banerjee	Slough, UK	2021-04-08
Celia Boorn	Penzance, UK	2021-04-08
Vanessa Kirkman	Port Talbot, UK	2021-04-08
lee degnan	Glasgow, UK	2021-04-08
Erin Davidson	Paisley, UK	2021-04-08
Danny Heyes	Manchester, UK	2021-04-08
Diane Reid	Edinburgh, UK	2021-04-08
Vincent Hawieson	Altrincham, UK	2021-04-08
Amy Davies	Manselton, UK	2021-04-08
Gill Warren	Dentons Green, UK	2021-04-08

Name	Location	Date
Tabitha Mouner	Surrey, Canada	2021-04-08
R P	Toronto, Canada	2021-04-08
miller fox baron	Edgware, UK	2021-04-08
Michelle Hall-Annison	Redditch, UK	2021-04-08
HELEN Da;Silva	Mississauga, Canada	2021-04-08
stephen Higginson	Belfast, UK	2021-04-08
Helen Savin	Sudbury, Ontario, Canada	2021-04-08
David Darlow	Sault Sainte Marie, Canada	2021-04-08
Carol Taylor	London, UK	2021-04-08
Janette Taylor	Rotherhithe, UK	2021-04-08
Ivy Oakman	Edinburgh, UK	2021-04-08
Charlotte Stoodley-Curtis	Cardiff, UK	2021-04-08
Luc Richard	Currys Corner, Nova Scotia, Canada	2021-04-08
Gilles Cinq-Mars	Aurora, Ontario, Canada	2021-04-08
Olivia Hetherman	Toronto, Canada	2021-04-08
Chad Neufeld	Warman, Canada	2021-04-08
Douglas N.	Newcastle, Canada	2021-04-08
Bruce Loomer	Pasadena Nl, Newfoundland and Labrador, Canada	2021-04-08
Rueben Berg	Toronto, Canada	2021-04-08
Marlena Schnurr	Georgetown, Canada	2021-04-08
Vanessa Onia	Newmarket, Canada	2021-04-08

Name	Location	Date
Betty-Jean MacKay	Falmouth, Nova Scotia, Canada	2021-04-08
Yaelle Brenn	Calgary, Canada	2021-04-08
yvon raoul	Vancouver, Canada	2021-04-08
Edom Tebebe	Brampton, Canada	2021-04-08
Ezra Weatherman	Windsor, Canada	2021-04-08
Paulit Dusilo	Brampton, Canada	2021-04-08
Ray Griffin	Falmouth, Nova Scotia, Canada	2021-04-08
Rebecca Wetherall	Abingdon, UK	2021-04-08
Xiaoling Wang	Markham, Canada	2021-04-08
Radmila Sharma	Plymouth, UK	2021-04-08
Iqra Ahmad	Huddersfield, UK	2021-04-08
Silvia Diaz Flores	Canada	2021-04-08
Isabella Pham	Airdrie, Canada	2021-04-08
Lois Marshall	Paisley, UK	2021-04-08
Mario Rocha	Vancouver, Canada	2021-04-08
Simon Jordan	Slough, UK	2021-04-08
Sreekalyani Gopalakrishnan	Ilford, UK	2021-04-08
Bethany Parkinson-hill	Crawley, UK	2021-04-08
Doran Schiller	Port Moody, Canada	2021-04-08
Daria Belousova	Washington, US	2021-04-08
Randell Davidson	Falmouth, Quebec, Canada	2021-04-08
Chelsea Wilson	Aberdeen, UK	2021-04-08

Name	Location	Date
Sarah O’Connell	Newport, Nova Scotia, Canada	2021-04-08
Felina Arsenault	Fernie, Canada	2021-04-08
Jenny Keirstead	Halifax, Nova Scotia, Canada	2021-04-08
Darrell Fletcher	Windsor, Nova Scotia, Canada	2021-04-08
Molly Bunter	Peterborough, UK	2021-04-08
Grace Rose	Stony Plain, Canada	2021-04-08
Doug Matheson	Wolfville, Nova Scotia, Canada	2021-04-08
Tara Davidson	Halifax, Nova Scotia, Canada	2021-04-08
Deepa Sura	Calgary, Canada	2021-04-08
Tasha D'Arcy	Calgary, Canada	2021-04-08
Larry Pringle	Winnipeg, Canada	2021-04-08
Ricardo Desjardins	Burnaby, Canada	2021-04-08
Margo Poklewska-Koziell	Kingston, Canada	2021-04-08
Lillian Pyszniak	Windsor, Canada	2021-04-08
Christine Lalonde	Toronto, Canada	2021-04-08
mike grzyb	Mississauga, Canada	2021-04-08
Fallyn Biddiscombe	St. John's, Canada	2021-04-08
Andrew Seelal	Scarborough, Canada	2021-04-08
Kristina Holland	Trenton, Canada	2021-04-08
Gracy Shinh	Delta, Canada	2021-04-08
Flavia Perizzolo	Montreal, Canada	2021-04-08
Juliet Hoffman	Vancouver, Canada	2021-04-08

Name	Location	Date
Agnes Mclauchlan	Richmond, Canada	2021-04-08
Troy Patterson	Victoria, Canada	2021-04-08
robert MORE	Roxboro, Canada	2021-04-08
Robin Sharma	Vancouver, Canada	2021-04-08
Kyna Wilson	Richmond Hill, Canada	2021-04-08
Lexi Bowen	Regina, Canada	2021-04-08
Sophia Anastasiou	Burnaby, Canada	2021-04-09
Rebecca Amyotte	Mississauga, Canada	2021-04-09
Jerome Pelletier	Saint-Jean-Port-Joli, Canada	2021-04-09
Yee Juice	Toronto, Canada	2021-04-09
Jo-Ann Marin	Cardinal, Canada	2021-04-09
Joudy Ghata	Mississauga, Canada	2021-04-09
Crystal Lunn	Hantsport, Nova Scotia, Canada	2021-04-09
Paolo Cieri	London, Canada	2021-04-09
Anna Laidler	East Stroudsburg, US	2021-04-09
Marion Crosby	Ellershouse, nova Scotia, Canada	2021-04-09
William Horrell	Northridge, US	2021-04-09
Hanne Van der Sanden	Belgium	2021-04-09
Natasha Halipchuk	Canada	2021-04-09
Norm Wilmes	Yuba City, US	2021-04-09
Brianna Bristol	Whitby, Canada	2021-04-09
Elviira Liimatainen	Jyväskylä, Finland	2021-04-09

Name	Location	Date
Janine Smith	Aberkenfig, UK	2021-04-09
Nikki Bird	La Ronge, Canada	2021-04-09
Shannon Coolen	Walton, Canada	2021-04-09
Adrienne Smith	West Bay, Canada	2021-04-09
Kristopher Lake	Windsor, Nova Scotia, Canada	2021-04-09
Rachel Slark	Worthing, UK	2021-04-09
Leah Paukstaitis	Chelsea, Canada	2021-04-09
Susan Cox	Whitby, Canada	2021-04-09
Michelle Garety	Upper Sackville, Nova Scotia, Canada	2021-04-09
Sylvie Lemaire	Féternes, India	2021-04-09
Bartosz Dembowski	Leeds, UK	2021-04-09
James Tingley	Middle Sackville, Canada	2021-04-09
Jonathan tingley	Middle Sackville, Canada	2021-04-09
A. Saito	US	2021-04-09
Alison Ohr	Bingley, UK	2021-04-09
Christine Tingley	Middle Sackville NS, Nova Scotia, Canada	2021-04-09
Matt Sample	Labrador City, Newfoundland and Labrador, Canada	2021-04-09
Richard Dalton	Niagara Falls, Ontario, Canada	2021-04-09
Irina Eskivel	Mascouche, Canada	2021-04-09
Maria Preston	Portland, US	2021-04-09
Renda Vandertoorn	Montréal, Canada	2021-04-09

Name	Location	Date
Alton Lomas	Cleveland, Ohio, US	2021-04-09
Lilly Yeknom	Brampton, Canada	2021-04-09
Dipika singh	UK	2021-04-10
Wilma de Bruyn	Surrey, Canada	2021-04-10
Loredana Le Donne	Kenora, Canada	2021-04-10
Ryan Boljkovac	Saint Albert, Canada	2021-04-10
Chelsey Yates	Canada	2021-04-10
Pamela Hinam	Dartmouth, Nova Scotia, Canada	2021-04-10
Kennedy Webb	Montréal, Canada	2021-04-10
Morgan Gregg	Moncton, Canada	2021-04-10
Carter Clarke	Halifax, Canada	2021-04-10
Raymond Yang	Toronto, Canada	2021-04-10
Christopher Tom	Pleasantville, US	2021-04-11
vanessa lelay	Seoul, South Korea	2021-04-11
Kenneth Boafo	Accra, Ghana	2021-04-11
Little Anonymous	Accra, Ghana	2021-04-11
Kwadwo Atakora	Accra, Ghana	2021-04-11
Mubarak Fuseini	Accra, Ghana	2021-04-11
William Adzewuda	Accra, Ghana	2021-04-11
Samuel Donkor	Accra, Ghana	2021-04-11
Ernest Amankwaa	Accra, Ghana	2021-04-11
Leticia Adjei	Ghana	2021-04-11

Name	Location	Date
Mubarak zakari	Ghana	2021-04-11
Jasmin Guerrera	Montréal, Canada	2021-04-11
Filandi Cena	Accra, Ghana	2021-04-11
Joe Kwame	Accra, Ghana	2021-04-11
Stephen Adofo Kissi	Accra, Ghana	2021-04-11
Bill McArthur	Halifax, Canada	2021-04-11
Jan Navarro	Canada	2021-04-11
Cathy teBogt	Toronto, Ontario, Canada	2021-04-11
Liana Stener	Winnipeg, Canada	2021-04-11
Chris Barnard	Edmonton, Canada	2021-04-11
Merrick Rozicki	Sydney, Canada	2021-04-12
Yvan Laurendeau	Montréal, Canada	2021-04-12
Patricia Freeman	Watford, UK	2021-04-12
Husniya Amirshah	Burlington, Canada	2021-04-12
Pete Woodring	Park City, US	2021-04-12
arlette simon	France	2021-04-12
Michael Rutherford	Ajax, Canada	2021-04-12
Sean Gibson	Dartmouth, Canada	2021-04-12
H Bergeron	Guelph, Canada	2021-04-12
yunzela kazmi	Mississauga, Canada	2021-04-13
Jessie Chen	Markham, Canada	2021-04-13
Laurent Cohen	France	2021-04-13

Name	Location	Date
wendy millington	Southend-on-Sea, UK	2021-04-13
Shweta Keshav	Kolkata, India	2021-04-13
Robert Nowak	Poland	2021-04-13
Roy Mcknight	Calgary, Canada	2021-04-13
Vanda Jirouš	Zagreb, Croatia	2021-04-13
karen rathbone	Birmingham, UK	2021-04-13
Yunjeong Park	리치먼드힐, Canada	2021-04-13
Jinah Park	Olympia, US	2021-04-13
Eunjung Lee	Seoul, South Korea	2021-04-13
Phil Perrin	Halifax, Canada	2021-04-14
Victoria Stewart	Livonia, US	2021-04-14
Penny Dean	Waterloo, US	2021-04-14
Lucie Thomson	Vernon, Canada	2021-04-14
Milena Boeva	Ottawa, Canada	2021-04-14
Ellen Park	Ridgefield Park, US	2021-04-14
katsuki bakugou	Vancouver, Canada	2021-04-14
Myun gran Kim	north york, Canada	2021-04-14
Brooklyn Pc	Oshawa, Canada	2021-04-14
Henri Zhao	Vancouver, Canada	2021-04-14
Maranda Murray	Georgetown, Canada	2021-04-14
Arianna McGowan	Victoria, Canada	2021-04-14
Susanne Miller	Edmonton, Canada	2021-04-14

Name	Location	Date
Radka Bérová	Děčín, Czech Republic	2021-04-14
Jehane Bunning	Newton Abbot, UK	2021-04-14
Shannon O'Connor	Newmarket, Canada	2021-04-14
Frank Roposs	Nobel, Canada	2021-04-14
pamela blick	Foxhole, UK	2021-04-14
V T	Richmond, Canada	2021-04-14
Julia B	Toronto, Canada	2021-04-14
John Huculiak	Toronto, Canada	2021-04-14
Zenon Stepkowski	Toronto, Canada	2021-04-14
R Korol	Canada	2021-04-14
nigel singh	Edmonton, Canada	2021-04-14
Kayla Marques	Vancouver, Canada	2021-04-14
Nicola Gallo	Toronto, Canada	2021-04-14
roland d'amour	Ottawa, Canada	2021-04-14
Devina Misir	Etobicoke, Canada	2021-04-14
Haajra Sadia	Birmingham, UK	2021-04-14
Nicolas Laing	La Prairie, Canada	2021-04-14
Jeffrey Townsend	Castlegar, Canada	2021-04-14
Kathleen Demers	Welland, Canada	2021-04-15
Scott Macleod	Toronto, Canada	2021-04-15
J Lee	Daegu, South Korea	2021-04-16
Brodie Reid	Halifax, Nova Scotia, Canada	2021-04-16

Name	Location	Date
Karli Stevenson	Everett, Canada	2021-04-16
Sarah Jackson	Windsor, NS, Nova Scotia, Canada	2021-04-18
Linda Macdonald	Dartmouth, Nova Scotia, Canada	2021-04-18
Ulisses M.	BROCKTON, Massachusetts, US	2021-04-22
Wyatt Reinhardt	Halifax, Canada	2021-04-24
John Monette	Windsor, Nova Scotia, Canada	2021-04-26
Dorothy Thorpe	Gander, Canada	2021-04-26
Helena Monette	Windsor, Canada	2021-04-26
Jeremy Marsh	Fall River, Nova Scotia, Canada	2021-04-26
Sarah Monette	Windsor, Canada	2021-04-26
Marilyn Monette	Fall River, NS, Canada	2021-04-26
Harry Ullock	Windsor, Nova Scotia, Canada	2021-04-27
kris warren	Radcliffe, UK	2021-04-27
Donald Chattaway	Bromley, UK	2021-04-27
Chrissie Flintoff	Penwortham, UK	2021-04-27
linda gill	Mablethorpe, UK	2021-04-27
Anthony crowley	Blackwood, UK	2021-04-27
Sharon Ullock	Halifax, Canada	2021-04-27
Stephen Drury	Trelewis, UK	2021-04-27
Glenn Baird	Birmingham, UK	2021-04-27
Jane Willmore	Romsey, UK	2021-04-27
Sharon Pearce	Trowbridge, UK	2021-04-27

Name	Location	Date
Dwayne Leoppld	Greenwood ns, Canada	2021-04-27
Michael Murphy	Wolfville, Nova Scotia, Canada	2021-04-27
Kerry Burgess	Windsor, Canada	2021-04-30

Shelleena Thornton

Subject: FW: Pisiquid Freshwater Watershed Concerns

From: Cam Hartley < >
Date: May 7, 2021 at 1:46:44 PM ADT
To: Laurie Murley <LMurley@town.windsor.ns.ca>
Good day,

I am writing regarding concerns about losing our community freshwater resource for so many reasons.

-My decision to set up Schoolhouse Brewery in its location was partially because of my view and proximity to the beautiful lake in our downtown. Since the lake has been drained out taproom gets covered in a layer of fine dust when the doors are open due to the exposure of the mud flats.

-I have concerns over my business being able to qualify for flood protection insurance with the current state of the tidal waterway.

-My house and community Castle Frederick Rd, in upper Falmouth has lost its nearby dry hydrant by Sangesters bridge making our community more vulnerable to catastrophic fire damage (hose or brush fires).

-Ski Martock which was a draw for me moving into the area, a valuable resource for our family's quality winter recreational time, and Schoolhouse Brewery's best winter customer will be unable to operate under the current conditions.

-The fish kill of Gaspereau due to the low water levels last year.

-Our local paddling club will shut down under current circumstances. This outdoor recreation resource is a significant draw to attract a higher tax base into our community.

-My neighboring farms will be unable to sustain a living if they lose the ability to produce higher value crops. This is a global issue of food sustainability and freshwater security.

I have faith in option D with adequate fish passage. I believe the engineered fish passage also provides an amazing opportunity for education and links to first nations heritage. There is far too much at risk to leave it as it is now. Our community depends on the Pisiquid freshwater watershed.

Cam

Cam Hartley
Principal
C 902
W 902
SCHOOLHOUSE BREWERY
"The Beer With Class"
PO Box 2049, 40 Water St. , Windsor NS B0N2T0
www.schoolhousebrewery.ca

Shelleena Thornton

Subject: FW: Lake Pisiquid

From: Karen Carrigan < >
Sent: May 7, 2021 9:57 AM
To: Richard Murphy <rmurphy@westhants.ca>; Rupert Jannasch <RJannasch@westhants.ca>; Jeff Hartt <jhartt@westhants.ca>; Debbie Francis <DFrancis@westhants.ca>; Bob Morton <bmorton@westhants.ca>; Paul Morton <PMorton@westhants.ca>; Laurie Murley <LMurley@town.windsor.ns.ca>
Subject: Lake Pisiquid

To Whom It May Concern,

I am writing this letter to express my concern regarding the current situation with the Avon River/Lake Pisiquid in Windsor, NS.

I am a lifelong resident of Hants County and have been involved with the Pisiquid Canoe Club for the last 10 years. My husband paddled at the club when he was a child and coached at the club as a summer job. We have both been board members for almost ten year now and we have seen the growth of the Pisiquid Canoe Club from a small summer club to a year-round program that is developing athletes who are competing and having success in Atlantic Canada and on a National level. We now have two children who are year-round paddlers. Our oldest son has been very successful over the past two years competing in this sport in Atlantic Canada and last year came home from PeeWee Championships with five medals and was named to the Atlantic Division Team for both kayak and canoe and was awarded the Male Athlete of the Year in both disciplines as well. This is something that has never happened in the past. Our youngest son, who at nine years old competed up an age division, brought home two medals as well. Not only do our children love the sport of sprint canoe/kayak but over 100 youth in this area are members of this club and spend their summers on Lake Pisiquid learning the sport and making valuable friendships and learning many life lessons. With the draining of Lake Pisiquid the canoe club employs two people year-round coaches, one full time and one part time as well as numerous students every summer is now at risk of closing. If there is no lake they cannot paddle. Should this occur it would be a travesty.

Not only is the fresh water lake necessary for the Pisiquid Canoe Club to operate it is also vital to our local famers, our agriculture, fire protection, Ski Martock, as well as local golf courses and wineries. If all of these things are taken away what does that leave the local area and the province of Nova Scotia? The local economy would suffer immensely in a time when people are struggling enough; we cannot lose the fresh water lake. We fully support the passage of fish but it is 2021, with the engineering capabilities and the technology available there is a way to have it all. We can have fresh water for our farmers and local agriculture, we can have fish passage, we can have a lake for hundreds of youth to paddle and swim in. People need to look at the common ground they have and find a way to work together to provide a solution that will give everyone what they want. With the construction of the a new aboiteau all of the needs of the community and all stakeholders can be met.

I am urging our all of our government; local, provincial, and national, to look at the big picture here and see that nothing has to be taken away from any group. We can have fish passage with a fresh water lake for our farmers and paddlers and our entire community to enjoy and to keep this area prosperous. The current system was built and it created something that now just cannot be taken away. There is a way to make it work for everyone.

If the fresh water lake is taken away my children who have dreams of competing for the province of Nova Scotia and for Canada on a national and Olympic stage will be crushed and so will those opportunities for many other youth in this area for years and generations to come, not to mention the impact it would have on our local farmers and the local economy as a whole.

Please find a way to work together and let all stakeholders have what they need to thrive.

Best Regards,

Karen Carrigan

Falmouth, NS B0P 1L0

Sent from my iPhone

Shelleena Thornton

Subject: FW: fresh water/tidal flow

From: Lisa Hines < >
Date: May 7, 2021 at 12:17:09 PM ADT
To: Abraham Zebian <azebian@westhants.ca>, rmurphy@westhants.ca, mmclean@westhants.ca, smclean@westhants.ca, lmurley@westhants.ca, jivey@westhants.ca, dfrancis@westhants.ca, pmorton@westhants.ca, bmorton@westhants.ca, esherman@westhants.ca, jhartt@westhants.ca
Cc: kody.blois@parl.gc.ca, chuck@chuckporter.ca
Subject: fresh water/tidal flow

Good morning,

I am writing this letter to voice my concern over lack of information regarding our river and its future.

I don't profess to know what the right solution is, and I think it's very bold for any group to think they do.

It's a complicated issue with a lot of delicate parts. I feel like people are looking at the causeway and the lake/reservoir, and even old photos, and seeing one tiny piece of a complicated puzzle.

It's a difficult time to engage people, science is taking a beating in general, and critical thinking is not as common as it used to be.

It's upsetting to see an important well established yet fragile fresh water ecosystem upriver be completely ignored while another gets the attention (at least on social media, which is generally a bad place to get info, but here we are). In the process, citizens upriver, and those with a vested interest in and love for that upriver ecosystem are being belittled and bullied.

I know this is a DFO issue, and ultimately that's where the silence is coming from, but this issue has huge implications on so many levels.

Science and real information about the ENTIRE system and the implications of decisions that are being made, and will be made, is needed NOW.

Please do everything possible to ensure the whole story is told, so the right decision is made for the right reasons. Whatever that may be.

Thank you for your time,
Lisa Hines

Shelleena Thornton

Subject: FW: Lake Pisiquid

From: Troy Harvie < >
Sent: May 7, 2021 4:37 PM
To: Richard Murphy <rmurphy@westhants.ca>
Subject: Lake Pisiquid

Mr. Murphy,

We are residents of your district and urge you to work on our part to save the lake. We are in favour of re filling the water to allow recreation this summer as well to minimize salt damage to the farmland. I hope you are supportive of this measure.
Sincerely,

Troy and Vicki Harvie
Falmouth

Shelleena Thornton

Subject: FW: Fresh water lake

From: Jenn McDermott < >
Sent: May 8, 2021 12:25 PM
To: Jim Ivey <jivey@westhants.ca>
Subject: Fresh water lake

Dear Jim,
My family has spent many hours enjoying our lake in Windsor and enjoying activities that rely on this water source to function.
It causes us sadness and anger knowing it may not be available going forward.

I have been trying to find out information about what the plan is, however, it seems most local politicians and town representatives are being fairly tight lipped and seemingly not supportive of our lake. This is extremely disappointing and frustrating.

Not only was there an agreement to maintain this lake from over 50 years ago when the causeway was built; the economy of Windsor and surrounding communities have come to rely on this water source for livelihood such as horticulture, agriculture, recreation (Martock and Pisaquid) not to mention water source for property owners, to name a few. The potential loss if huge.

I grew up in West Hants and chose to move back here to raise my family. Windsor has had its highs and lows, but it seems over the last few years things are in the upswing. New development and businesses have brought in young people and are boosting the town and municipality.
I do fear that the loss of the lake could send the town and economy in a downward spiral that will not be recoverable.

I know there are many factors that come into play, such as the fish and Native rights, both of which I fully support. However, we have to look at this from all angles: for 50 some years, businesses have developed, people have enjoyed recreation on the lake including fishing, the ecosystem has adapted and flourished. There has to be a better compromise. The state of the lake at this time is not the answer.
Who is fighting for it and the people of Windsor and West Hants? Our elected officials do not seem to be....so I ask you, who do I need to talk to that will really listen to ALL that is at stake.

Thank you
Jenn McDermott

Shelleena Thornton

Subject: FW: Avon River-Pisiquid Reservoir

From: jennifer daniels < >
Date: May 9, 2021 at 4:31:48 PM ADT
To: Abraham Zebian <AZebian@westhants.ca>, Bob Morton <bmorton@westhants.ca>, Paul Morton <PMorton@westhants.ca>, Scott McLean <smclean@westhants.ca>, Ed Sherman <esherman@westhants.ca>, Rupert Jannasch <RJannasch@westhants.ca>, Debbie Francis <DFrancis@westhants.ca>, Mark McLean <mmclean@westhants.ca>, Laurie Murley <LMurley@town.windsor.ns.ca>, Jeff Hartt <jhartt@westhants.ca>, Jim Ivey <jivey@westhants.ca>, Richard Murphy <rmurphy@westhants.ca>
Dear Mayor and Council,

I'm writing to you in regards to the Avon River-Pisiquid Resevoir.
As you are aware there is much concern revolving around the change of the river system and Lake Pisiquid (West Hants). As a resident, I have many concerns that I am bringing forward to your attention.

1. **Change in ecosystem/Climate Change**
   Much research and advocacy revolve around our precious ecosystem habitats. Over 50 years, nature has established a healthy balance from the salt water Minas Basin to the fresh water watershed of the Avon River. Much as changed over the years including farmland reclamation due to the protection of the causeway from 50 and 100 year storms.
   Over this time the fresh water ecosystem as adapted into a flourishing healthy environment for both flora and fauna acting as both a biological filter, thriving habitat for fresh water species to breed and reproduce and fresh water for animal species whose habitat lies along that system.

2. **Agriculture and Food Security**
   Agriculture is important in our region as along the river are rich soils for this industry. These rich soils help adress food security and food sustainability. Fresh water along the river as well as consistent water levels provide the water needed for irrigation for farmland endeavours. Research and data provided by Environment Canada and supported by the federal government is showing trends that Nova Scotia as well as the rest of Canada , is experiencing warmer weather as well as beginning to experience drought conditions. It's prudent that action is taken ahead of time to mitigate and prepare for what we cannot fully control in regards to fresh water access.

3. **Social and Economic Development**
   As you are aware, healthy communities rely on healthy economic growth to be sustainable. Having had the privilege to hold a municipal position in the local council for almost 9 years, I took a keen, serious interest as well as immersed myself into learning about sustainable social and economic development.
   Over the past 50 years, much development has occurred around the Avon River Watershed including development within the Vaughans area. This growth has and continues to bring new people into our community building a healthy tax base which in return provides amenities for whole community use. Even the formal Town of Windsor is experiencing a regrowth of opportunities, attraction for investment, visitors to our region as well as job creation. All important aspects for a healthy economy for locals and the province.

The Pisiquid Canoe Club provides recreation opportunity for youth, houses the Dragon Boat celebrating Cancer survivors, as well as opportunities for all age categories to experience paddling. The region is afforded positive economic spin offs when competitions are held during the seasonal months they are active. Without the unique, sustained fresh water level this will be lost.

Ski Martock, a large employer during the winter months, relies on the fresh water from the river in order to operate. Locals rely on this recreational industry for employment. Skiing is a popular sport with few ski hills left in Nova Scotia. Having these recreation opportunities remain active in our province only means people will remain in our province to part take in this activity rather than spending money outside Nova Scotia.

Over the years the municipality (both formal Town of Windsor and West Hants) has invested into recreational trails and social areas which navigate along the lake and river. These trails and stopping areas for both residents and those visiting our region enjoy bringing both positive health and mental health aspects to those who use it. The river provided a means for recreational activities such as kayaking, canoeing, fresh water fishing and even hunting. Not only for locals, but also for those who made this area a destination point.

It made be difficult for some to realize but having access to both visual and other pleasant stimuli from the river and lake provides positive mental health for those who use it and make a point to use it.

All these points lead back to healthy lifestyles and lessening the impact on our health system.

4. **Protection**

As I noted earlier, the causeway has protected assets upstream from 50-100 storms. One notable storm is the Saxby Gail of the late 1800's which devastated the Town at the time. We are due again as well as the known sea level rise from impacts of climate change. But notably I bring forward fire protection.

Several years ago, Windsor experienced a large scale fire event where the potable water infrastructure was taxed to it's limit. Water was then drawn utilizing the dry hydrant within Lake Pisiquid using the reservoir's fresh water as a mean of fire suppression. We were fortunate otherwise water shuttling would have increased resources and times for adequate water suppression.

Mill Lake is the protected water source which provides potable water for the then Town of Windsor and outside communities. This is the only source of potable water for this area which is also at risk from trending hot summers due to climate change. This water source provides a service for residents and commercial use at the expense of the users. Looking forward, this is a vulnerable asset that shouldn't be taken for granted or expected to sustain non human consumption. Even those in rural areas are susceptible to droughts and dry wells relying on the potable water of the serviced areas.

Further upstream, dry hydrants have been positioned along the river and lakes of the Avon watershed as a means of quick, sustainable access for fire suppression in areas that have and continue to be developed. It is important these be considered otherwise the burden of costs are once more downloaded onto municipalities to ensure additional resources are in place for fire events which will happen. As it stands, the lowered river level and salt intrusion as rendered these useless. On a side note, fire suppression can use salt water, however tanks have to be flushed with fresh otherwise it can have adverse impact of corrosion on the apparatus. To obtain fresh water, volunteer resources will have to spend additional time and travel to find fresh water to flush or the use of the potable water system will be used. This to me, contradicts water conservation.

5. **Communication**

It's human nature to not take change easily, especially when this change impacts so many facets of our lives and community. Communication has is a key component to help facilitate change. There has been lack of communication from all levels of government to the community and those who hold value with their community.
We want what is best for the natural environment and infrastructure within it. But we also value what infrastructure has evolved over the past half century as our region is reliant on this adaptation and growth for sustainability.
We are asking that there is open, accountable and transparent communication from all levels of government as well as open, transparent and acknowledging ears to the values we hold within our community.

These are just a few of the interconnected values of our community at stake with the change of the river and reservoir system. I have additional concern with the existing dam up river and its future as well as continued fresh water needed downstream to maintain balance. Will this also effect the lakes on the upper watershed, development surrounding those lakes and the many other values I noted in prior.

6. **Fish Passage**
   I am not dismissing fish passage, however as a life long resident of this region, I am well aware species of fish that have always accessed the river from the Minas Basin. I question and have yet to find answers on specific species needing to enter this system when there are various other tributaries along the greater Avon River that seem to lack proper unbiased analysis of how they are thriving and types of fish accessing these rivers. I want to see a healthy balance for all (human and fish) which in this world of science, research and innovation has an opportunity to find that balance.

   Please, consider my letter and the values I speak of. Change in this system effects many facets of the environment and community. Please provide open, transparent communication to our community and please consider the risk/benefit analysis when making decisions effecting this precious water system. If we work together, we can find the best solution for all.

   Sincerely,

   Jennifer Daniels

Jennifer Daniels CAFD (She/Her)
Sent from Mail for Windows 10

Jennifer A. Daniels CAFD

Shelleena Thornton

Subject: FW: Concerns about Windsor's Lake

From: Krista Duncan < >
Sent: Sunday, May 9, 2021 9:33:21 PM
Subject: Concerns about Windsor's Lake

Caution
This email comes from an outside sender. Verify the sender and use caution with any requests, links or attachments.

To Whom it May Concern:

Our names are Krista and Colin Duncan and we are residents of Falmouth, Nova Scotia. We have not spoken publicly about the situation with the lake here in Windsor, but we are speaking up now because we are extremely concerned about this issue. We moved here fourteen years ago and quickly fell in love with Falmouth. We love the lake and we are very much in love with Windsor today. It is a beautiful community with many amazing businesses and the lake is a main part of it. It is the place where our daughters ride their bikes and walk our dog. Lake Pisiquid has a phenomenal canoe club where our daughters have spent parts of their summer soaking up the sun and enjoying the water along with hundreds of other kids.

We are not against the passage of fish, but the freshwater lake offers so much to our community. Many people use the freshwater for their farms and agriculture. Look around, the farms are a huge beautiful part of Falmouth! The freshwater is also used for our golf course, wineries, and our beloved Ski Martock. Ski Martock is a gem here in Windsor. I cannot imagine a winter without Martock. If you have ever been to Martock in the winter, it is filled with local families enjoying the snow and is a great place for teenagers to stay out of trouble while being active.

Some people may not agree with the causeway, which was constructed 50 years ago, but it created a beautiful lake that serves many families in the surrounding communities. My family walks the causeway daily and it has been extremely disheartening seeing the empty lake.

Please consider how important this freshwater lake is to our community.

Thank you,

Krista & Colin Duncan
Falmouth, NS

Shelleena Thornton

Subject: FW: Position of council on Hwy 101 twinning and aboideaux construction/ design

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From: Castle Frederick Farms Incorporated < >
Sent: Friday, May 7, 2021 7:55:13 PM
To: Richard Murphy <rmurphy@westhants.ca>; Abraham Zebian <AZebian@westhants.ca>; Mark McLean <mmclean@westhants.ca>; Scott McLean <smclean@westhants.ca>; Laurie Murley <LMurley@town.windsor.ns.ca>; Jim Ivey <jivey@westhants.ca>; Debbie Francis <DFrancis@westhants.ca>; Bob Morton <bmorton@westhants.ca>; Paul Morton <PMorton@westhants.ca>; Ed Sherman <esherman@westhants.ca>; Jeff Hartt <jhartt@westhants.ca>
Subject: Position of council on Hwy 101 twinning and aboideaux construction/ design

Dear Council Members,

I am writing to encourage you to consider the broader community when you are discussing the causeway issue and stating your position on such.
The community is full of people who have strong and valid concerns about the effects of the current ministerial orders. Many have been hesitant to speak up for fear of public and private backlash from others who wish to apply a negative spin or hurtful label on social media. The hurt and divide in our community that has been allowed to take place is nothing short of embarassing.
Before subscribing to any particular view or dismissing members of our community as uneducated or uninformed, please note that the following concerns have been raised to councilors, MLA's, MP's, DFO, NSDA and are documented. To ignore these concerns and continue to claim fair representation of your area would be a direct conflict for some.
Concerns are:
Environmental: accelerated erosion, vegetation loss, habitat loss, ecosystem damage: fish kills, duck habitat loss, dead freshwater mollusks, habitat loss for turtles, beaver, muskrat, etc.
Social impact of the loss of pisiquid canoe club: 150+ youth and families
The financial impact to homeowners to seek alternative options for water
Potential end of business for Martock (employer of 200+ people)
Potential risk to emergency backup water supply
Agricultural, financial, food security impact as 2021 crop planning and 2021 livestock watering is already in jeopardy as well as future years' production
Health impacts as the community is complaining of respiratory concerns due to exposed mudflats and resulting "dust storms"
Business concerns (unsightly premises, air quality, etc)
Potential for the decline in property value and interest in development due to overall decline in waterfront conditions from Windsor to the lake areas of Vaughans (if maintenance flows are further enforced and lake levels are lowered as a result)

Again, I urge you to get out, call, write and truly listen to the people living in your communities. Make sure you are representing them in council and together, take a stand on this issue that brings together the entire West Hants Municipality. Push those in power and control to seek a solution that is for the greater good.

Thank you,
Robin Bremner-Popma
Resident, Upper Falmouth

Shelleena Thornton

Subject: FW: Lake Pisiquid
Attachments: Parl petition draft.pdf

From: Roslyn < >
Date: May 8, 2021 at 12:19:48 PM ADT
To: Laurie Murley <LMurley@town.windsor.ns.ca>, Jim Ivey <jivey@westhants.ca>
Deputy Mayor Laurie Murley

Councillor Jim Ivey

May 8, 2019

The current situation of Lake Pisiquid under the Ministerial Order of Bernadette Jordan has underscored the need for us to make our voices heard regarding the future of the lake. Consequently, a petition (see attached) has been drawn up that we have circulated in the following areas in your districts: Clifton Ave, River St., Haliburton Ave., Chandler Lane, Clockmaker Lane, Sunset Ave., Lakeview Dr., Hawthorne St., Chestnut St., and Avon St.. Over 135 signatures from more than 90 homes were received in support.

We are asking you, our municipal representatives, to do all you can to help us get the best outcome for both the fish and the preservation of our fresh water resource, Lake Pisiquid, in the future.

Sincerely,

Roslyn MacDuff
Barb Hughes
Darlene Taylor

Petition to Minister Bernadette Jordan, DFO, MP for South Shore/St Margaret's

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NAME	ADDRESS (Community and Postal Code)
LARRY NORTON	899 CLIFTON AVE, WINDSOR B0N2T0
Jason Verryn Stuart	897 Clifton Ave., Windsor
Nancy Lanor-Boyd	823 Haliburton Ave
Dan Boyd	823 Haliburton Ave
Alison Fraser	901 Haliburton Ave Windsor B0N2T0
J M Wyman	919 HALIBURTON AVE WINDSOR B0N2T0
Barb Wyman	919 Haliburton Ave Windsor B0N2T0
Lindsay Longdon	939 Haliburton Ave, Windsor B0N 2T0
[illegible]	939 Haliburton Ave B0N2T0

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Signature Table

NAME	ADDRESS (Community and Postal Code)
G. Rae Winkelaar	7 Lakeview Dr. Windsor B0N2T0
Jean Bridges	11 LAKEVIEW, WINDSOR B0N2T0
Darlene Taylor	13 Lakeview DR, Windsor B0N2T0
Dylan Burgess	21 Lakeview Dr Windsor NS B0N2T0
Vafa Burgess	21 Lakeview Dr Windsor NS B0N2T0
M Bailey	23 Lakeview Dr Windsor B0N2T0
M Boudrey	23 Lakeview Dr Windsor B0N2T0
James Harris	27 LAKEVIEW DR, WINDSOR B0N2T0
Kathy McKee	355 Hawthorne Street B0N2T0

Petition to Minister Bernadette Jordan, DFO, MP for South Shore/St Margaret's

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NAME	ADDRESS (Community and Postal Code)
Reid MacDuff	910 Clifton Ave. Windsor BON 2TO
Kaitlyn MacDuff	910 Clifton Ave Windsor. NS BON2TO
Vaun Roberts	899 Clifton Ave Windsor BON 2TO
DAVID MARGOLIAN	104 CLOCKMAKER LANE WINDSOR NS BON2TO
GARY MEAGHER	80 CLOCKMAKER LANE WINDSOR BON 2TO
SARAH MACDONALD	80 CLOCKMAKER LANE WINDSOR BON 2TO
Mac + Daphne Isnor	2 Lakeview Dr.
Steve Parker	63 clockmaker lane.
Heather Gray	03 clockmaker Lane

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NAME	ADDRESS (Community and Postal Code)
[illegible]	64 Chestnut Street - Windsor NS BON 2TO
Elaine MacEachern	48 Chestnut - BON 2TO Windsor NS BON 2TO
Ted Webb	365 Hawthorne Windsor BON 2TO
DAVID DUNN	48 CHESTNUT ST WINDSOR BON 2TO
Jennifer Shaw	405 Hawthorne St, Windsor NS BON 2TO
Ian Shaw	405 Hawthorne St. Windsor BON 2TO
Jayne Murray	435 Avon St. Windsor NS BON 2TO
[illegible]	435 Avon St. Windsor NS BON 2TO
[illegible]	415 Avon St. Windsor N.S BON 2TO

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NAME	ADDRESS (Community and Postal Code)
Julia Moseley	34 River St. Windsor N.S. B0N2T0
Patrick Moseley	34 River St. Windsor N.S B0N2T0
Chris Dixon	66 River St. Windsor NS B0N 2T0
Doris Nickerson	1 Lakeview Dr 902 798-[illegible] Windsor B0N2T0
Carol Doll	4 Lakeview Dr. 902-79[illegible] 7950 Windsor B0N2T0
Kimberley Hayne	6 Lakeview Drive Windsor NS B0N 2T0
[illegible]	8 LAKEVIEW, WINDSOR NS B0N2T0
[illegible]	8 Lakeview Dr.
Lianne Griswold	479 Cogmagun Rd B0N 2A0

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NAME	ADDRESS (Community and Postal Code)
Janice Dorman	383 Hawthorn St. Windsor
Travis Atwell	85 Water Street Windsor BON 2TO
Sheela Schofield	38 Clockmaker's Lane BON 2TO
Debbie Woodman	3 Lakeview Drive BON 2TO
Dan Woodman	3 Lakeview Drive BON 2TO
Scott Lloy	9 Lakeview Dr BON 2TO
Krista Lloy	9 Lakeview Dr. BON 2TO
Mitchell Fox	18 Lakeview BON 2TO
JM McCord	18 Lakeview BON 2TO

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NAME	ADDRESS (Community and Postal Code)
[illegible]	Windsor B0N 2T0
Carsen Kafuse	28 Lakeview Dr B0N 2T0
Kaden Kafuse	28 Lakeview Dr B0N 2T0
[illegible] Baxter-Ashby	36 Lakeview Dr B0N 2T0
[illegible]	867 Haliburton Ave Windsor B0N 2T0
Michell VanZwol	375 Hawthorne St Windsor B0N 2T0
Ian van Zwol	375 Hawthorne St Windsor B0N 2T0
[illegible]	382 Hawthorne St Windsor B0N 2T0

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NAME	ADDRESS (Community and Postal Code)
Matthew MacLeod	51 Clockmaker Lane, Windsor, NS B0N2T0
Karen Armour	20 Clockmaker, Windsor, NS B0N2T0
Pam McKay	850 Clifton Ave, Windsor B0N2T0
Ruth Taylor	110 Clockmaker Windsor B0N2T0
BLAIR TAYLOR	110 CLOCKMAKER LN WINDSOR B0N2T0
AVILA COUTINHO	901 CLIFTON AV. WINDSOR B0N2T0
Lois Cottrill	901 Clifton Avenue Windsor B0N2T0
Jim Wilcox	902 Clifton Avenue WINDSOR B0N2T0
Helen Wilcox	902 " " " " "

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NAME	ADDRESS (Community and Postal Code)	
Wanda Rowsell	15 LAKEVIEW DRIVE B0N2T0	Windsor
Glenn Rowsell	15 LAKEVIEW DR, WINDSOR B0N2T0	Windsor.
W Richards	20 Lakeview Drive B0N 2T0	Windsor
[illegible]	20 Lakeview Drive B0N2T0	Windsor
Carole C Davies	24 Lakeview Dr Windsor	B0N 2T0
DAN MCNEIL	32 LAKEVIEW DR WINDSOR	B0N 2T0
Gloria Veinotte	34 Lakeview Dr. Windsor	B0N 2T0
Christine Earley	88 Chestnut St Windsor	B0N 2T0
Glen Earley	" " "	

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NAME	ADDRESS (Community and Postal Code)
Robert O'Hara	140 Sunset Ave Windsor BON 2TO
Liam O'Hara	11 11
Treasure O'Hara	11 11
Sally Thomas	10 Chandler Lane, Windsor BON 2TO
LAURIE HINES	8 CHANDLER LANE WINDSOR
Connie Hines	8 Chandler Lane Windsor N.S
Gary Mosher	6 Chandler Lane Windsor BON 2TO
Elaine Morehouse	6 Chandler Lane Windsor BON 2TO
CODY LATREILLE	2 Chandler LANE WINDSOR BON 2TO

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NAME	ADDRESS (Community and Postal Code)
E. WESTERBY	94 CLOCKMAKER LANE, WINDSOR BON 2TO
HOUGHBACH	94 CLOCKMAKER LANE, WINDSOR, BON 2TO
H. WESTERBY	94 CLOCKMAKER LANE, WINSOR, BON 2TO
	47 River St BON 2TO
Barbie Hughes	904 Clifton Ave,
	55 River St
	85 River St
	5 Lakeview DR
	7 Lakeview Dr, Windsor

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NAME	ADDRESS (Community and Postal Code)
Nathan Langdon 5547	1 Hwy 14. Windsor, N.S. B0N 2T0
Alice Pereira	963 Haliburton Ave. Windsor NS. B0N 2T0
Joanne Allen	956 HALIBURTON AVE WINDSOR B0N2T0
Mark Jones	896 Haliburton Ave B0N 2T0
Grace Hatcher	761 CLIFTON AVE B0N 2T0
Nancy Hartlin	" " "
Debbie Bonhamme	50 SUNSET AVE WINDSOR NS B0N 2T0
Henry Bonhamme	" " "
Tony Dunbar	36 Curry Rd. Falmouth B0P 1L0

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NAME	Signature	ADDRESS (Community and Postal Code)
Catherine Ross	Catherine A. Ross	128 Sunset Ave Windsor BON 2TO
John Strum		108 Sunset Windsor
Marilyn Rice		108 Sunset Ave. BON 2TO
[redacted]	[redacted]	[redacted]
JILL FORD	Jill Ford	39 CLOVER LANE BOPILO
Bob FORD		" " BOPILO
ANN MacArthur	Ann MacArthur	581 WILSON ST. BON 2TO

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NAME	Signature	ADDRESS (Community and Postal Code)
Dawn Klein	Dawn Klein	591 Clifton Ave BON 2TO
Dianne Goulet	Dianne Goulet	91 Irven Dr BON 2TO
Michelle Burgess	Michelle Burgess	542 Clifton Ave BON 2TO.
Jeff Burgess	Jeff Burgess	542 Clifton Ave BON 2TO.
Lucy Burgess	Lucy Burgess	542 Clifton Ave BON 2TO.
Karen MacBride	Karen MacBride	560 Clifton Ave BON 2TO
[illegible]	DON LAWRENCE	549 " BON 2TO
[illegible]	Ann Knowles	673 " BON 2TO
Brenda Landry	Brenda Landry	128 Sunset Ave BON 2TO

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NAME	Signature	ADDRESS (Community and Postal Code)	
DAVID PERRY	David Perry	737 CLIFTON AVE, WINDSOR	BON 2TO
DAVID ALLEN	David Allen	721 Clifton Ave	BON 2TO
Anna Allen	ANNA ALLEN	721 Clifton Ave	BON 2TO
Maureen Jordan	Maureen Jordan	701 Clifton Ave	BON 2TO
Cathy Kerr	Cathy Kerr	661 Clifton Ave	BON 2TO
Ed Kerr	Ed Kerr	661 Clifton Ave	BON 2TO
Neal Ozano	neal ozano	625 CLIFTON AVE	BON 2TO
RAY SNAIR	Ray Snair	605 CLIFTON AVE.	BON 2TO
Bonnie Snair	BONNIE SNAIR	" " "	" "

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NAME	ADDRESS (Community and Postal Code)	
Alan Carmichael	P.O Box 3466 Windsor, N.S.	B0N2T0
[illegible]	PO BOX 940 WINDSOR NS	B0N 2T0
Kathy Shurby	338 clifton Ave	B0N 2T0
Ed Stephens	404 Clifton Ave	B0N 2T0
Karen Stephens	404 Clifton AVE	B0N2T0
[illegible]	186 [illegible]	B0N 2T0
Carley Lothen	186 Chestnut St	"
John Cook	230 CLIFTON	"

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NAME	ADDRESS (Community and Postal Code)
Nancy Maxner	38 Burgess Rd. BON 2TO
BRUCE WRIGHT	1144 AVONDALE ROAD BON 2HO.
ANDY KIRK	443 WILSON ST (WINDSOR, BON 2TO
Ashley Wood	473 Wilson St Windsor BON 2TO
Anthony Wood	473 Wilson St. Windsor BON 2TO
Malcolm Kempt	307 Gerrish St. Windsor BON 2TO
Joy Hillier	307 Gerrish St. Windsor BON 2TO
Tony Gallant	35 Gerrish St. Windsor BON 2TO
Adrienne Wood	431 Wilson St. BON 2TO.

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NAME	Signature	ADDRESS (Community and Postal Code)
William Turner		BON 2TO
Patricia Hardy	Patricia Hardy	Windsor BON 2TO
Mary Turner	Mary E Turner	Garlands Crossing BON 2TO
Todd Hardy	Todd Hardy	Windsor NS
Arleyne Spencer	Arleyne Spencer	Windsor NS.
Christo Davis	Christo Davis	Windsor NS
Ryan MacNeil		Windsor, NS BON 2TO
Janet Kirk	Janet Kirk	Windsor, NS BON 2TO

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NAME	ADDRESS (Community and Postal Code)
Marie Allen	Windsor, NS BOR 2TO
Linda Simpson	Windsor NS. BOR 2TO
ROY SIMPSON	THREE MILE PLAINS, NS BOR 2TO

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NAME	ADDRESS (Community and Postal Code)
Alyssa Clark	1106 King St, Windsor, NS
Nelson Paradis	BON 2TO

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NAME	ADDRESS (Community and Postal Code)
Paul Redden	Ellershouse B0N 1L0
Chris Pask	Center Burlington B0N 2A0
Olivia Goetz	Ellershouse B0N 1L0
Dawson Hood	Garlands Crossing B0N 2T0
Fraser Hood	St. Croix B0N 1H0

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NAME	ADDRESS (Community and Postal Code)
Roland MacKenzie	310 Tremain Crescent, Windsor, NS B0N 2T0
Alale MacKenzie	310 Tremain Crescent, Windsor, NS B0N 2T0
[illegible]	968 Tremain Cres Windsor, N. S B0N 2T0
Austin Perring	215 Tremain Cres Windsor B0N 2T0

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Jennifer Callan	Windsor BON 2TO
GORDON CALLAN	WINDSOR BON 2TO
MONIQUE WOOD	WINDSOR BON 2TO
Jean McDermott	Windsor BON 2TO
Chris McDermott	Windsor BON 2TO
Robin McKay	Windsor BON 2TO.
Robi Brownlee	Windsor. N.S. BON 2TO.
Graeme Brownlee	Windsor NS BON 2TO
Melanie Fiske	" " BON 2TO

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PATTI TRINACTY	WINDSOR B0N 2T0
Jo-Ann Redden	Falmouth B0P1L0
Heather Pearson	Windsor B0N 2T0
Kathy White	Falmouth B0N 1N0
Anne Kuler	Windsor B0N 2T0
Paul Redden	Windsor B0N 2T0
Marilyn Redden	Windsor B0N2T0
Claire Surette	Windsor B0N 2T0
JOHN TRINACTY	WINDSOR B0N 2T0

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Jed Martin	Windsor B0N 2T0
Jill Martin	Windsor B0N 2T0
Heather Lunan	Windsor B0N 2T0
Ray Buxton	Windsor B0N 2T0
Theresa Griffin	Windsor B0N 2T0
David Griffin	Windsor B0N 2T0
Patti Phillips	Windsor B0N 2T0
Ronnie Phillips	Windsor B0N 2T0
Robert Jones	Kempt Shore B0N 2A0

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Teresa Spence	Teresa Spence	282 Truman Cresc. Windsor	B0N 2T0
Teresa Spence	Teresa Spence	" "	"
Sandra Hogan	Sandra Hogan	Windsor	B0N 2T0
KATIE ORMOND	Katie Ormond	Windsor	B0N 2T0
Matt Chambers	Matt Chambers	windsor	B0N 2T0
Ryan Richard	Ryan Murphy	Windsor	B0N 2T0
		Windsor	B0N 2T0
Ryan Richard	Ryan Richard	Windsor	B0N 2T0
Juanita Giles	Juanita Giles	Windsor	B0N 2T0

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Bruce Connolly > Bruce Connolly	Windsor BON 2TO
D. Sullivan > [illegible]	WINDSOR BON 2TO
Pauline Sullivan > Pauline Sullivan	Windsor BON 2TO
~~Cheryl Sullivan~~	~~Windsor BON 2TO~~
~~Marjorie Sullivan~~	~~" BON 2TO~~
Savannah Sullivan > Savannah Sullivan	" BON 2TO
Victoria Sullivan > Victoria Sullivan	" BON 2TO
Jonathan Langille > Jonathan Langille	" BON 2TO
Lee Chambers > Lee Chambers	" BON 2TO
Rick Smith R G Smith	" BON 2TO
Wanda Myers W J Myers	" BON 2TO

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Signature Table

NAME	Signature	ADDRESS (Community and Postal Code) ~~B3~~ B0N 2T0
Sylvia Hunter	Sylvia Hunter	Windsor
G.M(MIKE) HUNTER	G.M Hunter	B0N 2T0 Windsor
LEIGH STRONG	Leigh Strong	WOODSVILLE N.S B0N 2A0
Evelyn Strong	Evelyn Strong	Woodville NS B0N 2A0
BARRIE Blank	Barrie Blank	GRossing Homes B0N 2T0
KW Leckie	KW Leckie	Windsor B0N 2T0
TED ROACH	T. Roach	WINDSOR. B0N 2T0
DOUG Miller	Doug Miller	Windsor B0N 2T0
Faye Miller	Faye Miller	Windsor B0N 2T0
Shirley McKay	Shirley McKay	Windsor B0N 2T0

Petition to Minister Bernadette Jordan, DFO, MP for South Shore/St Margaret's

WHEREAS , On March 19th, 2021, Minister of Fisheries and Oceans ordered a full drain of lake pisiquid at every low tide and subsequent ingress of salt water for 10 minutes (min) beginning March 19th and continuing to this day, the following effects have occurred:

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Signature Table

NAME	ADDRESS (Community and Postal Code)
Jackie Bacon	Windsor NS B0N 2T0
Cheryl Sullivan	Windsor NS. B0N 2T0
Morgaine Sullivan	Windsor, NS. B0N 2T0
Heather	WINDSOR NS B0N 2T0
Bruce Lake	Windsor NS B0N 2T0
Melda	Windsor NS B0N 2T0
Beverly Lake	Windsor NS B0N 2T0
Brian Hagan	Windsor NS B0N 2T0
Kim Willins	WINDSOR NS B0N 2T0

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NAME	ADDRESS (Community and Postal Code)
Tom Cook	24 Southview Cres
Peggy Kocharoff	12 Curry Rd Falmouth
Alan Kocharoff	12 Curry Rd Falmouth
Susan Duke	36 Curry Rd Falmouth
	8 Margaret Dr Dartmouth
Mary Jayne Tilley	174 Falmouth Dyke Rd B0P1L0

Water in lake!

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Signature Table

NAME	ADDRESS (Community and Postal Code)
DAVID EMMENS	560 CLIFTON AVE WINDSOR
Barbara Redden	934 Haliburton Ave.
Richard Redden	" " "
Barbara Scott	367 Alexander St.
Robert Hopper	414 Town Rd
Anne Hopper	414 TOWN RD.
Grant Martin	379 Gabriel Rd
Frances Maribar	379 Gabriel Rd.
Judy Barnes	24 Southview Cct.

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Signature Table

NAME	ADDRESS (Community and Postal Code)
John Leopold	1136 Falmouth BKR B0P1L0
Gail Neil	King Street Windsor
Mary Leopold	1106 BACK Rd Falmouth B0P1L0
Ron Leopold	1108 Back Rd Falmouth
Joan Hebberg	1108 BACK Rd Falmouth
Debbie Burton	1136 Falmouth Back Rd Falmouth

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Signature Table

NAME	ADDRESS (Community and Postal Code)
[signature]	38 RIVER ST. WINDSOR B6N 2T0
R. Meagher	C5, RIVER ST. WINDSOR B6N 2T0
D. Meagher	65 RIVER ST. WINDSOR NS B6N 2T0
Brendon Crossman	80 Clockmaker Lane Windsor, NS
Erin Meagher	80 clockmaker Ln, Windsor, NS, B6N 0X

Shelleena Thornton

Subject: FW: Avon River/Lake Piziquid

-----Original Message-----
From: Wayne & Dianne Hines < >
Sent: Sunday, May 9, 2021 1:30 PM
To: PublicOnlyCouncilEmail <allcouncil@westhants.ca>
Subject: Avon River/Lake Piziquid
_____

Just a quick not to express my support for the new causeway structure planned by the Provincial government, which includes fish passage.
While fish passage is important there are other things that are equally important. Some of these include flood protection, which is especially important when probable impacts from climate change are considered.

Another is conservation of fresh water which is a dwindling resource around the world.

Another is protection of the freshwater ecosystem that has developed on the upstream side of the causeway. Current and recent orders from the federal Department of Fisheries and Oceans have resulted in serious damage to that environment with resulting loss of fish and other aquatic organisms, including fresh water clams.

I was told several years ago by one of the scientists involved in the project that restoring tidal flow could cause erosion that would result in the destruction of the valuable salt marsh on the downstream side of the highway.

The ability to hold runoff from upstream rivers/streams and lakes may become extremely important in the future because of the effects of climate change. Water from the lake for irrigation could be extremely important to the future of agriculture in the area for irrigation purposes.

It is also a valuable resource for local firefighters. I believe there are two "dry hydrants" which have been rendered useless by DFO's order to drain the lake. Some say, if tidal flow is restored, there would still be water available, when needed. That might be true when the tide is almost high but not on a 24/7 basis. Yes, some firefighting equipment can use salt water but that equipment may require extra cleaning which would use a considerable amount of water. There's also a question about the effect of the sediments carried in the water.

The use of water from the lake for making snow at Ski Martock should also be a consideration. Note that all that water used during the winter flows back to the lake in the spring. Would it be economically feasible to drill wells of the capacity needed to supply Ski Martock's needs?
What might be dissolved in that water that would cause damage and pollution during the spring melt?

Some have suggested opening the causeway to free tidal flow would create a tourism Mecca on the Windsor waterfront. They conveniently ignore the fact that there would be very little water in the river for much of the day. There is a reason places like Mahone Bay have lots of boats: there is 24 hour a day access.

The new structures planned by the Province include proper fish passage, a safer twinned highway, flood/tidal surge protection, and provides for a valuable fresh water resource. It should be vigorously supported by West Hants Council.
Thanks for your consideration,
G. Wayne Hines,'
Windsor Forks

Shelleena Thornton

Subject: FW: Water level , Lake Pisiquid

From: Ann MacArthur < >
Sent: May 10, 2021 2:15 PM
To: Abraham Zebian <AZebian@westhants.ca>; Jim Ivey <jivey@westhants.ca>
Subject: Water level , Lake Pisiquid

Caution
This email comes from an outside sender. Verify the sender and use caution with any requests, links or attachments.

Good afternoon , Gentlemen

I would like to register my concern that the current water level in our lake is to be permanent. Lake Pisiquid gives a focus to our downtown core , offers recreation opportunities , and has economic implications for businesses in our area.

Please lend your voices in the effort to bring back our Lake.
Thank you,

Ann MacArthur

Shelleena Thornton

Subject: FW: Lake Pizaquid

From: B & S Langdon < >
Sent: May 10, 2021 1:24 PM
To: Laurie Murley <LMurley@town.windsor.ns.ca>; Abraham Zebian <AZebian@westhants.ca>; Jim Ivey <jivey@westhants.ca>
Subject: Lake Pizaquid

Caution
This email comes from an outside sender. Verify the sender and use caution with any requests, links or attachments.

It seems like Windsor/Falmouth will or has lost a great asset.

Our local leadership appears to be quiet at best on this issue. It is time leadership versus keeping a low profile. Please stand-up and help save the lake. Silence is not golden.

Bob & Sandra Langdon
Windsor

Shelleena Thornton

Subject: FW: Lake Issue

From: Brad Hood via Text Message
Sent: May 10, 2021 12:03 PM
To: Jim Ivey via Text Message
Subject: Lake Issue

This may not warrant a reply because I am likely with the majority of the people I have spoken with over the last few months or even years concerning the lake and the possibility of it's demise. Everyone including myself has been silent with the false impression that something like this would never happen. The economic impact to the community would outweigh any consideration for any fish that have already adapted to a different environment caused by the causeway decades ago.Our silence and faith in governments to use some common sense has allowed a group of people with no stake in the community or never having contributed to this community to destroy years of work by business people, home and land owners, volunteers that have all contributed to the improvement of our community. Myself and others should be embarrassed that we have done little or nothing to prevent this terrible destruction being brought to our community by individuals and governments that have little or no stake in the outcome and little or no knowledge of the importance of the lake to our community and in some cases plain and simply do not care what the wishes are of the people who have lived and worked and contributed to this community for decades. What a tragedy!

Shelleena Thornton

Subject: FW: Water level in the lake

From: CaroleAnne Casey < >
Date: May 10, 2021 at 5:47:50 PM ADT
To: Abraham Zebian <AZebian@westhants.ca>
Subject: Water level in the lake

Caution
This email comes from an outside sender. Verify the sender and use caution with any requests, links or attachments.

_____

Hello my name is Carole Anne Casey I live in Windsor . I am very concerned about the lack of water in the lake . I would like to see the water back in the lake immediately. Can you please let our politicians know . Thank you

Sent from my iPhone

Shelleena Thornton

Subject: FW: Save our Lake

From: Ed < >
Date: May 10, 2021 at 12:22:57 PM ADT
To: Abraham Zebian <AZebian@westhants.ca>, Laurie Murley <LMurley@town.windsor.ns.ca>, Jim Ivey <jivey@westjants.ca>

Your worship and Councillors Ivey and Murley. We want to add our names to the process of saving our Lake. It is very concerning and unbelievable to think we are going through this now.

The decision concerning the creation of the lake and the tidal situation was made in the 1970's. To change things now has such serious consequences it is difficult to understand why this objection process is even necessary.

Just observing the dust storms coming down what used to be our lake is a major result not to mention the really serious consequences to business, farm lands up stream, the boat club, tourism, etc etc etc.

On our behalf and others, please do everything you can in this unbelievable situation. Thank you!!

Ed and Cathy Kerr
661 Clifton Avenue
Windsor

PS. We have signed a petition that is circulating.

Shelleena Thornton

Subject: FW: Lake Pisiquid

From: Sarah Macdonald < >
Date: May 10, 2021 at 6:33:01 PM ADT
To: Richard Murphy <rmurphy@westhants.ca>, Abraham Zebian <AZebian@westhants.ca>, Mark McLean <mmclean@westhants.ca>, Scott McLean <smclean@westhants.ca>, Laurie Murley <LMurley@town.windsor.ns.ca>, Jim Ivey <jivey@westhants.ca>, Debbie Francis <DFrancis@westhants.ca>, Bob Morton <bmorton@westhants.ca>, Ed Sherman <esherman@westhants.ca>, "lhartt@westhants.ca" <lhartt@westhants.ca>
Cc: Adrienne Wood <drwoodnd@gmail.com>
Good morning,

Having grown up in Windsor and spent a lot of time here and in Hants County over the years I wanted to write to say how important I feel it is to maintain our beautiful Lake Pisiquid. Small towns in NS have had a difficult time recently and I feel that Windsor, aided by amalgamation, is beginning to flourish more than it has in quite a while. The success of local businesses is key to a bright future for our community.

Ski Martock and the Pisiquid Canoe club, as well as our farmers, depend on the freshwater from our lake. It would be a tremendous setback to our community if these businesses were forced to close, relocate, or make financial investments to try to find alternate water supplies, if they are even available to them.

I completely support the passage of fish through a modern aboiteau system. We are so fortunate to have such a beautiful community and there should be a solution for everyone.

Being a homeowner in Windsor and having spent over a year here now since the beginning of the pandemic I am very optimistic about the future of our township and Hants County but we must recognize the importance that our local businesses play and support their growth. Outdoor recreation has become even more important to people during this difficult time and having a ski hill and canoe club in our midst is a blessing. They help to attract people to our community.

A vibrant economy is vital to the health of our community and the well being of our citizens and our freshwater lake plays an extremely important part.

I respectfully ask that the West Hants council work with all levels of government to protect the future of our lake and allow for fish passage in and out of Lake Pisiquid.

Thank you

Shelleena Thornton

Subject: FW: Lake Pisiquid

From: ma.n.pa.arsenault < >
Sent: May 11, 2021 8:55 AM
To: Richard Murphy <rmurphy@westhants.ca>
Subject: Lake Pisiquid

We want the lake to remain a lake as it's been for 50 years. The changes made back then cannot be reversed without serious harm to the current agricultural and recreational industries.
Andre and Donna Arsenault Dyke Road.

Sent from my Bell Samsung device over Canada's largest network.

Shelleena Thornton

Subject: FW: Lake

Hi Laurie

We have already talked about this but I thought I should contact you anyway.

David and I are both opposed to leaving the gates open and allowing the water to drain. People have based their lives over the last 50 years on having the lake and protection from the tides and salt water and it is just not right to do that to them. Also the new salt marsh on the other side of the causeway would be destroyed and that makes a home for a lot of wildlife.

If a way can be found to maintain the lake and allow the fish to pass that would be great but otherwise do not drain the lake. It is too late for that.

Thanks,

Carol MacKenzie and David Perry.

Shelleena Thornton

Subject: FW: Lake Pisiquid

From: Art & Rhea Noiles < >
Date: May 11, 2021 at 12:39:29 PM ADT
To: Abraham Zebian <AZebian@westhants.ca>
Subject: Lake Pisiquid

Caution
This email comes from an outside sender. Verify the sender and use caution with any requests, links or attachments.

Hi there
I live in Brooklyn and want to let you know that I believe we need to make sure that Lake Pisiquid is kept as fresh water and the current ecosystem which has evolved since the causeway was built continues. As you are the mayor of the Windsor West Hants Municipality, I urge you to consider the petition being circulated and as it states "commit to a solution that considers the outcomes for the entire community of Windsor West Hants." This is an important issue for all of us and more communication is needed.
Thank you and stay safe!
Rhea Noiles

NOVA SCOTIA
Municipal Affairs
Office of the Minister

PO Box 216, Halifax, Nova Scotia, Canada B3J 2M4 • Telephone 902-424-5550 Fax 902-424-0581 • novascotia.ca

April 27, 2021

Mayor Amanda McDougall
Acting President, Nova Scotia Federation of Municipalities
Suite 1106, 1809 Barrington Street
Halifax, NS B3J 2K8

Dear Acting President McDougall:

Under the provisions of the *Municipal Government Act,* the Minister of Municipal Affairs must provide to the Nova Scotia Federation of Municipalities (NSFM) 12-months' notice of any provincial legislation, regulation, or administrative actions that could have the effect of decreasing revenues or increasing the required expenditures of municipalities. This letter is intended to provide notice of such changes for fiscal year 2022-2023 and beyond.

The Department of Municipal Affairs (DMA) canvassed all other provincial departments to seek information on plans for legislative, regulatory, and policy changes in the coming fiscal year. The following is a summary of the results of that process.

DEPARTMENT OF ENVIRONMENT

It is possible that municipalities would incur incremental costs in implementing the *Coastal Protection Act* in the coming fiscal year. Nova Scotia Environment (NSE) is providing notice of changes which will be required in municipal building and development permit approval processes now that the coastal protection legislation (Bill 106) has passed. This legislation will provide consistent, province-wide legal protection for our coast by restricting development and related activity in areas where structures will be at risk of damage due to coastal flooding and erosion, or where it will damage sensitive coastal ecosystems.

Under this legislation, municipalities will be enabled to issue a building and/or development permit for construction within a coastal protection zone to be defined by regulation if the proposed location of the construction is above a minimum building elevation specified in regulations and is situated upland of a horizontal setback certified by a designated professional. This will require minor modifications to municipal administrative processes for these types of permits.

It is expected that responsibility for competent, accurate, and objective certification will rest with the member of the designated profession, with forms and a standard for assessing risk of flooding and erosion risks to be provided by NSE. It is further anticipated that municipalities will be responsible for determining whether the proposed site is within the zone (and therefore whether the Act applies), and whether the Act applies to the general type of structure or construction proposed. Subject to the final form of the regulations, if the Act applies, the municipality may be required to determine whether the proposed location is above the minimum building elevation specified in the regulations, whether the proposed location is upland of the horizontal setback certified in a designated professional report accompanying the permit application, and ensure the designated professional was a member in good standing of the relevant professional body at the time the report was signed.

Specifics of which professional groups will qualify to provide the certification, specific standards and forms to be used, and other administrative details will be set out in regulations. The delineation of the zone and the specifics of restrictions, various exceptions and standards that apply within it will also be set out in regulation. NSE will be consulting with municipalities on the regulations.

DEPARTMENT OF INTERGOVERNMENTAL AFFAIRS

Procurement

Every two years Global Affairs Canada updates its thresholds for covered procurements under the Canada Europe Trade Agreement (CETA) and the Canada Free Trade Agreement (CFTA). Municipal procurements are covered under these obligations. All procurements above these thresholds must be tendered unless subject to exemption. Thresholds were last updated on January 1, 2020 and are as follows:

	CETA Thresholds	CFTA Thresholds
Goods	$366,200	$105,700
Services	$366,200	$105,700
Construction	$9.1M	$264,200

It is anticipated there will be new thresholds for CETA and CFTA for 2022-23. These thresholds are calculated based on data that will not be available until the end of this year, so, at this time, the scope for municipal involvement is not known. We will advise as soon as we receive updated information.

DEPARTMENT OF JUSTICE

Biological Casework Analysis Agreement

The Biological Casework Analysis Agreement provides Nova Scotia's Municipalities with DNA analysis arising from criminal investigations. DNA is an important service that helps solve crime. The financial cost of this program is expected to increase to $808,203 for 2021-22 for Nova Scotia compared to $701,690.22 in 2020-21. This increase is primarily due to the rise in costs for Employee Benefits Plan (EBP) effective in 2019-20.

The proration of the cost to municipalities will be reassessed annually upon the DMA's release of the "Total Uniform Assessment" for the current fiscal year.

RCMP Labor Relations Regime

On June 19, 2017, Bill C-7, An Act to amend the *Public Service Labour Relations Act,* the *Public Service Labour Relations and Employment Board Act* and other Acts and to provide for certain other measures received Royal Assent. Bill C-7 created a new labour relations regime applicable to the RCMP Regular Members and Reservists. Although labour contract negotiations began in June 2020 and are expected to be completed by December 21, 2021, there is a possibility that they may extend into early 2022. As such, the payout date for the contract increase including retro pay is not certain and could fall in either fiscal year 2021-22 or 2022-23. We will monitor the situation closely and keep municipalities up to date as the process moves forward.

Given this is an ongoing negotiation, the cost implications cannot be identified at this time. However, DOJ is committed to keep municipalities informed as the negotiations unfold.

The Accessibility Act

The Accessibility Act requires public sector bodies (which include all municipalities and villages in NS) to meet certain obligations including the establishment of an accessibility committee and plans for each body. Municipalities should all be aware of this; the Directorate indicates several municipalities have begun recruiting committee leads and members. All municipalities and villages have until April 1, 2022 to develop an accessibility plan and establish an accessibility committee.

Work is underway on the development of the accessibility standards for the built environment. This work is a significant milestone in our efforts to become an accessible province by 2030. An internal working group is now working to develop a proposed standard based on the recommendations submitted by the Accessibility Board. There will be an opportunity for municipalities, villages, and Nova Scotians to provide input once recommendations are complete. The goal is to have the first phase of the standard enacted by May 2022. At a minimum, one-year notice will be given to municipalities and villages of any policy and regulation change that will impact their revenue or expenditures.

COMMUNITIES, CULTURE, AND HERITAGE

Library Funding

In 2020-21 Communities, Culture and Heritage launched a new funding model to the Nova Scotia library community providing a $2.081 million increase in annual investment from the province in our regional libraries, from $14,400,000 to $16,400,000 annually. Libraries also receive funding from municipalities, and the new formula identifies new funding amounts for municipalities. These new mandated amounts will come into effect in 2022-23.

Municipal funding contributions remained at current levels for 2021-22; however, municipalities can elect to implement their new funding contributions to libraries this year, as outlined in the new funding model, should they wish to do so.

This additional time is to allow for data to be collected to capture the additional operational contributions being made to library boards from municipalities.

If any of the above content is unclear or should you have any questions regarding the provided information, please do not hesitate to contact the department for clarification.

Sincerely,



Brendan Maguire
Minister of Municipal Affairs

CANADIAN FEDERATION OF INDEPENDENT BUSINESS
In business for your business

504 – 5121 Sackville Street Halifax,
Nova Scotia, B3J 1K1

May 5th, 2021

Mayor Abraham Zebian
Windsor – West Hants Regional Municipality
76 Morison Dr., P.O. Box 3000
Windsor, NS
B0N 2T0

Subject: Construction Mitigation

Dear Mayor and Council:

As you may know, the Canadian Federation of Independent Business (CFIB) is a non-profit, non-partisan business association that seeks to give independent business a greater voice in shaping the policies and laws that govern them in the country. With 95,000 members across Canada, 3,900 of which are located here in Nova Scotia, we are the country's largest organization exclusively representing the interests of small and medium-sized businesses (SMEs) to all levels of government.

We are writing today to outline the current realities faced by small business owners and bring forward municipally focused recommendations that support the small businesses in your community. It is more important than ever to incorporate and consider impacts on local businesses as part of the decision-making process of local governments, and to ensure councils support the small businesses who drive their local economies.

Nova Scotia's small – and medium-sized businesses, including those in your community, have been hit especially hard during the pandemic and government-mandated lockdowns. Revenues and staffing levels have continued to lag, pointing to a likely long recovery.

CFIB estimated last summer that Atlantic Canadian small businesses took on an average of $88,021 in order to survive the pandemic, this totaled to $5 billion in debt on the backs of small businesses in the region. As of July 2nd, 2020, most small businesses that incurred debt because of the pandemic reported that it would take more than a year to pay off.

Much like the continuing pandemic, the debt load of Atlantic small businesses has continued to rise. In February of 2021 CFIB estimated the average to now be at $91,460 per business. The majority of small businesses still are saying it will take them longer than a year to pay it off. Considering the lower-than-normal revenue levels, this amount of debt and a business's ability to service their debt is highly concerning.

The pandemic has taken a toll on more than just business's finances; 44 per cent of small business owners in Atlantic Canada reported having to cope with psychological health issues related to the pandemic, and 46 per cent say they have been working more during the pandemic than ever before. New Brunswick's small business owners are faced with mounting debt, economic uncertainty and are anxious over what the future holds.

Despite the federally funded programs available to support small business owners, many continue to have difficulty with cash flow, and customers are not coming in at pre-pandemic levels. As mentioned, to keep their doors open, business owners have taken on significant debt to make up the difference.

While CFIB recognizes that your community does not share the same fiscal capacity as the province, or the federal government; there are still actions that can be taken by the municipality to support and reduce the burden on the city's small businesses.

Spring and Summer in Nova Scotia mark the peak of the province's construction season. As you are aware many municipalities across Nova Scotia use this time for development and infrastructure upgrades. While this is good news for growth; construction projects can have unintended consequences as they are carried out, including significant disruptions to small businesses caught in the construction zone.

While these disruptions can be harmful to businesses under normal circumstances, they could prove to be particularly devastating this coming construction season due to the precarious position many small and medium sized business are in due to the COVID-19 pandemic. Now more than ever, it's important to consider the impacts construction projects would have on small businesses who are struggling with reduced customer traffic. For these businesses dealing with the negative consequences of construction projects will be another significant hurdle that prevents already weakened small businesses from getting back on their feet.

While it is important to update and maintain existing infrastructure, CFIB would caution against using extensive construction or major road work as a strategy to mitigate some of the economic fall-out due to the COVID-19 pandemic.

CFIB research shows that since 2012, 41 per cent of Canadian small businesses have been disrupted by local construction projects. Of those, 65,000 small businesses have been affected in a major way that has often resulted in the business being forced to borrow money, relocate, or close down all together. Even short-term projects can have lasting consequences on business viability. The same survey indicates that only three out of ten small business owners have been satisfied with municipal governments' handling of local construction projects' negative impacts.

In the Fall of 2019 Quebec City became the third city in Quebec and Canada, to adopt measures to compensate merchants whose businesses have been affected by roadwork. This followed similar compensation efforts that were undertaken in the cities of Montreal and Lévis.

The impact of public works and construction is a very real issue for thousands of local businesses in Canada. Municipal leadership, as show in Quebec municipalities on this issue, is needed to give local businesses the support they deserve and to pave a smoother road during current and future public infrastructure projects.

For these reasons CFIB continues to call on municipalities across the country, to adopt a coherent construction mitigation policy featuring a **compensation program** for cases where construction has a moderate to major impact, for an extended period, on the operations of local businesses.

CFIB recommends the following key elements for any construction mitigation policy:

1. A compensation program: For cases where construction has a moderate to major impact, for an extended period, on the operations of local businesses. It should be easy to understand and access, involve significant and timely monetary compensation (daily amount, tax break or other) and be financed by factoring in its costs in the budget of each project;

2. A no surprise rule: Mandating the municipality to track its infrastructure's condition and let local businesses know of construction well in advance. A good way for cities to do that is to have a state of the infrastructure report, a 5-year capital investment plan and relevant pre-construction consultation with all impacted businesses;

3. A comprehensive planning approach: Involving the "dig once"(avoid repeated digging or interventions on the same site) principle and the phasing/timing of projects;

4. An improved contracting process: With integrated mitigation provisions and a bonus/penalty system, especially for early/late completion of the project;

5. A business liaison officer: Who has managerial authority designated for each project.

Small businesses are the backbone of our local economies. It's imperative that local governments help them transition through the ongoing pandemic. Thank you for your attention to this important matter. If you wish to discuss this issue further, please contact me directly at: 902-314-0064 or by email at marley.kingston@cfib.ca

Sincerely,



Marley Kingston

Policy Analyst
Canadian Federation of Independent Business

C.c:
Mark Phillips, Chief Administrative Officer

SAFE RESTART FUND (SRF)

FUNDS TO SUPPORT MUNICIPAL COVID-19 OPERATING COSTS

To safely restart the economy.....

Municipalities needed to put in place appropriate precautions to minimize the spread of COVID-19 and manage public spaces and critical services, like public transit.





SRF OVERVIEW:

- The SRF is a federal investment of $19 billion to help provinces and territories safely restart their economies and make our country more resilient to possible future surges in cases of COVID-19. The Municipal and Transit Stream was $4.3 billion.
- In partnership with the Government of Canada, the Province of Nova Scotia through the Safe Restart Fund Agreement - Municipal and Transit Stream provided $67.5 million to support Nova Scotia municipalities with COVID-19 operating and transit costs.
- Of the 67.5 million, 23.2 million was designated for transit COVID-19 costs.
- All 49 municipalities received funds.
- Funds were allocated based on percentage of total estimated costs calculated in a survey conducted by the Nova Scotia Federation of Municipalities.
- All municipalities are required to submit how they have spent the SRF by September 30th. The SRF Accountability Schedules are included in the Financial Information Return.

$67.5 million

Municipalities are on the front lines, and provide critical services, like public transit.

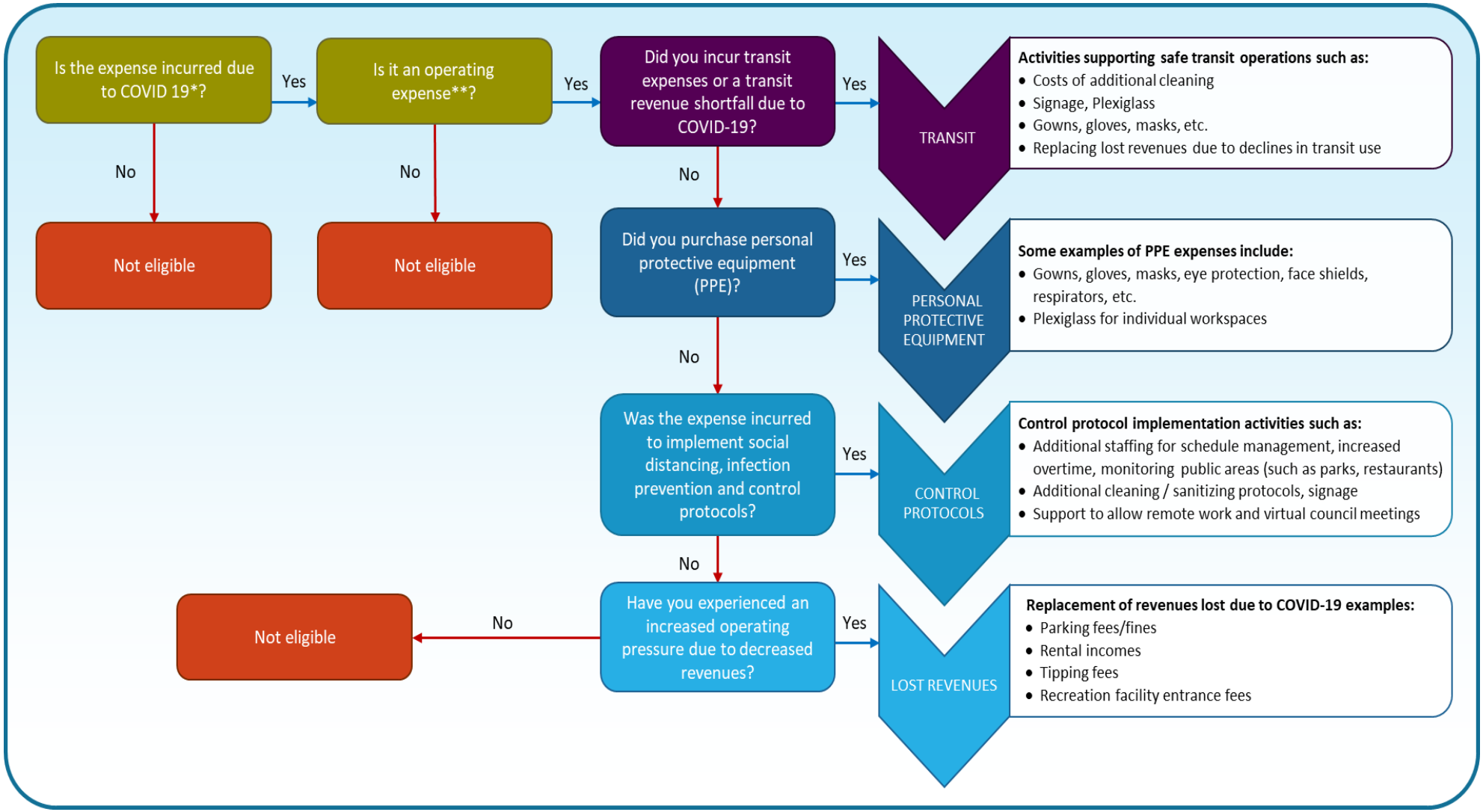


ELIGIBLE EXPENDITURES : The decision flowchart on the next page provides eligible expenditures categories and examples. SRF recognizes COVID-19 eligible expenditures incurred starting from April 1, 2020.



Governments working together to effectively to manage the impacts of the global COVID-19 pandemic.

SAFE RESTART FUND (SRF)- NOVA SCOTIA



*If a third-party organization provides municipal services, the municipality may transfer the SRF fund to cover the expenses incurred due to COVID-19 and their lost revenue.

** The SRF must be used for operating expenses. For some expenses, you will find it difficult to determine whether they are operating expenses or capital expenditures. Municipalities must follow their Tangible Capital Asset Policy to determine capital expenditures. If the municipality incurred capital expenditures to implement social distancing and infection prevention and control protocols, the costs are not eligible. However, the amortization expenses associated with the capital assets are eligible as amortization expenses are considered operating expenses.

NOVA SCOTIA

Transportation and Active Transit
Office of the Minister

PO Box 186, Halifax, Nova Scotia, Canada B3J 2N2

APR 2 1 2021

Mayor Abraham Zebian
West Hants Regional Municipality
776 Morrison Drive
Windsor, NS B0N 2T0
azebian@westhants.ca

Dear Mayor Zebian:

Thank you for your correspondences dated March 4 and April 7, 2021, regarding needed repairs to Bog Road and the replacement of the Halfway River Bridge on Bog Road.

The Department of Transportation and Active Transit (TAT) agrees the Bog Road needs repair. It is a high priority, and we are seeking additional funding to carry out the work as soon as possible. Additionally, the Halfway River Bridge on Bog Road is also on TAT's replacement list as soon as funding can be prioritized.

Minimum road patching of the Bog Road was completed in 2020 and will continue until capital repairs can be performed. These capital repairs to Bog Road are to include road surface rehabilitation along with drainage, signage, and guardrail upgrades from Trunk 1 to the Hantsport town limit.

Again, thank you for bringing your concerns to our attention. The Operations Contact Centre (OCC) (1-844-696-7737 or tat-occ@novascotia.ca) may be contacted to lodge specific complaints which will be assigned to the appropriate TAT staff for follow up. If you wish to discuss further, please contact Acting Area Manager for Hants, Matt Clarke, at the above noted phone number.

Sincerely,

Lloyd P. Hines
Minister

c: Honourable Iain Rankin, Premier
Honourable Chuck Porter, MLA Hants West
Guy Deveau, District Director Central
Matt Clarke, Acting Area Manager Hants

Southwest Hants Fire Society

1884 Highway 14
RR #3 Windsor, N.S.
B0N 2T0

Wednesday, May 5, 2021

West Hants Regional Municipality
76 Morison Dr., P.O. Box 3000
Windsor, NS B0N 2T0

Dear CAO Mark Phillips
Director of Finance Carlee Rochon
Councillor Ed Sherman
Mayor Abe Zebian:

It is with great frustration that we learn through external channels that you have made the decision to omit what our area would consider a vital piece of equipment from the consideration of Council for upcoming Budget decisions.

In a community that has upwards of 12 lakes or still waters, it goes without saying that a water rescue boat is a necessary investment, especially when the outfitted price tag is under $15,000. The nearest mutual aid availability is Windsor or Chester, each with a 20-minute minimum response, provided someone is available at those respective stations to be dispatched.

We understand that there are a number of larger capital investments required this year by other departments, but that does not mean our department is any less deserving. We are of similar size and call volume to other departments who do have water rescue equipment, yet our budgets regularly come in much less. We do not ask for much more than the bare minimum to ensure the safety of the firefighters who serve us in this community, so when an ask is made and no communication is given prior to an absolute no, it is difficult to see that departments are being given equitable treatment.

We also realize that having a boat was not a direct recommendation in the fire services study for our station; however, like all studies, operational requirements may have to be adjusted from time to time to accommodate new needs or those overlooked by the writers of the study. The operational need for a boat was identified by the members through the fire chief to mitigate the risks associated with increased use of our waterways.

Southwest Hants is a growing community and has been for some time. Adding to that growth, the nature of current real estate markets means many older properties which would have been grandfathered at older assessments will now see inflated values. Both greatly increase future property tax revenues across the Municipality. The community is really beginning to look for tangible value for their tax dollars without having to travel to other communities within the municipality to utilize them. Knowing that with increased lake traffic that there will be a safety net is one of those tangible values.

The Southwest Hants Fire Society board and membership have rallied time and again to fundraise and apply for grants for various initiatives to ensure adequate facilities for the equipment and safety of this community, yet Municipal Staff and Councillors continue to turn a blind eye to our need. A prime example is the 2018-19 budget item – a vehicle exhaust system - that was approved under Department Capital Funding and to this day is not installed (but has just recently been delivered) and the purchase order only issued last year during the early stages of the pandemic. At least this is what is being relayed to the Society via Hantsport Station 1.

In closing, we would really encourage you to re-evaluate the decision to remove the Water Rescue Boat from Hantsport's Capital Budget for Station 2. We would also ask, respectfully, that we be included in the conversation or in the very least, receive direct information regarding the funding of both the Station and the Society.

Kindest Regards,

Signed on behalf of Southwest Hants Fire Society Board of Directors:

Jeff Dunfield, Chairperson, jcdunfield@hotmail.com
Kayla Leary-Pinch, Vice-Chairperson, klearydm@hotmail.com
Alicia Wile, Treasurer, aliciadmwile@hotmail.com
Jennifer Davison, Secretary, jennifer.j.davison@hotmail.com

Cc: File
Hantsport Chief & Executive

WINDSOR / WEST HANTS TOGETHER

WEST HANTS REGIONAL MUNICIPALITY REPORT

Information ☐	Recommendation ☑	Decision Request ☐	Councillor Activity ☐

To: Members of Council

Submitted by: J. Richard
Todd Richard

Date: May 3, 2021

Subject: Asphalt Paving Services Standing Offer Contract (WWHPW21-04)

LEGISLATIVE AUTHORITY

Nova Scotia Municipal Government Act, Section 65 authorizes Council to expend funds for municipal purposes.

RECOMMENDATION or DECISION REQUEST

It is recommended to Council that:

Council approve the award of a standing offer contract WWHPW21-04 for Asphalt Paving Services to the low compliant bidder, Dexter Construction Company Ltd., for the term and unit prices specified in their public bid submission.

BACKGROUND

Property ☑	Public Opinion ☐	Environment ☐	Social ☐	Economic ☐	Councillor Activity ☐

This standing offer services contract WWHPW21-04 is for ongoing operational pavement patching requirements from May 1, 2021 until March 31, 2023 with the option to extend for an additional 12 months. This contract is not intended to address any paving requirements that may be associated with individual capital projects that are tendered throughout the year. It should also be noted the bids are based on unit prices

only and the total amount is the sum of all estimated quantities times the applicable unit rates. The total amount stated is not a guaranteed to the bidder.

DISCUSSION

A public invitation to bid was issued on March 15th and closed on April 15th, 2021. The following bids were received:

- **Dexter Construction Company Ltd.** **$ 399,100.00**
- No Job Too Odd Property Improvements $ 426,900.00
- Cumberland Paving & Contracting Ltd. $ 461,850.00
- Ocean Contractors Limited $ 481,530.00
- Atlantic Road Construction & Paving Ltd. (ARCP) $ 529,200.00
- Howard E. Little Excavating Ltd. $ 610,850.00

All of the bid submissions received were reviewed by Public Works staff to ensure they were compliant. Dexter Construction has extensive experience in the industry and previously held this service contract with the Municipality for the 2021/22 period; staff see no issues with awarding the tender to this bidder. Below is a breakdown of the unit rates.

Bid Sheet:

Description	UOM	Estimated Quantity	Unit Price	Total Price
Asphalt Concrete Hand Patching (includes cleaning surface, tack coat, supply, placement and compaction of hot mix asphalt type C-HF)	MT	250	$293.00	$73250
Cut & Patch Asphalt; minimum thickness 75mm, maximum 100mm (includes vertical saw cut full depth, excavation and removal of materials to required depth, hauling to Municipal dump site, supply and placement of type 1 gravel if required, tack coat of existing asphalt edges, supply, placement and compaction of hot mix asphalt type C-HF)	MT	450	$288.00	$129,600
Mechanical Spreader Patching (includes cleaning of work area, tack coat, supply, spreading by mechanical spreader and compaction of hot mix asphalt type C-HF)	MT	450	$175.00	$78,750

Asphalt Curb (includes supply, placement and finishing of hot mix asphalt curb on existing asphalt base)	m	100	$48.00	$4,800
Asphalt Sidewalk Hand Overlay (includes cleaning, supply, placement and compaction of hot mix asphalt type C-HF on existing asphalt or concrete sidewalks)	MT	50	$293.00	$14,650
Pavement Plaining. 0.6m x 50mm thickness 2.0m x 50mm thickness (includes mechanical removal of existing asphalt surface, hauling to Municipal Public Works yard, cleaning surface of all loose material)	 m^2 m^2	 450 450	 $12.00 $5.00	 $5,400 $2,250

Planer Patch 50mm (includes mechanical removal of existing, hauling to Municipal Public Works yard, cleaning work area, tack coat, supply, spreading and compaction of hot mix asphalt type C-HF)	m^2	1800	$46.50	$83,700
Placement of Gravel (includes placement of 150mm type 1 gravel, fine grading and compaction)	m^2	300	$14.00	$4,200
Asphalt Removal (includes excavating and removal to Municipal Public Works yard)	m^3	250	$10.00	$2,500

NEXT STEPS

There are no additional steps required for execution of this standing offer contract.

FINANCIAL IMPLICATIONS

All work that falls within this standing offer has been identified in the 2021/22 operating budget under maintenance of streets, sewer operations and water utility operations. Future operating budgets will include estimated maintenance work required, that will be within the terms of this standing offer.

ALTERNATIVES

1. Council may choose not to proceed with this project. This is not the recommendation to Council.

ATTACHMENTS

None.

CHIEF ADMINISTRATIVE OFFICER REVIEW

As noted in the report the standing offer would be effective until March 2023 with the option to extend to 2024. This will provide the consistency of unit pricing over that term for patching and repair work carried out within the WHRM. It is further noted that the amount of patching will be influenced but "repairs and maintenance " budget allocations as well as responses to emergency repairs as needed and not capital work. I support the recommendation.

Report Prepared by: _____

Brad Carrigan, P.Eng., Capital Projects Engineer

Report Reviewed by: _____

Todd Richard, Director of Public Works

Report Approved by: _____

Mark Phillips, Chief Administrative Officer

WINDSOR / WEST HANTS TOGETHER

WEST HANTS REGIONAL MUNICIPALITY REPORT

Information ☐	Recommendation ☐	Decision Request ☐	Councillor Activity ☐

To: WHRM Committee of the Whole

Submitted by: Mark Phillips, Chief Administrative Officer

Date: May 11, 2021

Subject: WHRM Municipal Complex Review - Update

LEGISLATIVE AUTHORITY

Municipal Government Act, Chapter 18 of the Acts of 1998

- A municipality may sell property at market value when the property is no longer required for the purpose of the municipality - MGA 50 (5)(b)
- A municipality may lease property owned by the municipality at market value - MGA 50 (5)(c)

INFORMATION / DECISION REQUEST

As we enter budget deliberations it is hoped this subject will be revisited and a plan can be created in 2021 for the consolidation of staff and municipal operations.

It may be beneficial to create a smaller working group composed of members of Council and staff to facilitate further review, planning, and construction phases.

Council members x 3

Staff members x 3

BACKGROUND

Property☐	Public Opinion☐	Environment☐	Social☐	Economic☐	Councillor Activity ☐

The process of moving forward with the consolidation of Municipal Operations has been delayed. Recently, appraisals for 100 King Street and 76 Morison Drive have been completed and are attached for Council's review.

DISCUSSION

With the recent appraisals the discussion of consolidating operations is placed before Council again for consideration.

Staff continue to be separated by having two occupied buildings. Interdepartmental cooperation has been impacted due to Covid as well as the physical separation. A consolidation will further provide cost savings to the municipality by not operating two separate facilities and by generating additional ongoing revenues if one of the buildings were sold and property taxes collected. Finally, if one of the buildings were sold the proceeds from the sale could help to offset the cost of renovations to the remaining building.

FINANCIAL IMPLICATIONS

- Consolidating operations and reducing the number of facilities will provide a cost savings as well as ongoing taxation ranging from an estimated net $127,000 to $198,000 (see attached spreadsheet)
- The 2021/22 Capital budget has been revised for Council's consideration as follows:
    - 2021/22 Municipal Complex Reno $500,000
    - 2022/23 Municipal Complex Reno $1,250,000

ALTERNATIVES

1. Council would not discuss the renos at budget deliberations.

ATTACHMENTS

100 King Street Appraisal – March 2021

76 Morison Drive Appraisal – March 2021

Municipal Complex Cost Comparison (76 Morison Drive and 100 King Street)

CHIEF ADMINISTRATIVE OFFICER REVIEW

N/A – Report submitted by Chief Administrative Officer

Report Prepared by: _____

Mark Phillips, Chief Administrative Officer

Valuation Report
100 King Street, Windsor, NS

TURNER DRAKE & PARTNERS LTD.

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Fax: 1-902-429-1891
Internet: www.turnerdrake.com
E-Mail: tdp@turnerdrake.com

VALUATION REPORT
(Summary Report)

VALUATION OF

PID #'S 45057742, 45057734 & 45057759
WINDSOR TOWN HALL
100 KING STREET
WINDSOR
NOVA SCOTIA

OWNED BY

TOWN OF WINDSOR

PREPARED FOR

WINDSOR/WEST HANTS REGIONAL MUNICIPALITY

AS OF

8TH MARCH 2021

BY

RICHARD J. ESCOTT

TURNER DRAKE & PARTNERS LTD.
HALIFAX - NOVA SCOTIA

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Internet: www.turnerdrake.com

Regulated by RICS

Our Ref: 2114913:NB/RE

30 April 2021

Mr. Mark Phillips
Chief Administration Officer
Windsor/West Hants Regional Municipality
PO Box 3000
76 Morrison Street
Windsor NS B0N 1T0

Dear Mr. Phillips:

Re: PID #'s 45057742, 45057734 & 40557759 Windsor Town Hall, 100 King Street, Windsor, Nova Scotia

In accordance with your request of the 6th January 2021, we have completed a valuation of the above property on the basis of its **Market Value** (Highest & Best Use) and **Market Rent**. (Net Absolute).

This report is intended only to be used for Lease and Sale purposes and for no other purpose; and only by Windsor/West Hants Regional Municipality our client for this assignment. Use of the report for other purposes or by other parties may invalidate the conclusions. The RICS Valuation Standards require that we prepare a new report if the client, intended user, date, or purpose of the assignment, is changed.

Type of Property

The property comprises the town hall and fire station for the former Town of Windsor and is held as an operational asset.

Scope of Work

(i) Property identification – we took as our source the legal description from the deed conveying the property to the present owner together with a survey plan as well as the the Provincial on-line mapping service. We utilised the foregoing, aerial satellite imagery to identify the property boundaries during our on-site inspection.

(ii) Property inspection – we undertook a detailed inspection of the property including the interior and exterior of the building that had a material impact on the property value. Our findings are described in the body of this report.

…2

(iii) Data research – we obtained the assessment, zoning, planning and other pertinent data from the appropriate sources. Some sales information is available from government sources and was utilised for this assignment. However it was incomplete and rudimentary and required processing by our CompuVal® Information Platform to render it usable. Further sales information was compiled from vendors, purchasers, brokers, appraisers, Multiple Listing Services® and other sources we deemed reliable. It was analysed and utilised to compute the Land and Building Value using the Direct Comparison Approach, and the rents and capitalisation rates for the Income Approach. Building costs were derived from commercial costing services and were validated, whenever possible, with actual costs. Income and expense data was obtained comparable properties and industry benchmarks

(iv) Analyses applied – there are three methods traditionally used to arrive at the value of real estate: the Direct Comparison, Cost and Income Approaches. We utilised the Direct Comparison, Cost and Income Approaches since this was necessary to properly value the property.

The following **Executive Summary** provides an overview of our findings and describes the extent of our investigations and document research.

Quality Standards

Turner Drake's quality assurance system, which covers the conduct of all of our operations, is registered to the ISO 9001:2015 standard. This assignment has been conducted in accordance with our quality assurance system, the Code of Professional Ethics and the Royal Institution of Chartered Surveyors' Valuation Standards [2017 Edition] (RICS Red Book), the International Valuation Standards (IVS), the Uniform Standards of Professional Appraisal Practice (USPAP), [1][Appraisal Report] and the Canadian Uniform Standards of Professional Appraisal Practice.

Observed Condition of Building

Whilst our inspection of the property should not be construed as a structural survey, and we did not undertake any tests of the heating, plumbing, electrical, airconditioning or other systems we found no major defects other than normal wear and tear consistent with the property's age and use**.** However some of the interior finishes are dated and some areas are vacant.

Building Measurement

We did measure the Gross Floor Areas of the building.

Environmental

(a) **Hazardous materials or environmental concerns** - none were observed or brought to our attention during our inspection of the property. However buildings of this age and occupancy often contain potential hazardous materials or have been exposed to environmental contamination. We have identified possible contaminants in the Environmental Contamination section of this report.

We noted the presence of storage tanks on the property. We have not been able to confirm that they meet Provincial Government environmental regulations.

The property has been valued on the assumption that it is environmentally "clean"**.**

1 Contains all of the information significant to the solution of the appraisal problem.

(b) **Climate change concerns –** climate change resulting from global warming exposes property to the increased risk of flooding from pluvial (rain), fluvial (watercourses) and coastal (storm surge) sources. Most municipal infrastructure for water dispersal was not designed to accommodate the heavier rainfalls that are a consequence of a warming climate. Former and current National Building Codes do not contemplate the present regime of climate change which is resulting in higher winds, temperatures and rainfall. Excessive rainfall has a concomitant, adverse, impact on the ability of watercourses to function without overflowing their banks. Excess precipitation, coupled with a storm surge, conspire to elevate the danger of flooding for coastal property since both are the outcome of a hurricane. Where they exist, flood plain maps are often outdated or inaccurate.

Since no Climate Risk and Vulnerability Assessment Report was available to us for the property, we restricted our investigation to our on-site inspection, enquires of the present owner or occupier, flood plain maps, and our general knowledge of the property and the neighbourhood. We did not observe any immediate risks from flooding, nor were any brought to our attention.

Zoning

We have reviewed the uses permitted under the current Zoning By-Law. The current use of the property is permitted. More complete details are included in the Zoning section of this report.

Since it is outside the mandate of this assignment we have not verified that the building meets all of the site specific requirements of the current Zoning By-Law such as set back and building envelope constraints.

Income Data and Expense Data

We relied upon on the operating history of the subject, data on file on comparable properties, and industry benchmarks.

Investment Assumptions

We have utilised a 10 year investment horizon Overall Capitalisation model employing the Ellwood Mortgage Equity Technique. Our investment assumptions are described in the Income Approach section of this report. The Overall Capitalisation Rate has been validated by reference to a sales analysis of investment type properties.

Sales & Marketing History

To the best of our knowledge the property has not been actively marketed for sale during the past three years and no offers to purchase have been received.

Most Probable Purchaser

In our experience the most probable purchaser for this property would be a partial owner-occupier, a local investor or developer.

Covid-19 Considerations

As of the date of this report Canada and the Global Community is experiencing unprecedented measures undertaken by various levels of government to curtail health related impacts of the Covid-19 Pandemic. The duration of this event is not known. While there is potential for negative impact with respect to micro and macro-economic sectors, as well as upon various real estate markets, it is not possible to predict such impact at present, or the impact of current and future government countermeasures. There is some risk that the Covid-19 Pandemic increases the likelihood of a global recession, however without knowledge of further anticipated government countermeasures at the national and global levels it is not possible to predict any impact at this point in time. Accordingly, this point-in-time valuation assumes the continuation of current market conditions, and that current longer-term market conditions remain unchanged

.

Market Value

In our opinion, the Market Value of the Fee Simple Interest in the subject property, premised on the basis that it will be utilised for its Highest and Best Use with vacant possession as of the 8th March 2021, subject to the Limiting Conditions and Assumptions contained herein and a Reasonable Exposure Time of 6 to 18 months, is the sum of $1,200,000.

ONE MILLION TWO HUNDRED THOUSAND DOLLARS

Market Rent

As requested, we have also considered the Market Rent for the Subject Property. Our analysis and conclusion are detailed in the Income Approach section of our report. In our opinion the Market Rent of the subject property, on a **net absolute to landlord basis** (i.e. assuming that the lessee pays for the property taxes and all operating expenses other than structural repairs and management) and includes the use of the basement space, for a typical term of 5 years. The subject property comprises dated office and ancillary space on the ground and second floors as a fire hall on the ground floor. The basement comprises unfinished storage and semi-finished space. At best the ground and second floors represent fair quality office space. The fire hall comprises open space which currently functions as garage space for the fire trucks and equipment. However, it is somewhat limited for modern fire equipment as a result of its relative low ceiling clearance. Nevertheless it is adaptable to general commercial/storage uses. The basement space is used by the fire department for storage, staff support services, and meeting space. However, it is considered low value space in the general market. Having regard to the attributes of the subject property and the foregoing, we have estimated the market rent for the office space on the ground and second floors at $5.00/ft.^{2} and the market rent for the fire hall space at $4.00/ft.^{2}. We have estimated the Market Rent for basement space at $2.00/ft.^{2} reflecting its condition and limited utility for alternative uses.

In our opinion the Market Rent of the subject property of the 8th March 2021, subject to the Limiting Conditions and Assumptions contained herein and a Reasonable Exposure Time of 6-18 months, is the sum of **$129,595 per annum.** (i.e. $6.05/ft.^{2} of GFA)

Yours truly,

TURNER DRAKE & PARTNERS LTD.

RICHARD J. ESCOTT
Senior Manager
Valuation Division

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SUBJECT PROPERTY



FRONT ELEVATION



SIDE ELEVATION

SUBJECT PROPERTY



BASEMENT – MEETING ROOM



BASEMENT - STORAGE

SUBJECT PROPERTY



GROUND FLOOR - FIRE HALL



GENERAL OFFICES

LIMITING CONDITIONS AND ASSUMPTIONS

(1) No responsibility is assumed for matters of a legal nature, nor do we render any opinion as to the title which is assumed to be good. Unless otherwise noted in this report, existing mortgages, liens, encumbrances and special assessments, if any, have been disregarded and the property has been valued as though free and clear.

(2) We have not undertaken a survey of the property, and no responsibility can be accepted for the accuracy of the Site Plan and sketches. They are only included to assist the reader in better visualising the property.

(3) Market conditions can, and do, change rapidly because of economic, social and political reasons. The market value expressed in this report pertains only to the date of the valuation. It must not be relied on to estimate the market value as of any other date. HST, GST and other tax or expenses due on acquisition or disposition, have not been deducted from, or added to the market value. If the market value is based upon the prospect of future growth in rental and/or capital values, the reader is cautioned that these projections may not occur and values can fall as well as rise.

(4) It is assumed that there are no hidden or non-apparent conditions of the property, subsoil or structures that would render it more or less valuable. No responsibility is assumed for such conditions or for engineering studies that might be required to discover these factors.

(5) The distribution of value between the land and buildings applies only to the property as utilised at the date of valuation and is invalid if the valuation is used for any other purpose.

(6) This report must be used in its entirety since parts taken out of context may be misleading. The report, or any parts thereof, may not be used for any purpose other than that for which it was undertaken and is furnished for the exclusive use of the client. **All liability to any party other than the client is hereby denied.**

(7) Information in this report furnished by others is believed to be reliable, although no responsibility is assumed for its accuracy.

(8) Turner Drake & Partners Ltd. retain the copyright to this report. Reproduction in whole or in part, or any reference thereto, or to the valuation figures contained therein, or to the name and professional affiliation of the author of the report, is prohibited without their written permission and is a contravention of the Copyright Act. The report may be subject to Extraordinary Assumptions and/or Hypothetical Conditions: reference to the report in any published document without an adequate contemporaneous reference to these Extraordinary Assumptions or Hypothetical Conditions would be misleading and is prohibited.

(9) Unless otherwise noted in this report, the existence of hazardous substances, including without limitation asbestos, polychlorinated biphenyls, petroleum leakage, agricultural chemicals, radon gas, urea-formaldehyde foam insulation, or other potentially hazardous substances, which may or may not be present on the property, or molds, mildews and other environmental conditions, were not called to our attention nor did we become aware of them during our inspection. We are not qualified to detect such substances or conditions and the client is urged to retain an expert in this field, if desired. The presence of such hazardous substances or environmental conditions on, or in the proximity to the property, may affect the value of the property. Whilst we have valued the property on the assumption that it does not, and never has, contained such hazardous substances or environmental conditions, and is not in such proximity to another contaminated property as to cause a loss in value to the property the subject of this report, we do not warrant that this is the case and accept no liability in this regard.

(10) Unless otherwise expressly stated in this report, it has been assumed that all oil or other storage tanks, whether above or below ground, are in good condition, free of leaks and other defects, have been registered with the Department of the Environment, are legally permissible and meet all environmental standards. We have not undertaken any investigation, do not warrant that this is the case and accept no liability in this regard.

(11) Climate change, particularly global warming, is a continuous process which increasingly impacts real estate, often in an adverse manner. It can significantly increase the risk of flooding from pluvial (rainfall), fluvial (watercourses) and coastal (storm surge) sources. If a Climate Risk and Vulnerability Assessment was not made available to us for the property we have undertaken a very preliminary investigation of the flooding risk for the purpose of this report. However such investigation is not tendered as a substitute for a detailed Climate Risk and Vulnerability Assessment Report and any party relying on this report is encouraged to undertake their own investigations**.** Climate change risk is not yet fully "priced" into sales transactions and our estimate of Market Value reflects it only to the degree that it is recognised by the market.

(12) We have not inspected woodwork or other parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that such parts of the property are free of rot, beetle or other defects.

(13) This valuation is based on the assumption that there is an adequate supply of potable water to the property at all times. We have not undertaken any tests ourselves and make no warranty therewith.

(14) This valuation is based on the assumption that there is a fully functioning sewage disposal system. We have not undertaken any tests ourselves and make no warranty therewith.

(15) As of the date of this report Canada and the Global Community is experiencing unprecedented measures undertaken by various levels of government to curtail health related impacts of the Covid-19 Pandemic. The duration of this event is not known. While there is potential for negative impact with respect to micro and macro-economic sectors, as well as upon various real estate markets, it is not possible to predict such impact at present, or the impact of current and future government countermeasures. There is some risk that the Covid-19 Pandemic increases the likelihood of a global recession, however without knowledge of further anticipated government countermeasures at the national and global levels it is not possible to predict any impact at this point in time. Accordingly, this point-in-time valuation assumes the continuation of current market conditions, and that current longer-term market conditions remain unchanged.

PURPOSE OF VALUATION

The purpose of this valuation is to estimate the **Market Value** (Highest & Best Use Use) and **Market Rent** of the subject property.

INTENDED USE

This report is intended only to be used for Lease and Sale purposes. The report is not intended to be utilised for any other purpose.

In view of the purpose and intended use of the valuation, this report conforms to the Royal Institution of Chartered Surveyors' Valuation Standards [2017 Edition] (RICS Red Book), the International Valuation Standards (IVS), the Uniform Standards of Professional Appraisal Practice (USPAP) [2][Appraisal Report], and the Canadian Uniform Standards of Professional Appraisal Practice (CUSPAP).

INTENDED USERS

This report is intended for use only by Windsor/West Hants Regional Municipality our client for this assignment. This report is not intended to be utilised by any other party.

PROPERTY RIGHTS VALUED

Fee Simple

DEFINITION OF VALUE

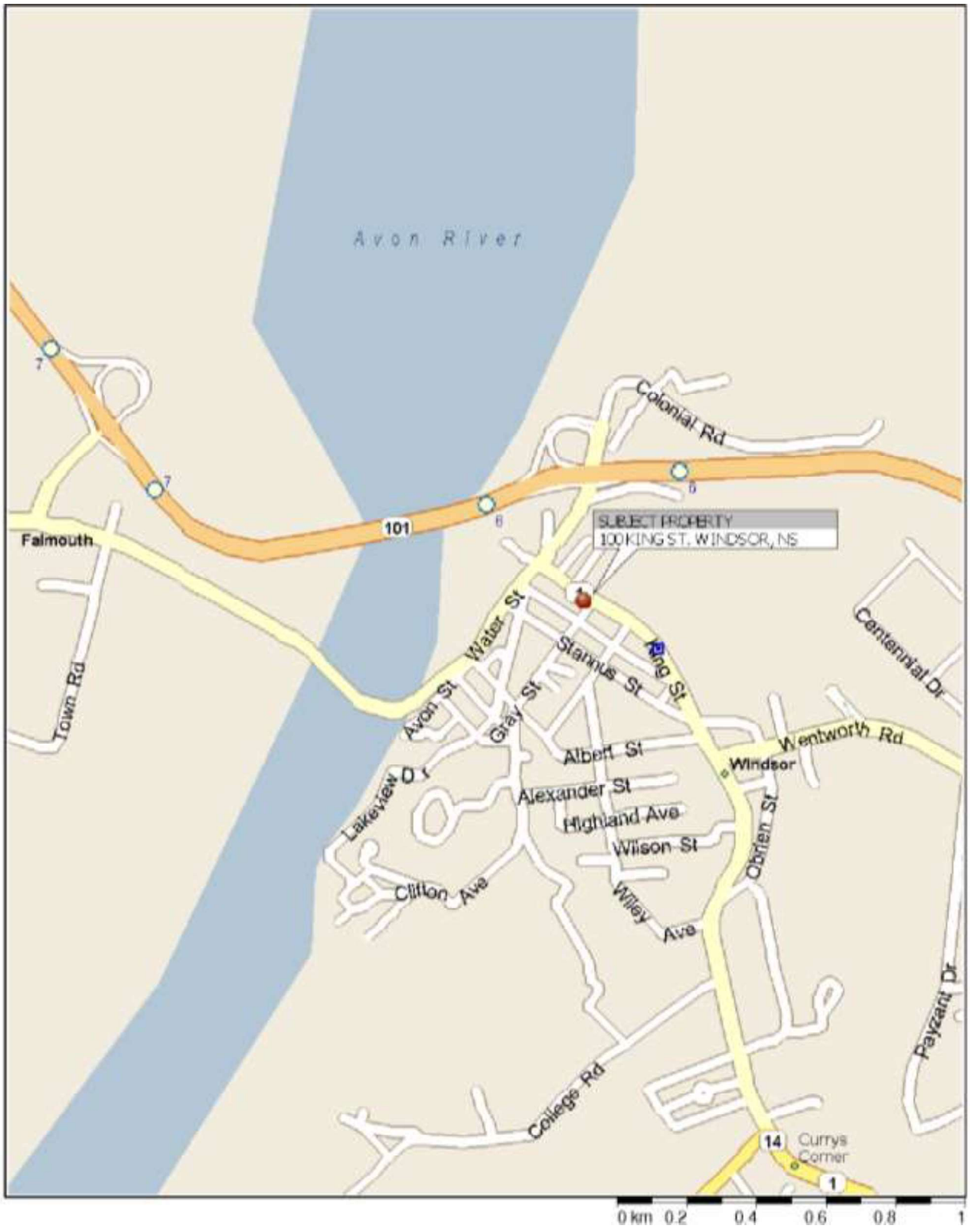
Market Value is defined in CUSPAP as:

> "the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer whereby:
>
> (1) buyer and seller are typically motivated;
> (2) both parties are well informed or well advised, and acting in what they consider their best interests;
> (3) a reasonable time is allowed for exposure in the open market;
> (4) payment is made in terms of cash in Canadian dollars or in terms of financial arrangements comparable thereto; and
> (5) the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale."

Market Value is premised on the basis that the Subject Property will be utilised to its Highest and Best Use.

[2] Contains all of the information significant to the solution of the appraisal problem.

LOCATION MAP



Market Rent is defined as:

> "the estimated amount for which a property, or space within a property, should lease on the date of valuation between a willing lessor and a willing lessee on a net absolute to landlord basis (i.e. assuming that the lessee pays for the property taxes and all operating expenses other than structural repairs. for a typical term of 5 years in an arm's-length transaction, after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion."

EXPOSURE TIME

A Reasonable Exposure Time is defined as:

> "the estimated length of time the property would have been exposed on the open market prior to the effective date of the valuation in order to achieve a sale or lease at Market Value or Rent. Implicit in this definition are the following characteristics:
>
> (1) The property would have been actively exposed and aggressively marketed to potential purchasers and tenants through marketing channels commonly used by buyers and sellers or tenants and landlords of similar type properties.
> (2) The property would have been offered at a price reflecting the most probable mark-up over market value or rent used by sellers and landlords of similar type properties.
> (3) A sale or lease would have consummated under terms and conditions of the definition of market value or rent as outlined in this report."

EFFECTIVE DATE OF VALUATION

The effective date of valuation is the 8th March 2021.

DATE OF INSPECTION

The property was inspected on the 8th March 2021.

TIMEFRAME

This is a Current Value Opinion.

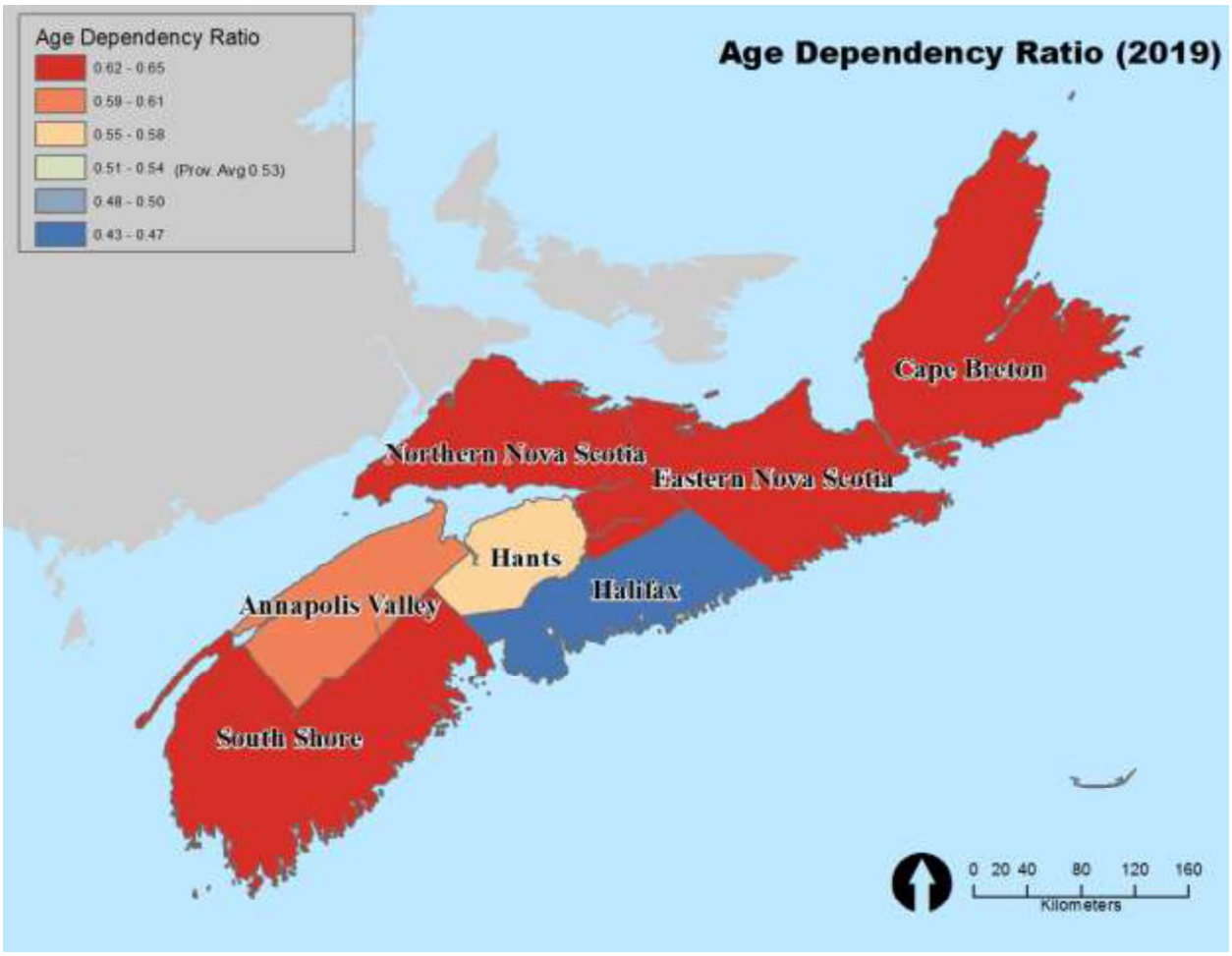
IDENTIFICATION OF PROPERTY

The property is located on the west side of King Street and is identified on the Location Map on the opposite page.

AREA DATA

The Subject Property is located in the Town of Windsor in Hants County, Nova Scotia.

.



The population of Nova Scotia is 960,593 (2019 estimate), while the Hants County region supports an estimated population of 42,564. This represents a population decrease of 0.59 % over the five year period 2014-2019, in contrast to the trend of overall 1.89% provincial population increase during the same period.

The population in the Hants County region is aging: the median age in 2019 is 45.7, up from 43.8 in 2014, above the median provincial age of 44.8 years. The dominant age group in the region, defined as the five-year age bracket with the largest percentage of the population, is 55-59 years, also in line with the dominant provincial age group. The Age Dependency ratio, which measures the ratio of dependents (people younger than 15 or older than 64) to the working age population (15 to 64), in the Hants County region is 0.55, above the provincial ratio of 0.53. The average household income (2019) in the Hants County region is $85,594: slightly above that of Nova Scotia as a whole ($84,593).

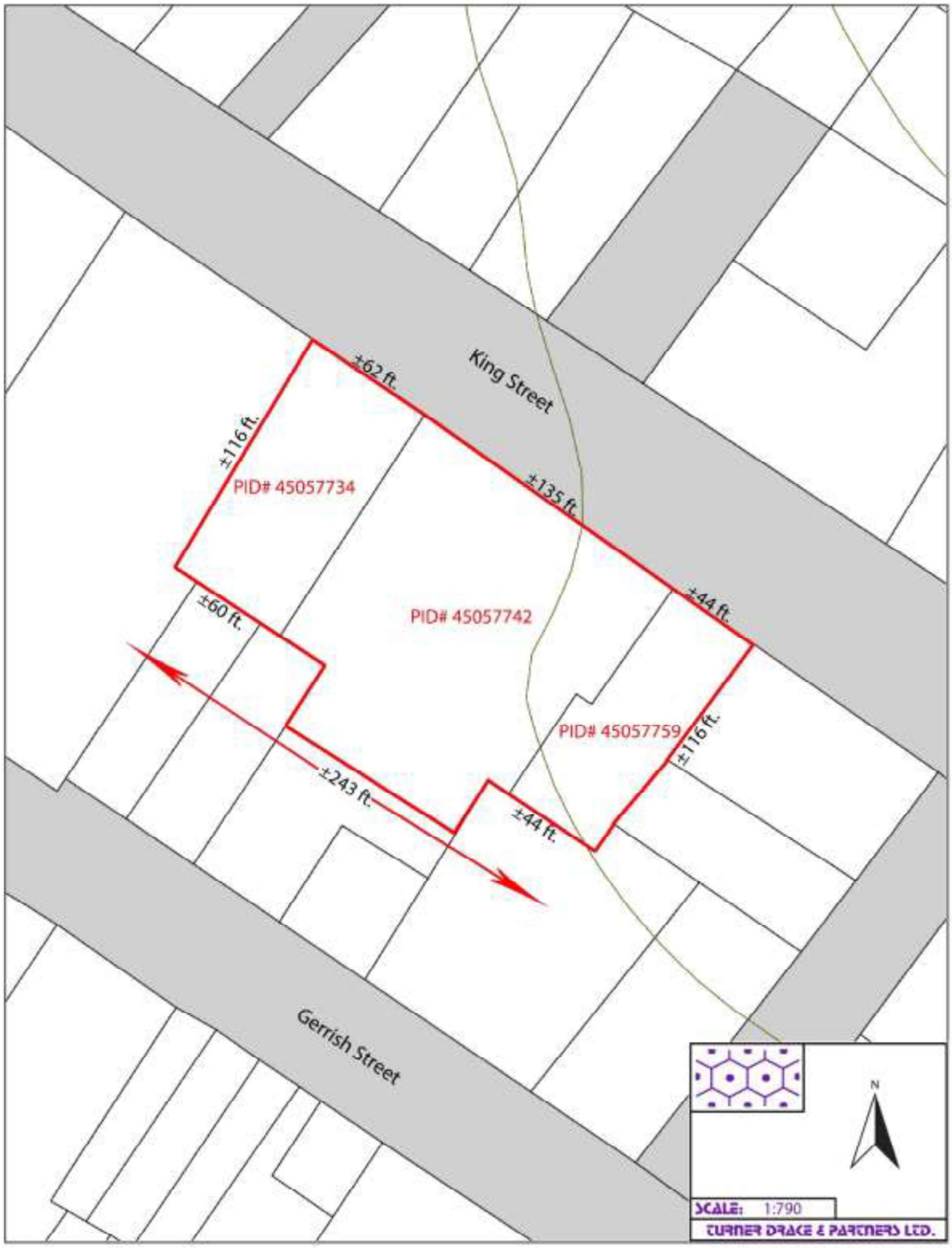
The county's economic base is primarily supported by the agricultural, forestry, light manufacturing, tourism and hospitality sectors. The county is also home to commuters working in HRM. Economic activity as evidenced by new construction appears to be steady, particularly in East Hants. The principal town in West Hants is Windsor which represents the local commercial centre for the area. The town has lost some of its commercial importance to metropolitan HRM over the years. However, the current Hwy 101 twinning represents a major construction project in the locality which will should attract more development to the area

In general, the area can best be described as gradually improving in terms of its economic outlook.

NEIGHBOURHOOD DATA

The neighbourhood represents the downtown centre of Windsor bordered on the north by Highway 101, the south by Victoria Street, the east by King Street and the west by the Avon River. Water and Gerrish Streets are the primary commercial streets in the neighbourhood. The remainder of the neighbourhood is mixed use in nature. In terms of its life cycle, it is fairly static. Whilst there is little vacant land available, there is low medium pressure on land values

SITE PLAN


King Street
Gerrish Street
±62 ft.
±116 ft.
±135 ft.
±44 ft.
±60 ft.
±243 ft.
±44 ft.
±116 ft.
PID# 45057734
PID# 45057742
PID# 45057759
N
SCALE: 1:790
TURNER DRAKE & PARTNERS LTD.

SITE DATA

The subject property comprises three adjoining parcels. PID 45057742 comprises the site of the building. PIDs 450557734 and 45057759 comprise adjoining parking lots. The land is shown edged red on the Site Plan (opposite page). It is irregular in shape and has the following overall dimensions:

King Street Frontage	241	ft.
Southern Boundary	116	ft.
Western Boundary	243	ft.
Northern Boundary	116	ft.
Area		
PID 45057742	7,320	ft.²
PID 45057734	6,500	ft.²
PID 45057759	15,765	ft.²
Total	29,585	ft.²

Reference

We have taken as our source, the legal description from the deed conveying the property to the present owner as well as a survey plan and property data from the Nova Scotia online property database. The dimensions have been plotted onto a Provincial Map, Scale 1:790, prepared from aerial photographs.

Site Improvements

The site is improved with an asphalt paving and a concrete retaining wall. There is also a steel communication transmission tower and chain link fence enclosure on the subject. The site is leased to Bell Aliant on an annual basis at $8,000 per year.

Services Available to the Site

Main sewer, water, and electrical services are available to the site.

Building Description

Fire Hall Building

Architectural Style - Traditional.

 # Storeys - Two.

Basement Area - 11,110 ft.².

Above Grade Area - 21,399 ft.².

Year Built - 1960. Addition/renovation to house elevator and clock tower. The basement space was renovated in 2018 - ± $200,000 by Fire Department.

Brief Specifications

Exterior:

Foundation - Poured concrete.

Walls	-	Brick veneer and parging over concrete block.
Frame	-	Reinforced concrete. Some steel.
Roof	-	Flat. Tar and gravel finish over steel deck.
Insulation - Walls	-	Assume fibreglass.
- Roof	-	Rigid.
Loading Docks	-	None.

Observed Condition:

Exterior Structure	-	Average.
Window System	-	Fair to average.
Roof	-	Average.
Fuel Storage	-	Oil.
Age	-	4,700 litres.
Type & Containment	-	Steel above ground.
Paintwork	-	Average.
Interior Condition	-	Average. Some dated finishes.
Electrical	-	Average.
Service Entrance	-	Updated 2009.
HVAC	-	Fair to average.
Paintwork	-	Fair to average.

Interior:

Basement (Unfinished storage)

Floor	-	Poured concrete.
Walls (finish)	-	Painted gyproc.
Ceilings (finish)	-	Open to ceiling structure.
Clear Height	-	9 ft.

Basement (Finished Area – Renovated 2018)

Floor	-	Painted concrete. Laminate flooring, sheet vinyl, cushion floor.
Walls (finish)	-	Painted gyproc. Hardboard panelling to former museum.

Ceilings (finish)	-	Painted open ceiling. Stipple.
Clear Height	-	9 ft.-10 ft.
Ground Floor (Fire Hall)		
Floor	-	Painted concrete.
Walls (finish)	-	Painted concrete block.
Ceilings (finish)	-	Painted open ceiling.
Clear Height	-	14 ft.
Ground Floor (Former Offices)		
Floor	-	Ceramic tile to entry. Carpet. Vinyl tile.
Walls (finish)	-	Painted gyproc.
Ceilings (finish)	-	Suspended T-bar with acoustic tile.
Clear Height	-	9 ft.
Second Floor (Offices)		
Floor	-	Vinyl sheet and tiles, carpet.
Walls (finish)	-	Painted gyproc.
Ceilings (finish)	-	Suspended T-bar with acoustic tile.
Clear Height	-	9 ft.
Ground Floor (Former RCMP Offices)		
Floor	-	Sheet vinyl.
Walls (finish)	-	Painted gyproc.
Ceilings (finish)	-	Suspended T-bar with acoustic tile.
Clear Height	-	9 ft.
Plumbing	-	
Fixtures and Location	-	Basement: - 2 x 3 piece washrooms. - Stainless steel kitchen sink. - Ground floor: - 1 x 2 piece washroom. - 1 x 3 piece washroom. - 1 x 5 piece washroom. - 1 x janitor sink. - Second floor: - 2 x 2 piece washroom. - 1 x 3 piece washroom. - Stainless steel kitchen sink.

Equipment	- Aero electric water heater. - Rinnai in line propane water heater.
Heating	
Type of Furnace	- 2 x Weil-Mclain oil fired hot water boilers.
Type of Radiation	- Perimeter hot water baseboards. Some unit/cabinet heaters.
Supplementary Heating	- None.
Airconditioning	
Type of Airconditioner	- Roof top air handling unit. Heat pump units for second floor sever room and basement fire department space.
Type of Radiation	- Forced air ceiling diffusers.
Supplementary Ventilation	- None.
Energy Management System	
Central Control	- No.
Type of Equipment Controlled	- None.
Electrical	
Service Entrance	- 400 amp, 3 phase 208 volts.
Fixtures	- Mainly fluorescent.
Sprinkler System	
Type	- None.
Fire Protection	
Sensors	- Yes.
Central Station Monitor	- Yes.
Elevators	- Dover hydraulic (2 stops).
Type (Freight or Passenger)	- 900 kg; 12 persons.
Computer	
Network Cable	- Yes.
Security System	
Internal	- Yes.
External	- No.

Fixed Equipment

Type - Generac 75kw diesel emergency generator (1992).

Size (Capacity) - Serves entire building.

AGE/LIFE ANALYSIS - The building has an actual age of 61 years. It is noted that there was some reported structural deterioration to the concrete floor in the fire hall several years ago. There are jack posts set on timbers under the floor in the basement storage space as a precaution. It was also noted that a hazmat report in 2005 identified some asbestos types in the building. The basement space was renovated by the Fire Department in 2018. Overall the building appears to be in fair to average condition: this is above par with its actual age. Accordingly, its effective age is less than its actual age.

ASSESSED VALUE AND ANNUAL TAXES (2021)

Assessment

PID	Commercial	Commercial Exempt	Total
45057742	$12,000	$1,278,600	$1,290,600
45057734	$ -	$ 45,300	$ 45,300
45057759	$ -	$ 35,800	$ 35,800
Total	$12,000	$1,359,700	$1,371,100

Taxes (2021):

- $ 474 Commercial
- $ 0 Tax Exempt

ZONING

The subject is zoned Town Centre (TC) zone. The following uses are permitted in the TC zone:

- Arts and crafts studios including photography;
- Banks and financial institutions;
- Clubs and community organizations;
- Commercial schools;
- Day care centres, licensed and non-licensed;
- Emergency service facilities (i.e., police, ambulance and fire stations);
- Entertainment, recreation and assembly uses within a wholly enclosed building;
- Farm markets;
- Funeral homes;
- Garden and nursery sales and supplies;
- Hotels, motels and other tourist accommodations;
- Licensed liquor establishments;
- Local shopping centres
- Microbrewery, Microdistillery and Winery (Amended WLUB 18-01 Effective January 29, 2019);

- Museums, art galleries and libraries;
- Offices;
- Parking structures;
- Repair and rental establishments;
    - Residential uses (not on the ground floor except for the area bounded by King Street, Stannus Street, Gray Street and Victoria Street (Amended WLUB 15-02 Effective August 8, 2016);
- Restaurants;
- Retail stores;
- Service and personal service shops;
- Taxi, train and bus stations;
- Veterinary clinics and animal hospitals;
- Existing dry cleaning and laundry establishments;
- Existing residential uses.

ENVIRONMENTAL CONTAMINATION

No hazardous materials or environmental concerns were observed or brought to our attention during our inspection of the property. However, the property was constructed in 1960 and buildings of this age and occupancy often contain hazardous materials and further investigation may be warranted. It was also noted that a hazmat report in 2005 identified some asbestos types in the building.

We noted the presence of storage tanks on the property. We have not been able to confirm that they meet Provincial Government environmental regulations.

The property has been valued on the assumption that it is environmentally "clean".

CLIMATE CHANGE CONCERNS

Climate change resulting from global warming exposes property to the increased risk of flooding from pluvial (rain), fluvial (watercourses) and coastal (storm surge) sources. Most municipal infrastructure for water dispersal was not designed to accommodate the heavier rainfalls that are a consequence of a warming climate. Former and current National Building Codes do not contemplate the present regime of climate change which is resulting in higher winds, temperatures and rainfall. Excessive rainfall has a concomitant, adverse, impact on the ability of watercourses to function without overflowing their banks. Excess precipitation coupled with a storm surge, conspire to elevate the danger of flooding for coastal property since both are the outcome of a hurricane. Where they exist, flood plain maps are often outdated or inaccurate.

Since no Climate Risk and Vulnerability Assessment Report was available to us for the property we restricted our investigation to our on-site inspection, enquires of the present owner or occupier, an Internet search, and our general knowledge of the property and the neighbourhood. We did not observe any immediate risks from flooding, nor were any brought to our attention.

VALUATION METHODOLOGY

Scope

The objective of this assignment is to render an opinion as to the **Market Value** (Highest and Best Use) and **Market Rent**) of the fee simple interest in the property for Lease and Sale purposes.

We inspected the site and the interior and exterior of the improvements located thereon. We also interviewed the property owner and others knowledgeable of the property. We analysed the available financial data and validated it by comparing the information with that for comparable properties and industry benchmarks. We obtained and reviewed the assessment, zoning information and other pertinent municipal data. We undertook a full background analysis and valuation of the property. Our findings, analysis and conclusions are set out in this narrative report.

Methodology

It was necessary to proceed through a number of steps in order to achieve the foregoing objective. Valuation is by nature often experiential, in which the output of one stage results in re-computing the input to a prior stage so that the final figure is arrived at by an iterative process: rather than by rigidly proceeding in a mechanical fashion through a series of steps in fixed order. Thus, whilst we have described the steps below in ordinal sequence, the reader should bear in mind that this has been done purely for administrative convenience and readability.

(i) **Highest and Best Use -** this is the use for the property which will produce the greatest net return for the foreseeable future. The use must be (1) physically possible, (2) legally permissible, (3) financially feasible, and (4) maximally productive. It is determined by considering the various alternate purposes for which the property can legally be used, having regard not only to existing zoning and other legal constraints, but also to any probable modification of them. The use which generates the highest value is, ipso facto the Highest and Best Use. Unless the property comprises vacant (i.e. unimproved) land we have to consider two different scenarios of Highest and Best Use: the vacant site, and the property improved with the present buildings. This can result in two different Highest and Best Uses:

(a) **Cleared Site –** as at the effective date of the valuation, the Highest and Best Use of the property as a cleared site was for commercial purposes as permitted under the zoning law designation. We have computed the land value on this basis.

(b) **As Presently Improved –** as at the effective date of the valuation, the property was utilised as a municipal town hall and offices and a fire station. Based on our analysis, we are of the opinion that the Highest and Best Use of the property is a retention of the building and use for institutional/community use or potentially commercial use and it has been valued on that basis.

(ii) **Land Value -** this is the value of the site, cleared of all buildings and site improvements, available for development for its Highest and Best Use. The land value was calculated using a Direct Comparison Approach. Essentially this Approach is a systematic procedure for comparing the Subject Property with other land sales transactions.

(iii) **Property Value -** this is the value of the property (land, buildings and site improvements) under its Highest and Best Use.

Potentially, three alternate approaches are available for measuring the value of an improved property:

(a) **Cost Approach -** the justification for this approach as a method of valuation rests on two, classical theory underpinnings. First there is the argument that market values in the long run should equal the costs of production. Second, there is the position that reproduction costs represent a ceiling for market values since investors should not be willing to pay more for an improvement than the cost of obtaining a substitute in the marketplace.

Under this approach, value is measured by adding to the land value (found by Direct Comparison) the cost, in current prices, of reproducing the structure and site improvements, and then subtracting any loss in value due to physical depreciation, functional and external obsolescence.

(b) **Income Approach -** this approach is based on the assumption from neoclassical theory that the market value of an interest in real property is equal to the present value of future benefit flows. This approach first estimates the expected future benefit flows from a property. These benefit flows are then converted into a market value through a variety of alternative mathematical techniques for capitalisation.

(c) **Direct Comparison Approach -** this approach relies on marginal demand theory and derives the market value of a particular interest in real property through the analysis of the sale prices of **similar** properties. The underlying idea is that the marginal demand should be the same for two similar properties in a real estate market. Therefore, the fact that one sold for a certain price should indicate that the other property, if offered for sale, would sell for approximately the same amount (provided that market conditions have not changed). The approach utilises market information on the prices and characteristics of recently sold properties to determine the value of the subject property.

(iv) **Reconciliation and Final Estimate of Value**

This is a reconciliation of the values indicated by the various Approaches, in which the alternate value indications are considered, the relative significance of each is carefully weighed, and a final estimate of value is then computed. Although reconciliation necessarily involves judgement, the latter results from a careful logical analysis of the procedures leading to each indication of value. The analysis is based on several criteria, (appropriateness, accuracy and quantity of evidence) which result in the formation of a meaningful and defensible conclusion about the final value estimate.

HIGHEST AND BEST USE

The "Highest and Best Use" can be defined as "that use which will produce the greatest net return for the foreseeable future".

Site

We have considered the Highest and Best Use of the site as if vacant, i.e. cleared of all buildings and site improvements and available for development.

The subject property is located in the commercial centre of town on one of the main streets. The surrounding properties comprise a mix of commercial and community uses as well as residential uses. The subject is zoned Town Centre (TC) zone which permits a wide variety of uses. The subject comprises a large parcel of land with a total of 241 ft. of road frontage. It is generally level

In our opinion, the Highest and Best Use of the site as if vacant, is for commercial, or possibly mixed use development as permitted by the zoning by-law.

Property

At present the site is improved with a two storey concrete frame building used for municipal offices and a fire station. It was built in 1960. Although the overall structure is in average condition for its age, the interior office finishes are generally worn and somewhat dated. Some of the office space has been vacated in recent years as several municipal departments and the RCMP have relocated to other facilities. The fire hall still functions for its intended use to accommodate the vehicles and equipment for the fire department. However, the relatively low clear ceiling height in the hall is a limiting factor as modern fire equipment vehicles have gotten larger over the years. Whilst the property offers some potential for the continuation of its current use as offices and a fire hall, it would likely require upgrades to the interior and building systems to meet modern standards. Nevertheless, the density of development and trends in the neighbourhood do not indicate that there is no pressure to demolish the building and redevelop the site in the alternative.

In our opinion, the Highest and Best Use of the property is a retention of the building and use for institutional/community use or potentially commercial use

MARKET ANALYSIS AND EXPOSURE TIME

Exposure time is the estimated length of time the property interest being valued would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of the valuation. Since it is a retrospective opinion based upon an analysis of past events, assuming a competitive and open market, it can only be estimated after an analysis of the market.

Market Analysis

Prior to, and at the effective date of the valuation, the supply and demand for the subject and competing properties can be summarised as follows:

(a) Supply: Prior to, and at the effective date of the valuation the supply of this category of property in the area was fair.

(b) Demand: Prior to, and at the effective date of the valuation demand for this category of property in the area was weak.

Exposure Time

Our estimate of Exposure Time is 6 to 18 months. This is based on the foregoing Market Analysis and the data summarised below:

(1) Properties similar to the subject property have been listed for sale for between 3 months and 24 months.

(2) Based on our research when we were gathering information on comparable sales it became apparent that there was a fair demand for commercial properties in the area.

(3) As part of our research we interviewed brokers, buyers and sellers. They indicated that the marketability of this type of property, prior to the effective date of valuation was fair.

LAND VALUE

Methodology

The land has been valued by the Direct Comparison Approach. Essentially this Approach is a systematic procedure for carrying out comparative shopping in which the Subject Property site is "priced" by comparing it with other, similar parcels of land (Indices) that have sold, been subject to offer or are listed for sale. Based on our experience working with land sales data, we have determined that the four most significant independent variables influencing value are **Time** (Date of Sale), **Location**, **Motivation** and **Size**. The unit price (ft.²) of each Index (comparable transaction) has first been adjusted when applicable, for the **Time** variable. These time adjusted unit prices have then been utilised to value the Subject Property. **Zoning** is often a significant variable depending on the breadth of uses allowed within the zoning band, and the flexibility of the planning authority with respect to variances and rezoning. It is therefore best accommodated by choosing Indices with similar zoning restrictions and on the weight to be placed on each Index after the Time adjustment has been applied. The weight placed on each Index as a predictor for the Subject Property value, is a function of its comparability in terms of **Location**, **Motivation, Size** and **Zoning**.

Discussion of Land Sales

We have researched the sales, offers and listings (Indices) of comparable parcels of land in the locality. The data was collected from vendors, purchasers, brokers, appraisers, MLS®, public and other sources deemed to be reliable. The most relevant data has been detailed on the Land Sales Schedule on the following pages. It was not necessary to adjust the prices in this Land Sales Schedule to the date of valuation because our research found that prices were static.

The Indices are described in greater detail below:

Index #1

This property was sold in May 2015, approximately 5 years 10 months before the effective date of valuation. Sales data indicates that prices were stable **[time]**. The property is situated on the periphery of downtown town commercial area on a corner lot. The location is considered to be comparable to the Subject Property **[location]**. The property was formerly improved with old dwelling which was demolished. The purchaser owned the contiguous parcel and acquired the property for additional parking. However the price reflects market levels **[motivation]**. The parcel was smaller in size to the Subject Property: smaller parcels typically command higher prices per ft.² because they attract a larger pool of purchasers **[size]**. The property is zoned commercial. This zoning is similar to the Subject Property **[zoning]**.

We consider this Index to be an average indicator of value on a **time** adjusted unit basis for the Subject Property.

Index #2

This property was sold in July 2018, approximately 2 years 8 months before the effective date of valuation. Sales data indicates that prices were stable **[time]**. The property is located on Water Street. The location is considered to be somewhat comparable to the Subject Property **[location]**. The property was improved with an old masonry building which was formerly an auto dealership. However the building has been vacant and derelict for many years. The building added no value. Nevertheless the property was purchased for redevelopment for a tap room using the existing structure. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The parcel was smaller in size to the Subject Property: smaller parcels typically command higher prices per ft.² because they attract a larger pool of purchasers **[size]**. The property is zoned commercial. This zoning is the similar to the Subject Property **[zoning]**.

We consider this Index to be a fair indicator of value on a **time** adjusted unit basis for the Subject Property.

Index #3

The property was sold in March 2018, approximately 3 years before the effective date of valuation. Sales data indicates that prices were stable **[time]**. The property is situated on King Street in a downtown commercial area on an interior lot. The location is considered to be comparable to the Subject Property **[location]**. The property comprises mainly a fenced commercial lot with an old masonry warehouse building in poor condition on the rear portion of the land. However the price reflects essentially land value. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The parcel was smaller in size to the Subject Property: smaller parcels typically command higher prices per ft.² because they attract a larger pool of purchasers **[size]**. The property is zoned commercial. This zoning is the similar to the Subject Property **[zoning]**.

We consider this Index to be a good indicator of value on a **time** adjusted unit basis for the Subject Property.

Index #4

This property was sold in February 2011, approximately 10 years before the effective date of valuation. Sales data indicates that prices were stable **[time]**. The property is located in the general commercial area near Exit 5 and in close proximity to the Hants Community Hospital and at the entrance to the developing Fairfield Park residential subdivision. The location is considered to be superior to the Subject Property **[location]**. The property was subsequently developed with a commercial building. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The parcel was smaller in size to the Subject Property: smaller parcels typically command higher prices per ft.² because they attract a larger pool of purchasers **[size]**. The property is zoned commercial. This zoning is the similar to the Subject Property **[zoning]**.

We consider this Index to be a fair indicator of value on a **time** adjusted unit basis for the Subject Property.

Conclusion

The time adjusted unit prices for the Indices range from $2.62 to $7.91 with a median of $5.45 per ft.². Having regard to all of the variables (**time**, **location**, **motivation**, **size, zoning**) we are of the opinion that Index #'s 1 and 3 are the most reliable indicators of value for the Subject Property. Their time adjusted unit prices range between $4.00 and $7.91 and have an arithmetic mean of $5.96/ft.². In our opinion the unit value of the Subject Property lies near the average of this range.

Having regard to the foregoing we are of the opinion that the value of the land, as a cleared site, is as follows:

	29,585 ft.² @ $6.00/ft.²	$ 177,510
Rounded to		**$ 178,000**

LAND SALES SCHEDULE

No.	Location Vendor/Purchaser	Date of Sale	Sale Price	Area	Sale Price/Unit At Date of Sale	Sale Price/Unit Adjusted to Date of Valuation @ 0.0% p.a.	Comments
1.	377 Albert St. Windsor Hants County, NS PID #45058971 Dana Corbin to Lohnes-Demont Funeral Service Ltd.	May. 2015	$ 60,000	15,000 ft.²	$4.00	$4.00	Vacant corner lot. Purchased by adjoining owner. Zoned Town Centre (commercial)
2.	Water St. Windsor Hants County, NS PID #'s 45056959, 45227824 Derek Littlejohn to James Roue Beverage Company Limited	Jul. 2018	$ 32,000	12,230 ft.²	$2.62	$2.62	Old masonry buildings on site of no value. Purchased for redevelopment. Zoned Town Centre (commercial)
3.	22 King St. Windsor Hants County, NS PID #'s 45057718, 45363561 3225823 Nova Scotia Limited to R & D Dunham Holdings Limited	Mar. 2018	$100,000	12,644 ft.²	$7.91	$7.91	Two adjoining parcels. Fully fenced cleared parcel. Rear parcel improved with old warehouse in poor condition. Zoned Town Centre (commercial)
4.	Lot C-2, Payzant Rd. Windsor, NS PID #45383775 Gateway Investments. to CPT Harvie Property Management Inc.	Feb. 2011	$115,000	16,708 ft.²	$6.89	$6.89	Serviced commercial lot. Zoned General Commercial.

COST APPROACH

Methodology

The Cost Approach has as its underlying foundation, the assumption that market participants will not pay more for a property than the cost of creating a substitute property. In order to undertake this exercise the cost of a new "substitute" building was calculated as of the effective valuation date, using reliable sources of cost data. The accrued depreciation in the structure, characterised by physical deterioration, functional and external obsolescence, was then calculated and deducted from the reproduction cost new. The resultant depreciated reproduction cost was then added to the land value to derive the market value.

Physical deterioration is caused by wear and tear on the structure and is a function of age, maintenance and use. It was calculated by comparing its "effective" age with its total physical life. (Effective age is the actual age modified by factors such as abnormal wear and tear, maintenance, modernisation, etc. Remaining physical life is calculated having regard to the physical condition of the building itself, and empiric evidence of the actual physical lives of former, similar buildings. Total physical life is the sum of the two).

Functional obsolescence is caused by internal property characteristics, such as poor floor plan, inadequate mechanical equipment, or functional inadequacy or overadequacy due to size or other characteristics.

External obsolescence is caused by conditions external to the property, such as lack of economic demand, changing property uses in the area, or national economic conditions.

Analysis and Conclusion

(1)	**Building Reproduction Cost New**			
	Gross Floor Area	21,399 ft.² @ $191/ft.²		$ 4,087,209
	Less Obsolescence:			
(2)	**Physical:**			
	Effective Age	45 years		
	Remaining Physical Life	20 years		
	Total Physical Life	65 years		
	Depreciation	45 years / 65 years = 69%		$ 2,820,174
(3)	**Functional:**			$ Nil
(4)	**External:**			$ Nil
	Depreciated Reproduction Cost of Building			$ 1,267,035
(5)	**Plus Site Improvements (Depreciated Cost)**			
	Asphalt paving	13,820 ft.² @ $ 1.75/ft.²		$ 24,185
(6)	**Plus Land Value**			
	Total Land Value			$ 178,000
	Total Indicated Value			$ 1,469,220
	Rounded to			**$ 1,469,000**

Notes:

(1) The estimated Reproduction Cost New was derived using the Boeckh/Marshall & Swift/Computerised Costing Service. It excludes HST

(2) The effective age is based on the actual age of the building and the observed condition of the structure. The building has an actual age of 61 years. It has had regular maintenance over the years and some upgrades. The basement space was renovated in 2018. The building is considered to be in generally average condition overall. We have estimated the effective age at 45 years and the remaining physical life at 20 years. The total physical life is 65 years which typical for buildings of this type.

(3) Functional obsolescence due to items such as poor floor plan, outdated design, excessive size, etc. The subject building comprises an older 2 storey structure designed as a municipal town hall and fire station with a full basement. The floor plan and interior finishes and dated and worn. The utility of the fire hall is limited given its low ceiling height to accommodate modern fire vehicles. Accordingly the building likely exhibits elements of functional obsolescence reflective in the market. However, we not calculated a specific adjustment for functional obsolescence in this instance. Moreover it is considered in the effective age of the building.

(4) We are not aware of any specific external factors that would create measurable External Obsolescence.

(5) The Reproduction Cost New was derived from Boeckh/Marshall & Swift. The Depreciated Cost was computed by deducting observed obsolescence from the Reproduction Cost New.

(6) See Land Value section of this report.

INCOME APPROACH

Methodology

The Income Approach is based on the premise that the value of the property to an investor is the present worth of the income stream it is capable of generating.

The income stream (net operating income) has been calculated by estimating the potential rental income on a net absolute to landlord basis, as if fully leased, and then deducting therefrom an allowance for vacancy and credit loss, structural allowance and cost of vacancy.

The income stream has been expressed on a "stabilised" basis i.e. the projected income has been adjusted to reflect a normal or average year reflective of the remaining economic life of the property.

The income stream has been converted into a market value by using an Overall Capitalisation Rate. The latter is an income rate which represents the ratio of a single year's income amount to capital value.

Analysis and Conclusion

(1)	**Estimated Net Rental Income**				
	Basement:	Unfinished Space	11,110 ft.² @ $2.00/ft.²		$ 22,200
	Ground Floor:	Fire Hall	7,600 ft.² @ $4.00/ft.²		$ 30,400
		Finished Space	3,510 ft.² @ $5.00/ft.²		$ 17,550
	Second Floor:	Finished Space	10,289 ft.² @ $5.00/ft.²		$ 51,445
					$ 121,595
(2)	Other Income				$ 8,000
	Total Potential Net Rental Income				$ 129,595
(3)	Less Vacancy & Credit Loss @10%				$ 12,959
	Estimated Effective Gross Income (EGI)				$ 116,636
	Less Outgoings				
(3)	Structural Allowance @ $0.50/ft.² of GFA			$ 10,700	
(4)	Cost of Vacancy			$ 13,215	
	Total Outgoings			$ 23,915	$ 23,915
	Net Operating Income				$ 92,721
(5)	Overall Capitalisation Rate @ 9%				÷ 0.09
	Capital Value				$ 1,030,233
	Rounded to				**$ 1,030,000**

Notes:

(1) Estimated Net Rental Income

The subject property comprises dated office and ancillary space on the ground and second floors and a fire hall on the ground floor. The basement comprises unfinished storage and semi- finished space. At best the ground and second floors represent fair quality office space. The fire hall comprises open space which currently functions as garage space for the fire trucks and equipment. However, it is somewhat limited for modern fire equipment as a result of its relatively low ceiling clearance. Nevertheless it is adaptable to general commercial/storage uses. The basement space is used by the fire department for storage, staff support services, and meeting space. However, it is considered low value space in the general market. The rental rates are based on an analysis of comparable commercial properties, details of which are included on the Space Rental Schedule on the following pages. We have analysed the rents on a "net" basis, i.e. the tenant pays all outgoings, including real estate taxes. We note that there is little interest in commercial office spaces, particularly on upper floors in the locality. Accordingly, the estimated market rent for the subject space is at the low end of the range.

The indicated rental rates range from $6.13/ft.^{2} for upper storey office space in Windsor to $12.10/ft.^{2} for good quality office space in Kentville. The remaining rents range from $8.00 to $10.00. We would expect that the market rent for the subject would fall toward the low end of the range. Having regard to the attributes of the subject property and the foregoing we have estimated the market rent for the office space on the ground and second floors at $5.00/ft.^{2} and the market rent for the fire hall space at $4.00/ft.^{2}. We have estimated the Market Rent for the basement space at $2.00/ft.^{2} reflecting its limited utility for alternative uses.

Total estimated Market Rent equates to $116,590 per annum (i.e. $5.45/ft.^{2} of GFA).

(2) Other Income

There is also a steel communication transmission tower and chain link fence enclosure on subject. The site is leased to Bell Aliant on an annual basis at $8,000 per year.

(3) Vacancy and Credit Loss

We have stabilized the overall vacancy and credit loss allowance for the building at 10% of total potential gross income for valuation purposes based on the general market vacancy for rental space in the locality.

(3) Structural Allowance

The Structural Allowance is utilised to finance a sinking fund to cover major capital repairs, and is based on our experience with similar properties. We have stabilized this expense at $0.25/ft.^{2} of the total gross floor area.

(4) Cost of Vacancy

Real Estate Taxes	-	Based on 2021 Assessment	$ 54,158
Insurance	-	Market allowance.	$ 5,000
Water & Sewer	-	Market allowance	$ 2,000
Management	-	5% x EGI $116,636	$ 5,832
Heating	-	21,399 ft.^{2} @ $1.50/ft.^{2}	$ 32,098
Repairs & Maintenance at	-	10% x EGI $116,636	$ 11,664
Electricity	-	21,399 ft.^{2} @ $1.00/ft.^{2}	$ 21,399
Total Operating Expenses			$132,151
Vacancy @ 10 %			x 0.10
Cost of Vacancy			$ 13,215

Our CompuVal® Knowledge Base contains information on the Operating Expenses of office, industrial, retail and commercial buildings in Atlantic Canada, disaggregated into the main categories detailed in the Outgoings Table. For each building it allows us to compare each expense category (1) as a percentage of Total Operating Expenses, (2) as a percentage of Effective Gross Income and (3) show increases/decreases over time. In addition CompuVal® allows us to conduct longitudinal (time series) analysis on each expense category, for a selected group of buildings, to determine the increase/decrease over time using linear regression and exponential smoothing. We have used the foregoing information and tools to establish each Stabilised Annual Expense.

(7) Overall Capitalisation Rate

The Overall Capitalisation Rate has been computed using the Ellwood Mortgage Equity Technique and the following assumptions:

(a) Mortgage Financing:

Type of Loan	- Conventional Loan Canadian Funds
Loan to Value Ratio	- 70%
Interest Rate (Stated Annual Rate)	- 5%
Amortisation Period	- 20 years

(b) Equity Data:

Equity Investment	- 30% of Market Value
Equity Yield Rate	- 15%
Time Horizon	- 10 years

(c) Capital Growth:

Annual Compound Appreciation/Depreciation	- 0%

(d) *Overall Capitalisation Rate:

Rounded to	**- 9 %**

**The Overall Capitalisation Rate has been verified by comparison with the sales of other income producing properties, a selection of which are detailed on the Capitalisation Rate Analysis Schedule on the following pages. The Indices have the most comparable risk profile to the Subject Property since they comprise single and multiple tenant commercial properties and are similar in size to the Subject Property. Their small market locations are similar to the Subject Property: the quality of their tenant covenant is similar. The average indicated capitalization rate is 9.07%. Having regard to all of the foregoing we are of the opinion that their Overall Capitalisation Rates reflect a similar level of risk than the Subject Property. We are therefore satisfied that our computed Overall Capitalisation Rate is supported by the market

SPACE RENTAL SCHEDULE

Space No.	Tenant & Location	*Tenant Class	Rentable Area (ft.²)	Rent Starts	Rent Ends	Current Income Per ft.²				Estimated Market Rent (Net Absolute)		Comments
						Base Rent	Landlord's Operating Costs	Overage Rent	Net Absolute Rent	Per ft.²	Total	
1.	73 Morison Dr. Windsor, NS	F	2,432	19 June 17	19 May 22	$10.27	--	---	$10.27	----	----	Single storey flex building comprised of finished retail space and unfinished warehouse/shop space. Currently an operating Speedy Glass centre.
2.	40 Gray St. Windsor, NS	O	2,318	Current	-	$11.13	$5.00 (est)	---	$ 6.13	----	----	Asking rent. Finished 2ND floor office space. Rent quoted on gross basis. Tenant pays own heat.
3.	Gerrish St. Windsor, NS	R	4,000	Current	-	$18.00	$8.00	---	$10.00	----	----	Asking rent. Rent quoted on gross basis. Ground floor turnkey restaurant space.
4.	9198 Commercial St. New Minas	O	1,968	1 Apr. 11	31 Mar. 21	$12.50	$4.00	---	± $ 8.50	---	---	Office space currently on gross basis. Landlord operating costs uncertain.
5.	4 Cornwallis St. Kentville	O	6,533	Current	Current	$15.00	$6.00	---	$ 9.00	---	--	Class B office space.
6.	12-16 Cornwallis St. Kentville	O	4,170	Current	Current	$10.00	± $2.00	---	$ 8.00	---	---	Renovated office space.
7.	11 Crescent Dr. New Minas	S	1,600	Current	Current	$11.00	± $3.00	--	$ 8.00	--	--	Retail and office space. Landlord pays for taxes and operating except electricity.
8.	28 Aberdeen St. Kentville	O	1,150	1 Jan. 19	31 Dec. 24	$18.10	± $6.00	--	$12.10	--	--	Landlord pays for CAM, utilities and taxes. The tenant pays HST.

SPACE RENTAL SCHEDULE

Space No.	Tenant & Location	*Tenant Class	Rentable Area (ft.²)	Rent Starts	Rent Ends	Current Income Per ft.²				Estimated Market Rent (Net Absolute)		Comments
						Base Rent	Landlord's Operating Costs	Overage Rent	Net Absolute Rent	Per ft.²	Total	
9.	Crescent Dr. New Minas	S	6,631	Current	Current	$11.00	$3.00	---	$ 8.00	---	---	Semi gross rent. Modern retail space. Tenant pays heat and power.

***Tenant Class**

A = Additional Revenue.
I = Industrial.
F = Flex Space (Industrial – Retail – Office).
L = Locker Storage.
M = Mixed Office/Warehouse.
O = Office Space.
R = Restaurant.
S = Retail Store.
W = Warehouse (Storage Space).

CAPITALISATION RATE ANALYSIS SCHEDULE

No.	Location Vendor/Purchaser	Bldg GFA ($ft.^2$)	Date of Sale	Sale Price	Sale Price/$ft.^2$	Overall Cap. Rate (Year 1)	Comments
1.	8927 Commercial Street New Minas Kings County, NS PID #55214852 Dorian Properties Ltd. to RTS Consultants Inc.	28,710	Sept. 2016	$4,000,000	$139.32	9.01%	Multi-tenant strip mall located in New Minas. Located along a major commercial thoroughfare.
2.	84-94 Main Street Yarmouth Yarmouth County, NS PID #'s 90196718, 90196726, 90196734, 90196742, 90194119, 90194127 Freshco Retail Maintenance Inc. to Rennduprat Design & Fabrication Inc.	7,317	Feb. 2018	$ 630,000	$ 86.10	9.00%	Three separate commercial buildings converted into one. Older commercial buildings.
3.	11 Crescent Drive New Minas Kings County, NS PID #55204341 Carline Strong to Wanda Lynn Balsor	3,488	Sept. 2019	$ 200,000	$ 57.33	8.14%	Ground floor retail with two apartments above.
4.	16 Church Street Amherst Cumberland County, NS PID #25369489 3105152 NS Ltd. to Avison Young, Michael Brown	39,336	Aug. 2017	$2,299,000	$ 58.45	8.00%	Maritime Block Professional Centre. Three-storey building built in 1907 and refurbished in 1989. In good condition. Has HVAC heat pump systems for each unit.
5.	360-370 Main Street Wolfville Kings County, NS PID #'s 55278758 and 55278766 Landmark Developments 2006 Limited to 3255781 Nova Scotia Limited	24,655	June 2015	$2,200,000	$ 89.23	12.45%	Warehouse Mall in Wolfville. Sale also includes Tim Horton's. Mixed-use plaza including free-standing pad, retail strip and second floor residential units.

CAPITALISATION RATE ANALYSIS SCHEDULE

No.	Location Vendor/Purchaser	Bldg GFA ($ft.^2$)	Date of Sale	Sale Price	Sale Price/$ft.^2$	Overall Cap. Rate (Year 1)	Comments
6.	5110 St. Margarets Bay Road Upper Tantallon St. Margaret's Square Ltd. to Pro Reit Acquisition (1) Inc.	25,523	Apr. 2016	$4,300,000	$168.48	7.79%	Single-tenant industrial building, pre-engineered steel frame with metal panel exterior walls and roof. Grade level loading doors and 22 ft. clear heights.
7.	188 Robie Street Truro Colchester County, NS PID #'s 20148144, 20461034, 20298212 3246491 Nova Scotia Limited to 3240402 Nova Scotia Limited	8,781	Apr. 2013	$1,200,000	$136.66	7.86%	The site is improved with a single storey commercial building.
8.	336 Kings Road Sydney Healthcare Properties Holdings Ltd. to Membertou Properties Inc.	34,271	Dec. 2015	$4,130,000	$120.51	7.50%	Modern two storey medical office building. Major Tenants: Island Physiotherapy, Victorian Order of Nurses, CBDHA.
9.	300 Horseshoe Lake Drive Halifax 3103146 Nova Scotia Limited (Banc) to Investors Real Property Fund	22,646	Jan. 2015	$6,800,000	$300.27	6.95%	Total Sales Price. Major Tenants: Access Nova Scotia.

DIRECT COMPARISON APPROACH

Methodology

The Direct Comparison Approach is based on the premise that properties with the same characteristics will transact at the same selling price since knowledgeable purchasers "comparison shop" when buying property.

Essentially this Approach is a systematic procedure for carrying out comparative shopping in which the Subject Property is “priced” by comparing it with other, similar properties (Indices) that have sold, been subject to offer or are listed for sale**.** With most “improved” property, building size is taken as the unit of comparison because most of the property’s value usually resides in the structure, rather than the land**.** Based on our experience working with property sales data, we have determined that the five most significant independent variables influencing value are **Time** (Date of Sale), **Location**, **Quality** (Fit for Purpose), **Motivation** and building **Size**. The unit price (ft.² Gross Floor Area of each Index (comparable transaction) has first been adjusted, when applicable, for the **Time** variable. These time adjusted unit prices have then been utilised to value the Subject Property. The weight placed on each Index as a predictor for the Subject Property value, is a function of its comparability in terms of **Location**, **Quality**, **Motivation** and **Size**.

Discussion of Building Sales

We have researched the sales, offers, and listings of comparable commercial properties in the region. The data was collected from vendors, purchasers, brokers, appraisers, MLS®, public and other sources deemed to be reliable. The most relevant data has been detailed on the Building Sales Schedule on the following pages. We have adjusted the prices in the Building Sales Schedule to the date of valuation to reflect an annual compound increase of 2%. This is based on a study of prices in the area.

In analysing this data, we have divided the total selling, offer or asking price by the building gross floor area in the building to provide an indication of the sale, offer or asking price on a building unitised basis.

These unitised figures vary considerably depending on the size, type, location, physical condition and revenue of the building, in addition to the circumstances of the particular transaction. None of them prove conclusively the value of the Subject Property. However, they do paint the background against which the Subject Property can be viewed. Valuation in this instance is by way of interpolation and synthesis.

We have also investigated whether there have been any prior offers, sales, options, Agreements of Sale or listings of the Subject Property within the past three years. We understand that there has been no such activity.

Our analysis is included in the Building Sales Schedule on the following pages. The Indices are discussed in greater detail below:

Index #1

This property was sold in April 2018, approximately 2 years 11 months before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated on the periphery of Windsor near Highway #101 on Cole Drive. The location is considered to be superior to that of the Subject Property **[location]**. The building is a steel frame ICF wall two storey structure built in 2015 which was originally intended for use as a craft brewery and restaurant. The exterior shell was completed, but the interior finishes were not. The building is of superior quality to the Subject Property **[quality]**. The vendor had stopped construction of the building before completing the interior and the building sat vacant for several years **[motivation]**. The property was subsequently finished by the purchaser to function as light industrial space. The building was approximately ⅔ size of the Subject Property: smaller buildings typically command higher prices per ft.² because they attract a lager pool of purchasers **[size]**. However, it is noted the that sale price represents the sale of the building as an unfinished shell.

We consider this Index to be a fair indicator of value on a time adjusted unit basis for the Subject Property.

Index #2

This property was sold in January 2021, approximately two months before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated in the heart of a commercial area in Kentville on a corner lot. The location is considered to be superior to that of the Subject Property **[location]**. The building is an older two storey structure which has been renovated and updated over the years and functions as a modern office space. The building has a masonry exterior. The building is of superior quality to the Subject Property **[quality]**. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The building was approximately ½ the size of the Subject Property: smaller buildings typically command higher prices per ft.² because they attract a wider pool of purchasers **[size]**.

We consider this Index to be a fair indicator of value on a time adjusted unit basis for the Subject Property.

Index #3

This property was sold in January 2021, approximately two months before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated in the heart of a commercial area in Kentville on an interior lot adjacent to Index #2. The location is considered to be superior to that of the Subject Property **[location]**. The building is an older two storey structure which has also been renovated and updated over the years and functions as a modern office space. The building has a masonry exterior. The building is of superior quality to the Subject Property **[quality]**. The property was purchased by the same party as Index #2 for a similar price **[motivation]**. The building was approximately ½ the size of the Subject Property: smaller buildings typically command higher prices per ft.² because they attract a wider pool of purchasers **[size]**.

We consider this Index to be a fair indicator of value on a time adjusted unit basis for the Subject Property.

Index #4

This property was sold in July 2019 approximately 1 year and 9 months before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated in a commercial area in the town of Truro on a corner lot. The location is considered to be somewhat similar to that of the Subject Property **[location]**. The building is a one storey structure used for office purposes. The building has a masonry exterior finish. The building was constructed in 1973 and appears to be in average condition. The building is of similar quality to the Subject Property **[quality]**. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The building was approximately ½ the size of the Subject Property: smaller buildings typically command higher prices per ft.² because they attract a wider pool of purchasers **[size]**.

We consider this Index to be a good indicator of value on a time adjusted unit basis for the Subject Property.

Index #5

This property was sold in March 2021 at the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated in the heart of a commercial area in Wolfville on a corner lot and included a free standing Tim Horton's on a pad lease**.** The location is considered to be superior to that of the Subject Property **[location]**. The building is an older 2 storey wood frame structure which was renovated over the years to mixed commercial and several small apartment units. The building has a masonry and wood siding exterior. It is in average condition. The building is of similar quality as the Subject Property **[quality]**. The vendor purchased the property in 2015 and partially occupied the building as a food market. It subsequently fell into receivership. However the sale price is considered close to market value **[motivation]**. The building is similar in size to the Subject Property: similar buildings typically command similar prices per ft.² because they attract a similar pool of purchasers **[size]**.

We consider this Index to be a good indicator of value on a time adjusted unit basis for the Subject Property.

Index #6

This property was sold in April 2020, approximately 1 year before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated in the heart of a commercial are in Kentville on an interior lot. The location is considered to be superior to that of the Subject Property **[location]**. The building is a two storey steel frame structure built in 1973. It functions as a showroom and offices. The building has a masonry exterior. The building is of similar quality to the Subject Property **[quality]**. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The building was approximately 2/3 the size of the Subject Property: smaller buildings typically command higher prices per ft.² because they attract a wider pool of purchasers **[size]**.

We consider this Index to be a good indicator of value on a time adjusted unit basis for the Subject Property.

Index #7

This property was sold in May 2016, approximately 4 years 10 months before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated on the periphery of the Kentville commercial area. The location is considered to be somewhat similar to that of the Subject Property **[location]**. The building is a two storey structure functioning as a post office and government offices. The building has a masonry exterior. The building is of similar quality to the Subject Property **[quality]**. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The building was approximately the same size as the Subject Property: similar buildings typically command similar prices per ft.² because they attract a similar pool of purchasers **[size]**.

We consider this Index to be an average indicator of value on a time adjusted unit basis for the Subject Property.

Index #8

This property was sold in April 2021, at the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated on the periphery of the New Minas commercial area. The location is considered to be somewhat similar to that of the Subject Property **[location]**. The building is a partial two storey structure formerly an auto dealership. The building was built in 1945 and was renovated to multiple commercial tenant use and two apartments in 2004. The building has a masonry exterior. The building is of similar quality to the Subject Property **[quality]**. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The building was approximately the same size as the Subject Property: similar buildings typically command similar prices per ft.² because they attract a similar pool of purchasers **[size]**.

We consider this Index to be a good indicator of value on a time adjusted unit basis for the Subject Property.

Conclusion

The time adjusted unit prices for all of the Indices range from $34 to $93 with a median of $70 per ft.². Having regard to all of the variables (**time**, **location**, **quality**, **motivation**, **size**) we are of the opinion that Index #'s 4, 5, 6 and 8 are the most reliable indicators of value for the Subject Property. Their time adjusted unit prices range between $57 and $82 and have an arithmetic mean of $70/ft.². In our opinion the unit value of area of the Subject Property lies near the low end of this range. We have adopted $60/ft.² of gross floor area.

Based on our analysis it is our opinion that the indicated value of the Subject Property is as follows:

Building Value (incl basement)

Gross Floor Area	21,399 ft.² @ $60/ft.²	$ 1,283,940
Rounded to		**$ 1,284,000**

Note: Site Improvements are included in the building value.

BUILDING SALES SCHEDULE

No.	Location Vendor/Purchaser	Date of Sale	Sale Price	Land Area ($ft.^2$)	Bldg. GFA ($ft.^2$)	Bldg. Value/$ft.^2$ GFA At Date of Sale	 Adjusted to Date of Valuation @ 2.0% p.a.	Comments
1.	49 Cole Drive Garlands Crossing Hants County, NS PID #45394913 3288476 NS Ltd. To 49 Cole Drive Ltd.	Apr. 2018	$ 830,000	102,906	14,902	$ 56	$ 59	Two storey commercial building. Steel frame ICF walls. Built 2015. Partially complete at time of sale. Subsequently finished to commercial office space.
2.	50 Cornwallis St. Kentville Kings County, NS PID #55268114 DPP General Partner Limited to 3323061 NS Ltd.	Jan. 2021	$1,050,000	8,475	11,834	$ 89	$ 89	Masonry office building located on a corner lot. Occupied by law firm and investment firms. Previously sold Jan. 2019 for $1,120,000 ($94.64/ft2)
3.	19 Webster St. Kentville Kings County, NS PID #55255905 Marivest Capital to 3323061 NS Ltd.	Jan. 2021	$1,050,000	6,680	11,250	$ 93	$ 93	Two storey masonry office building. Built 1940. Renovated and updated to modern professional office space. Occupied by accounting firm.
4.	6 Louise St. Truro Colchester County, NS PID #20183158 Saltwire Network Inc. to Futureworx Society	Jul. 2019	$ 732,800	39,640	10,498	$ 70	$ 72	One storey masonry office. Built 1973. Newspaper publishing office.

BUILDING SALES SCHEDULE

No.	Location Vendor/Purchaser	Date of Sale	Sale Price	Land Area ($ft.^2$)	Bldg. GFA ($ft.^2$)	Bldg. Value/$ft.^2$ GFA At Date of Sale	Bldg. Value/$ft.^2$ GFA Adjusted to Date of Valuation @ 2.0% p.a.	Comments
5.	360-370 Main St. Wolfville Kings County, NS PID #'s 55278758, 55278766 Landmark Developments (2006) to 3255781 NS Limited	Mar. 2021	$2,345,000 $2,045,000 $ 300,000	44,213	- 25,084 -	- $ 82 -	- $ 82 -	Total Sale Price Wolfville Fruit Bldg (mixed use) Tim Hortons Partial two storey mixed use building, Renovated to ground floor commercial/retail units with 7 apartments over. Former retail space and basement vacant at time of sale. Receivership Sale. Sale also includes corner parcel of land (3,000 $ft.^2$) occupied by Tim Horton's restaurant on a ground lease. Previously sold in 2015 for $2,200,000.
6.	59 Webster St. Kentville Kings County, NS PID #55255996 Ken Mor Realties Ltd. to Kentville Property Ltd.	Apr.2020	$1,000,000	11,653	14,802	$ 68	$ 69	Two storey steel frame and masonry building. Built 1973. Ground floor showroom and offices. Second floor offices. Full basement.
7.	491 Main St. Kentville Kings County, NS PID# 55247076 GOC. to Parsons Investments Ltd	May. 2016	$ 725,000	39,913	23,422	$ 31	$ 34	Two storey steel frame masonry clad Federal Govt building. Built 1964. Occupied by Post Office and some government departments. Semi-finished basement vacant.
8.	8759 Commercial St. New Minas Kings County, NS PID #55209886 BFB Buildings to ?	Apr.2021	$1,145,000	54,450	19,764	$57	$57	Partial two storey commercial building. Built 1945. Former auto dealership. Renovated in 2004 to multiple tenant spaces. Dated condition.

RECONCILIATION AND FINAL ESTIMATE OF VALUE

Summary

The market value indicated by the various approaches is as follows:

Cost Approach	$1,469,000
Income Approach	$1,030,000
Direct Comparison Approach	$1,284,000

Reliability of the Various Approaches as an Indicator of Value

The strengths and weaknesses of the valuation approaches utilised in this assignment are as follows:

Cost Approach - The Cost Approach can provide a reliable indicator of value for properties where the buildings are fairly generic and relatively new and have very little depreciation.

This approach is less reliable when the building is older and begins to suffer from depreciation. It is also less reliable if the building is not of a typical design or style.

Income Approach - The Income Approach can provide a reliable indicator of value for properties which are acquired as investment vehicles. The value of the property is determined by its ability to generate revenue.

This approach is less reliable when applied to properties which are not likely to be rented to a tenant. When the property is to be utilised by an owner/occupier the Income Approach may not produce the most reliable indicator of value.

Direct Comparison Approach - The Direct Comparison Approach can provide a reliable indicator of value when there is comparable sales data available.

This approach is less reliable when sales data is sparse or when the various sales are not truly comparable to the subject thereby requiring extensive adjustments.

Reconciliation and Final Estimate of Value

We place the greatest faith in the Direct Comparison Approach in this instance because of the good quality of recent sales data available for comparable properties. The Cost Approach is the most unreliable because age and design of the building. It is unlikely that the existing building would be reconstructed in the current market. The Income Approach falls somewhere between the other two in terms of reliability because although the property has potential as an investment type property, it is not considered a prime property.

We have rated the relative strength of each Approach to Value on a 5 point scale, i.e. Poor = 1, Fair = 2, Fairly Good = 3, Good = 4, Excellent = 5. The final estimate of value is computed as follows:

$\frac{(1x\ \$1,469,000) + (3 \times \$1,030,000) + (4 \times \$1,284,000)}{8} =$	$1,211,875
Rounded to	$1,200,000
Final Estimate of Value	**$1,200,000**

CERTIFICATION

Re: PID #'s 45057742, 45057734 & 40557759 Windsor Town Hall, 100 King Street, Windsor, Nova Scotia

I certify that, to the best of my knowledge and belief:

the statements of fact contained in this report are true and correct;

the reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions;

neither I, nor Turner Drake & Partners Ltd., have any past, present or prospective material involvement with the property that is the subject of this report, other than this assignment;

neither I, nor Turner Drake & Partners Ltd., have received any fees, in connection with the purchase of the property the subject of this report, within twelve months preceding the date of valuation. Turner Drake & Partners Ltd. have not received, nor will they receive, an introductory, mortgage financing or any other fees in connection with such a purchase. They have not negotiated the purchase on behalf of the client;

neither I, nor Turner Drake & Partners Ltd., have any past, present or prospective material involvement with the customer, client, or any parties contemplated to be involved in any transaction resulting from this assignment other than previous valuation assignments on other properties for the client;

neither I, nor Turner Drake & Partners Ltd., share any fiduciary interest with the client. Turner Drake & Partners Ltd. has a prior relationship with the client.

during the twelve months preceding the date of valuation the total fees paid by the client to Turner Drake & Partners Ltd. represented a minimal (< 5%) proportion of Turner Drake & Partners Ltd.'s gross income;

my compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favours the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this report;

my analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Royal Institution of Chartered Surveyors' Valuation Standards [2017 Edition] (RICS Red Book), the International Valuation Standards (IVS), the Uniform Standards of Professional Appraisal Practice (USPAP), and the Canadian Uniform Standards of Professional Appraisal Practice;

I have made a personal inspection of the property that is the subject of this report;

no one provided significant professional assistance to the person signing this report;

I have sufficient current local, national and international knowledge of the market, and the skills and understanding, to undertake this valuation in a competent manner;

all Extraordinary Assumptions and/or Hypothetical Conditions detailed in this report were agreed with the party to whom this report is addressed;

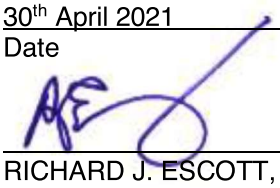
I certify that the use of this report is subject to the requirements of the professional institutes of which I am a member, relating to review by their duly authorised representatives;

as of the date of this report, I have completed the requirements of the continuing education programs of the professional institutes of which I am a member;

that the **Market Value** of the Fee Simple Interest in the subject property, premised on the basis that it will be utilised for its Highest and Best Use with vacant possession as of the 8th March 2021, subject to the Limiting Conditions and Assumptions contained herein and a Reasonable Exposure Time of 6-18 months, is the sum of $1,200,000.

that the **Market Rent** of the subject property, on a net absolute to landlord basis (i.e. assuming that the lessee pays for the property taxes and all operating expenses other than structural repairs) for a typical term of 5 years as of the 8th March 2021, subject to the Limiting Conditions and Assumptions contained herein and a Reasonable Exposure Time of 6-18 months, is the sum of $129,595 per annum.

30th April 2021
Date



RICHARD J. ESCOTT, BES, MRICS, AACI
NSREAA #213480

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TERMS OF ENGAGEMENT

Our Ref: 2114912/13/14:HQ/RE

TURNER DRAKE & PARTNERS LIMITED
TERMS OF ENGAGEMENT

THIS AGREEMENT made the 8th day of January, A.D. 2021.

BETWEEN Turner Drake & Partners Ltd.
hereinafter referred to as "TURNER DRAKE" OF THE FIRST PART

and

Windsor/West Hants Regional Municipality
hereinafter referred to as the "CUSTOMER" OF THE SECOND PART

WITNESSETH THAT for consideration, TURNER DRAKE agrees to provide, subject to the terms and conditions set forth in this Agreement, the services described below and any additional services as may be requested by the CUSTOMER and accepted by TURNER DRAKE in the course of this Agreement.

1.01 The CLIENT for this assignment is Windsor/West Hants Regional Municipality.

1.02 TURNER DRAKE shall prepare and provide to the CUSTOMER 1 electronic copy in pdf format, of a summary valuation report on the Fee Simple interest in:

Windsor Municipal Complex, PID 45057742, 100 King Street, Windsor, Nova Scotia
West Hants Municipal Complex, PID 45148731, 78 Morrison Drive, Windsor, Nova Scotia
Hants County Court House, PID 45059987, 226 King Street, Windsor, Nova Scotia

(hereinafter referred to as the "PROPERTIES") for the purpose of establishing its value for Lease and Sale purposes with vacant possession. Use of the valuation report for other purposes or by other parties may invalidate the conclusions. The RICS Valuation Standards require that we prepare a new report if the CLIENT, intended user, date, or purpose of the assignment, is changed.

1.03 Since the purpose of a draft valuation report is frequently misinterpreted by the CLIENT (the party relying upon the final valuation report referred to in Paragraph 1.02), the valuation report will not be prepared initially in "draft" format.

1.04 The effective date of the valuation of the PROPERTIES is to be date of inspection 2021. The value will be expressed in Canadian currency.

1.05 The PROPERTIES comprise municipal office buildings.

1.06 The basis of the valuation is **Market Value** (Highest and Best Use) and **Market Rental Value**.

1.07 The reported analyses, opinions and conclusions will be developed in accordance with the Royal Institution of Chartered Surveyors' Valuation Standards [2017 Edition] (RICS Red Book), and the International Valuation Standards (IVS). The valuation report will conform with the Uniform Standards of Professional Appraisal Practice (USPAP). The conduct of the assignment and the preparation of the report will also comply with the Canadian Uniform Standards of Professional Appraisal Practice. The report and assignment will be subject to the requirements of the Code of Professional Ethics of the professional institutes of which the author of the report is a member, which include provision for peer review.

1.08 The Valuer responsible for the assignment will have sufficient current local, national and international knowledge of the market, and the skills and understanding, to undertake the valuation in a competent manner, and will act as an External Valuer.

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1.09 TURNER DRAKE will undertake a detailed on-site inspection of the PROPERTIES and the neighbourhood including the exterior and interior of the building situated thereon that impact the value of the PROPERTIES.

1.10 TURNER DRAKE will undertake such fiscal, physical and legal investigations as are necessary and prudent to arrive at the value of the PROPERTIES. This research will not include an investigation of title, a property survey, engineering or environmental studies of the land and structures, or tests to determine whether there is a supply of potable water or that the property has, or will support, a fully functioning sewage disposal system. The PROPERTIES will be valued on the assumption that they are not, and never have been, subject to environmental contamination, and that it is not in such proximity to another contaminated property as to adversely impact the value of the subject PROPERTIES.

TURNER DRAKE anticipates utilising the Cost, Direct Sales Comparison and Income Approaches to value, on this assignment.

1.11 TURNER DRAKE, in order to value the PROPERTIES, will undertake such investigations as are necessary and prudent to verify that information supplied by the CUSTOMER, the CLIENT and other parties, is reliable and accurate. However, these investigations may be limited by privacy legislation and the absence of publicly available, verified, sales and rental data. It will be necessary, in part, to rely upon hearsay data.

1.12 TURNER DRAKE has no material involvement (past, current, or future) with the PROPERTIES other than the assignment contemplated by these TERMS OF ENGAGEMENT.

1.13 TURNER DRAKE has no material involvement (past, current, or future) with the CLIENT, the CUSTOMER, or any parties contemplated to be involved in any transaction resulting from these TERMS OF ENGAGEMENT other than previous valuation assignments for the client.

2.01 The valuation report will contain such confidential information as is necessary to support the analyses, opinions and conclusions contained therein. It may also be subject to Extraordinary Assumptions and/or Hypothetical Conditions: reference to the report in any published document without an adequate contemporaneous reference to these Extraordinary Assumptions or Hypothetical Conditions would be misleading and is prohibited. For these reasons, and to protect the integrity of the report, TURNER DRAKE will retain copyright to the report; reproduction in whole or part will be prohibited without their written permission.

2.02 The valuation report has to be used in its entirety since parts taken out of context may be misleading. Use of the report will be subject to the statements, limited conditions, assumptions and other terms set forth in the report. The report, or any parts thereof, may not be used for any purpose other than that for which it is undertaken and will be furnished for the exclusive use of the CLIENT. **All liability to any party other than the CLIENT will be denied.**

2.03 Turner Drake & Partners Ltd. (TURNER DRAKE) is regulated by RICS (Royal Institution of Chartered Surveyors) for the provision of surveying i.e. property consulting, services. This means we agree to uphold the RICS Rules of Conduct for Firms and all other applicable mandatory professional practice requirements of RICS, which can be found at www.rics.org. As an RICS regulated firm we have committed to cooperating with RICS in ensuring compliance with its standards. The firm's nominated RICS Responsible Principal is Mark Blair Turner, President, Email: markturner@turnerdrake.com TURNER DRAKE's complaints handling procedure, available upon request, is governed by a quality system registered to the international ISO 9001:2015 standard. In addition, TURNER DRAKE is subject to provincial licencing with respect to its appraisal and brokerage services.

2.04 These TERMS OF ENGAGEMENT will be included in and form part of the valuation report.

3.01 The CUSTOMER, for the performance of the services referred to in Article 1 shall pay to TURNER DRAKE:

(a) A fee of:

Windsor Municipal Complex, 100 King Street, Windsor:	$ 5,000
West Hants Municipal Complex, 76 Morison Drive, Windsor:	$ 4,200
Total	$ 9,200
Hants County Court House, 226 King Street, Windsor:	$4,500

These fees do not include H.S.T.

(b) Disbursements, to be invoiced at actual cost, are included in the above fee.
(c) A retainer in the amount of $NIL.
(d) All accounts are payable on receipt and interest is charged at 2% per month (24% per annum) on outstanding invoices.

Accepted by:
TURNER DRAKE & PARTNERS LTD.
Per: _____
Title: Senior Manager
Date: 11 Jan 2021

The above is agreed to by the CUSTOMER
Per: _____
Authorised Signing Officer
Title: _____
Date: _____
PO #: _____

Valuation Report

76 Morrison Drive, Wentworth Creek, Nova Scotia

TURNER DRAKE & PARTNERS LTD.

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E-Mail: tdp@turnerdrake.com

VALUATION REPORT
(Summary Report)

VALUATION OF

PID #45148731
WEST HANTS MUNICIPAL COMPLEX
76 MORRISON DRIVE
WENTWORTH CREEK
NOVA SCOTIA

OWNED BY

MUNICIPALITY OF THE COUNTY OF WEST HANTS

PREPARED FOR

WINDSOR/WEST HANTS REGIONAL MUNICIPALITY

AS OF

8TH MARCH 2021

BY

RICHARD J. ESCOTT

TURNER DRAKE & PARTNERS LTD.
HALIFAX - NOVA SCOTIA

TURNER DRAKE
& PARTNERS

Real Estate Counsellors, Brokers & Valuers

Registration to ISO 9001:2015

Counselling Advice
Feasibility Studies
Expropriation
Mediation & Arbitration
Infrastructure Acquisition

Valuation & Appraisal
PAMS® Portfolio Manager
Commercial
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Investment
Development
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Site Selection
Trade Area Analysis
Supply & Demand Analysis
Demographic Studies

Property Tax Consulting
PAMS® Tax Manager
Assessment Audits
Negotiation
Appeal Board

Planning (Urban & Rural)
Regulatory Review
Development Analysis
Development Approval
Cost Benefit Analysis
Municipal Background Studies

Brokerage (Sales & Leasing)
Tenant Representation
Landlord Representation
Purchaser Representation
Vendor Representation

Lasercad® Space Measurement
Space Certification
"As Built" Plans

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E-Mail: tdp@turnerdrake.com
Internet: www.turnerdrake.com

Regulated by RICS

Our Ref: 2114912:NB/RE

13 April 2021

Mr. Mark Phillips
Chief Administration Officer
Windsor/West Hants Regional Municipality
PO Box 3000
76 Morison Drive
Windsor NS B0N 2T0

Dear Mr. Phillips:

Re: PID #45148731, West Hants Municipal Complex, 76 Morrison Drive, Wentworth Creek, Nova Scotia

In accordance with your request of the 6th January 2021, we have completed a valuation of the above property on the basis of its **Market Value** (Highest & Best Use) and **Market Rent** (Net Absolute).

This report is intended only to be used for Lease and Sale purposes and for no other purpose; and only by Windsor/West Hants Regional Municipality our client for this assignment. Use of the report for other purposes or by other parties may invalidate the conclusions. The RICS Valuation Standards require that we prepare a new report if the client, intended user, date, or purpose of the assignment, is changed.

Type of Property

The property comprises the West Hants municipal offices and is held as an operational asset

Scope of Work

(i) Property identification – we took as our source the legal description from the deed conveying the property to the present owner together with a survey plan as well as the Provincial on-line mapping service. We utilised the foregoing and aerial satellite imagery to identify the property boundaries during our on-site inspection.

(ii) Property inspection – we undertook a detailed inspection of the property including the interior and exterior of all buildings that had a material impact on the property value. Our findings are described in the body of this report.

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(iii) Data research – we obtained the assessment, zoning, planning and other pertinent data from the appropriate sources. Some sales information is now available from government sources and was utilised for this assignment. However it was incomplete and rudimentary and required processing by our CompuVal® Information Platform to render it usable. Further sales information was compiled from vendors, purchasers, brokers, appraisers, Multiple Listing Services® and other sources we deemed reliable. It was analysed and utilised to compute the Land and Building Value using the Direct Comparison Approach, and the rents and capitalisation rates for the Income Approach. Building costs were derived from commercial costing services and were validated, whenever possible, with actual costs. Income and expense data was obtained comparable properties and industry benchmarks.

(iv) Analyses applied – there are three methods traditionally used to arrive at the value of real estate: the Direct Comparison, Cost and Income Approaches. We utilised the Direct Comparison, Cost and Income Approaches since this was necessary to properly value the property.

The following **Executive Summary** provides an overview of our findings and describes the extent of our investigations and document research.

Quality Standards

Turner Drake's quality assurance system, which covers the conduct of all of our operations, is registered to the ISO 9001:2015 standard. This assignment has been conducted in accordance with our quality assurance system, the Code of Professional Ethics and the Royal Institution of Chartered Surveyors' Valuation Standards [2017 Edition] (RICS Red Book), the International Valuation Standards (IVS), the Uniform Standards of Professional Appraisal Practice (USPAP), [1][Appraisal Report] and the Canadian Uniform Standards of Professional Appraisal Practice.

Observed Condition of Building

Whilst our inspection of the property should not be construed as a structural survey, and we did not undertake any tests of the heating, plumbing, electrical, air conditioning or other systems we found no major defects other than normal wear and tear consistent with the property's age and use. defects or items of deferred maintenance over and above the normal wear and tear one would expect with a property of this age and type.

Building Measurement

We did measure the Gross Floor Areas of the building.

Environmental

(a) **Hazardous materials or environmental concerns** - none were observed or brought to our attention during our inspection of the property. However, buildings of this age and occupancy often contain potential hazardous materials or have been exposed to environmental contamination. We have identified possible contaminants in the Environmental Contamination section of this report.

We noted the presence of storage tanks on the property. We have not been able to confirm that they meet Provincial Government environmental regulations.

The property has been valued on the assumption that it is environmentally "clean".

1 Contains all of the information significant to the solution of the appraisal problem.

(b) **Climate change concerns –** climate change resulting from global warming exposes property to the increased risk of flooding from pluvial (rain), fluvial (watercourses) and coastal (storm surge) sources. Most municipal infrastructure for water dispersal was not designed to accommodate the heavier rainfalls that are a consequence of a warming climate. Former and current National Building Codes do not contemplate the present regime of climate change which is resulting in higher winds, temperatures and rainfall. Excessive rainfall has a concomitant, adverse, impact on the ability of watercourses to function without overflowing their banks. Excess precipitation, coupled with a storm surge, conspire to elevate the danger of flooding for coastal property since both are the outcome of a hurricane. Where they exist, flood plain maps are often outdated or inaccurate.

Since no Climate Risk and Vulnerability Assessment Report was available to us for the property we restricted our investigation to our on-site inspection, enquires of the present owner or occupier, flood plain maps, and our general knowledge of the property and the neighbourhood. We did not observe any immediate risks from flooding, nor were any brought to our attention.

Zoning

We have reviewed the uses permitted under the current Zoning By-Law. The current use of the property is permitted. More complete details are included in the Zoning section of this report.

Since it is outside the mandate of this assignment we have not verified that the building meets all of the site specific requirements of the current Zoning By-Law such as set back and building envelope constraints.

Income Data and Expense Data

We relied upon on the operating history of the subject, data on file on comparable properties, and industry benchmarks.

Investment Assumptions

We have utilised a 10 year investment horizon Overall Capitalisation model employing the Ellwood Mortgage Equity Technique. Our investment assumptions are described in the Income Approach section of this report. The Overall Capitalisation Rate has been validated by reference to a sales analysis of investment type properties.

Sales & Marketing History

To the best of our knowledge the property has not been actively marketed for sale during the past three years and no offers to purchase have been received.

Most Probable Purchaser

In our experience the most probable purchaser for this property would be a partial owner-occupier or local investor or developer.

Covid-19 Considerations

As of the date of this report Canada and the Global Community is experiencing unprecedented measures undertaken by various levels of government to curtail health related impacts of the Covid-19 Pandemic. The duration of this event is not known. While there is potential for negative impact with respect to micro and macro-economic sectors, as well as upon various real estate markets, it is not possible to predict such impact at present, or the impact of current and future government countermeasures. There is some risk that the Covid-19 Pandemic increases the likelihood of a global recession, however without knowledge of further anticipated government countermeasures at the national and global levels it is not possible to predict any impact at this point in time. Accordingly, this point-in-time valuation assumes the continuation of current market conditions, and that current longer-term market conditions remain unchanged.

Market Value

In our opinion, the Market Value of the Fee Simple Interest in the subject property, premised on the basis that it will be utilised for its Highest and Best Use with vacant possession as of the 12th March 2021, subject to the Limiting Conditions and Assumptions contained herein and a Reasonable Exposure Time of 6-18 months, is the sum of $1,575,000.

ONE MILLION FIVE HUNDRED SEVENTY FIVE THOUSAND DOLLARS

Market Rent

As requested, we have also considered the Market Rent for the Subject Property. Our analysis and conclusion is detailed in the Income Approach section of our report. In our opinion the Market Rent of the subject property, on a **net absolute to landlord basis** (i.e. assuming that the lessee pays for the property taxes and all operating expenses other than structural repairs) a typical term of 5 years. Having regard to the attributes of the subject property and the foregoing we have adopted a rental rate of $11.00/ft.² for the ground floor space. We have adopted $9.00/ft.² for the finished space in the basement and $6.00/ft.² for the unfinished basement space. The overall total market rent equates to $9.64/ft.² of total GFA.

In our opinion the Market Rent of the subject property of the 8th March 2021, subject to the Limiting Conditions and Assumptions contained herein and a Reasonable Exposure Time of 6-18 months, is the sum of **$161,780 per annum** (i.e. $9.64/ft.^{2} of total gross floor area).

Yours truly,

TURNER DRAKE & PARTNERS LTD.

RICHARD J. ESCOTT
Senior Manager
Valuation Division

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SUBJECT PROPERTY



FRONT ELEVATION



REAR ELEVATION

SUBJECT PROPERTY

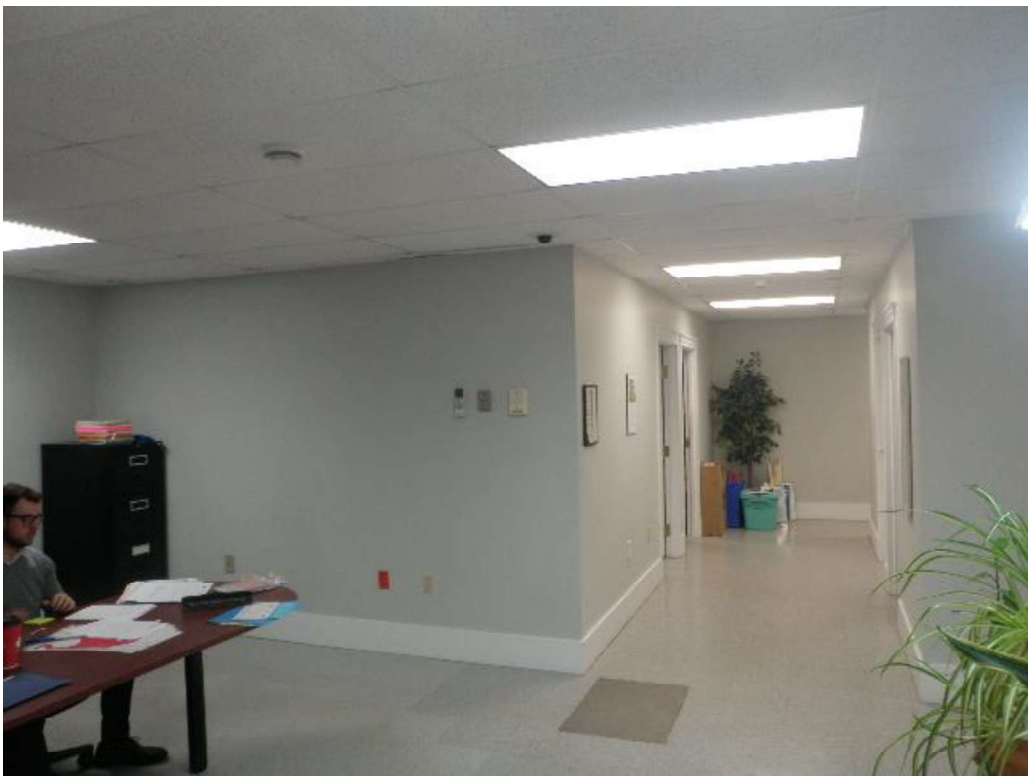


GROUND FLOOR-COUNCIL CHAMBERS



GROUND FLOOR-GENERAL OFFICE AREA

SUBJECT PROPERTY



BASEMENT–OFFICE AREA



BASEMENT–MAINENANCE SHOP

LIMITING CONDITIONS AND ASSUMPTIONS

(1) No responsibility is assumed for matters of a legal nature, nor do we render any opinion as to the title which is assumed to be good. Unless otherwise noted in this report, existing mortgages, liens, encumbrances and special assessments, if any, have been disregarded and the property has been valued as though free and clear.

(2) We have not undertaken a survey of the property, and no responsibility can be accepted for the accuracy of the Site Plan and sketches. They are only included to assist the reader in better visualising the property.

(3) Market conditions can, and do, change rapidly because of economic, social and political reasons. The market value expressed in this report pertains only to the date of the valuation. It must not be relied on to estimate the market value as of any other date. HST, GST and other tax or expenses due on acquisition or disposition, have not been deducted from, or added to the market value. If the market value is based upon the prospect of future growth in rental and/or capital values, the reader is cautioned that these projections may not occur and values can fall as well as rise.

(4) It is assumed that there are no hidden or non-apparent conditions of the property, subsoil or structures that would render it more or less valuable. No responsibility is assumed for such conditions or for engineering studies that might be required to discover these factors.

(5) The distribution of value between the land and buildings applies only to the property as utilised at the date of valuation and is invalid if the valuation is used for any other purpose.

(6) This report must be used in its entirety since parts taken out of context may be misleading. The report, or any parts thereof, may not be used for any purpose other than that for which it was undertaken and is furnished for the exclusive use of the client. **All liability to any party other than the client is hereby denied.**

(7) Information in this report furnished by others is believed to be reliable, although no responsibility is assumed for its accuracy.

(8) Turner Drake & Partners Ltd. retain the copyright to this report. Reproduction in whole or in part, or any reference thereto, or to the valuation figures contained therein, or to the name and professional affiliation of the author of the report, is prohibited without their written permission and is a contravention of the Copyright Act. The report may be subject to Extraordinary Assumptions and/or Hypothetical Conditions: reference to the report in any published document without an adequate contemporaneous reference to these Extraordinary Assumptions or Hypothetical Conditions would be misleading and is prohibited.

(9) Unless otherwise noted in this report, the existence of hazardous substances, including without limitation asbestos, polychlorinated biphenyls, petroleum leakage, agricultural chemicals, radon gas, urea-formaldehyde foam insulation, or other potentially hazardous substances, which may or may not be present on the property, or molds, mildews and other environmental conditions, were not called to our attention nor did we become aware of them during our inspection. We are not qualified to detect such substances or conditions and the client is urged to retain an expert in this field, if desired. The presence of such hazardous substances or environmental conditions on, or in the proximity to the property, may affect the value of the property. Whilst we have valued the property on the assumption that it does not, and never has, contained such hazardous substances or environmental conditions, and is not in such proximity to another contaminated property as to cause a loss in value to the property the subject of this report, we do not warrant that this is the case and accept no liability in this regard.

(10) Unless otherwise expressly stated in this report, it has been assumed that all oil or other storage tanks, whether above or below ground, are in good condition, free of leaks and other defects, have been registered with the Department of the Environment, are legally permissible and meet all environmental standards. We have not undertaken any investigation, do not warrant that this is the case and accept no liability in this regard.

(11) Climate change, particularly global warming, is a continuous process which increasingly impacts real estate, often in an adverse manner. It can significantly increase the risk of flooding from pluvial (rainfall), fluvial (watercourses) and coastal (storm surge) sources. If a Climate Risk and Vulnerability Assessment was not made available to us for the property we have undertaken a very preliminary investigation of the flooding risk for the purpose of this report. However such investigation is not tendered as a substitute for a detailed Climate Risk and Vulnerability Assessment Report and any party relying on this report is encouraged to undertake their own investigations. Climate change risk is not yet fully "priced" into sales transactions and our estimate of Market Value reflects it only to the degree that it is recognised by the market.

(12) We have not inspected woodwork or other parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that such parts of the property are free of rot, beetle or other defects.

(13) This valuation is based on the assumption that there is an adequate supply of potable water to the property at all times. We have not undertaken any tests ourselves and make no warranty therewith.

(14) This valuation is based on the assumption that there is a fully functioning sewage disposal system. We have not undertaken any tests ourselves and make no warranty therewith.

(15) As of the date of this report Canada and the Global Community is experiencing unprecedented measures undertaken by various levels of government to curtail health related impacts of the Covid-19 Pandemic. The duration of this event is not known. While there is potential for negative impact with respect to micro and macro-economic sectors, as well as upon various real estate markets, it is not possible to predict such impact at present, or the impact of current and future government countermeasures. There is some risk that the Covid-19 Pandemic increases the likelihood of a global recession, however without knowledge of further anticipated government countermeasures at the national and global levels it is not possible to predict any impact at this point in time. Accordingly, this point-in-time valuation assumes the continuation of current market conditions, and that current longer-term market conditions remain unchanged.

PURPOSE OF VALUATION

The purpose of this valuation is to estimate the **Market Value** (Highest & Best Use Use) and **Market Rent** of the subject property.

INTENDED USE

This report is intended only to be used for Lease and Sale purposes. The report is not intended to be utilised for any other purpose.

In view of the purpose and intended use of the valuation, this report conforms to the Royal Institution of Chartered Surveyors' Valuation Standards [2017 Edition] (RICS Red Book), the International Valuation Standards (IVS), the Uniform Standards of Professional Appraisal Practice (USPAP) [2][Appraisal Report], and the Canadian Uniform Standards of Professional Appraisal Practice (CUSPAP).

INTENDED USERS

This report is intended for use only by the Windsor/West Hants Regional Municipality our client for this assignment. This report is not intended to be utilised by any other party.

PROPERTY RIGHTS VALUED

Fee Simple

DEFINITION OF VALUE

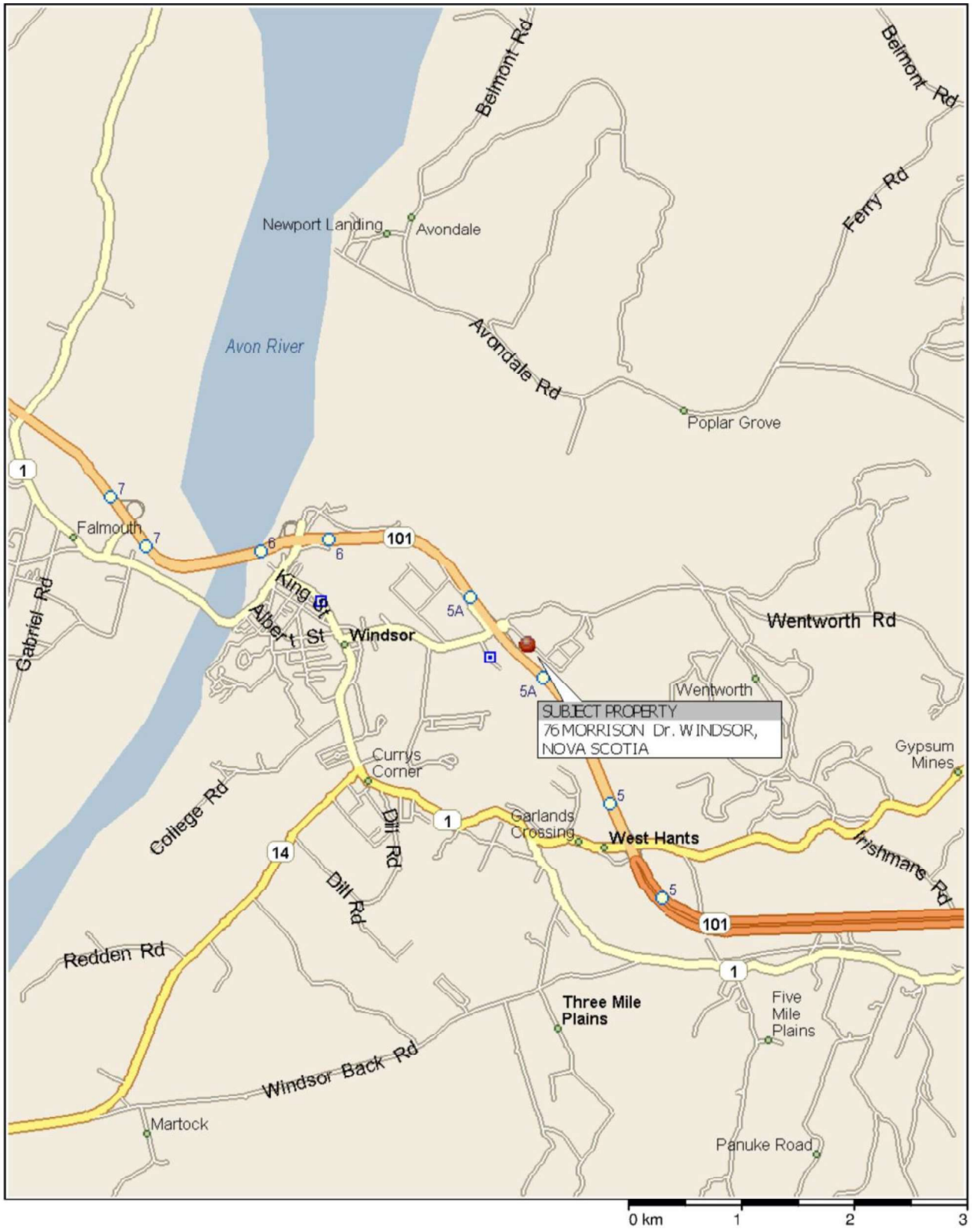
Market Value is defined in CUSPAP as:

> "the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer whereby:
>
> (1) buyer and seller are typically motivated;
> (2) both parties are well informed or well advised, and acting in what they consider their best interests;
> (3) a reasonable time is allowed for exposure in the open market;
> (4) payment is made in terms of cash in Canadian dollars or in terms of financial arrangements comparable thereto; and
> (5) the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale."

Market Value is premised on the basis that the Subject Property will be utilised to its Highest and Best Use

[2] Contains all of the information significant to the solution of the appraisal problem.

LOCATION MAP



Market Rent is defined as:

> "the estimated amount for which a property, or space within a property, should lease on the date of valuation between a willing lessor and a willing lessee on a net absolute to landlord basis (i.e. assuming that the lessee pays for the property taxes and all operating expenses other than structural repairs. for a typical term of 5 years in an arm's-length transaction, after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion."

EXPOSURE TIME

A Reasonable Exposure Time is defined as:

> "the estimated length of time the property would have been exposed on the open market prior to the effective date of the valuation in order to achieve a sale or lease at Market Value or Rent. Implicit in this definition are the following characteristics:
>
> (1) The property would have been actively exposed and aggressively marketed to potential purchasers and tenants through marketing channels commonly used by buyers and sellers or tenants and landlords of similar type properties.
> (2) The property would have been offered at a price reflecting the most probable mark-up over market value or rent used by sellers and landlords of similar type properties.
> (3) A sale or lease would have consummated under terms and conditions of the definition of market value or rent as outlined in this report."

EFFECTIVE DATE OF VALUATION

The effective date of valuation is the 8th March 2021.

DATE OF INSPECTION

The property was inspected on the 8th March 2021.

TIMEFRAME

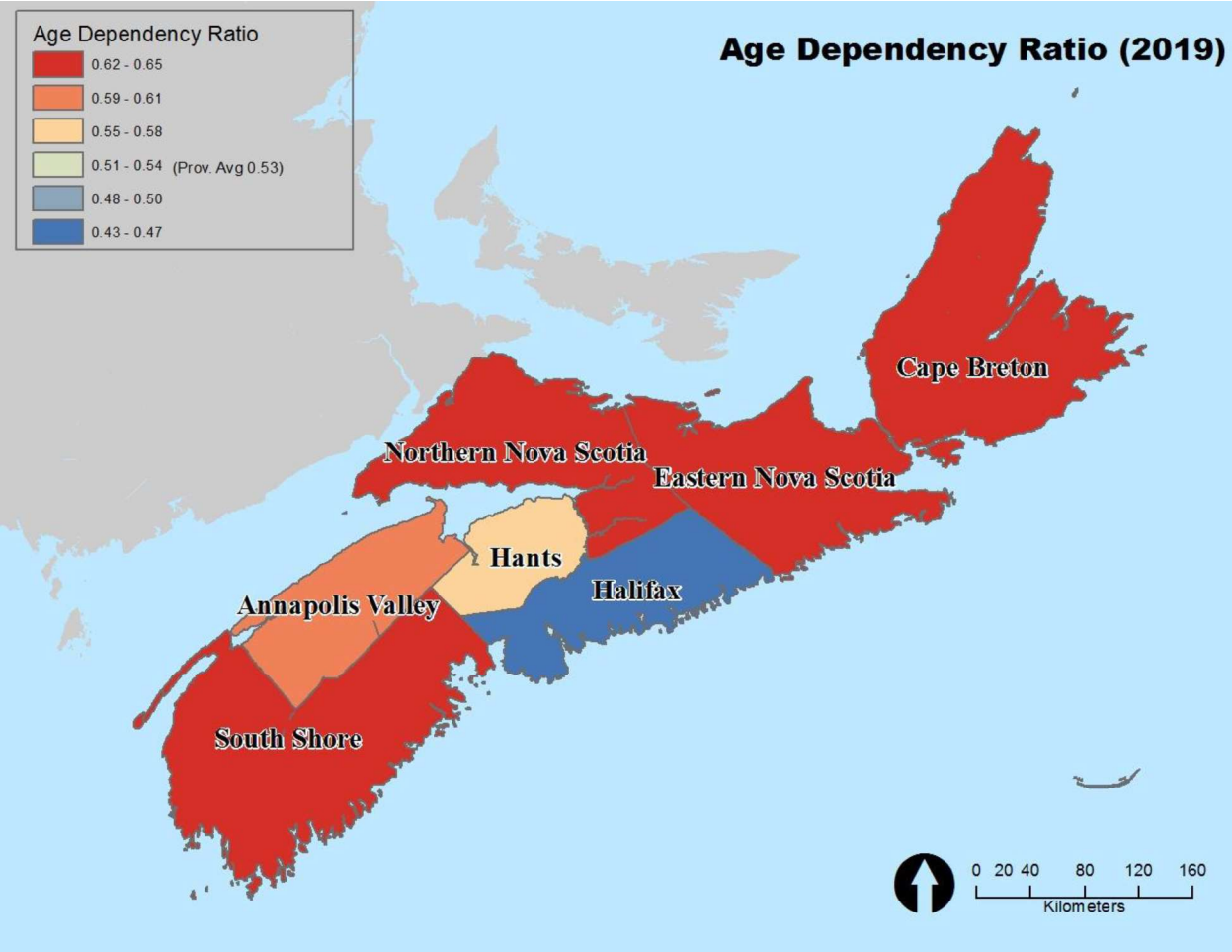
This is a Current Value Opinion.

IDENTIFICATION OF PROPERTY

The property is located on the west side of Morrison Drive in the West Hants Industrial Park and is identified on the Location Map on the opposite page.

AREA DATA

The Subject Property is located on the periphery of the Town of Windsor in Hants County, Nova Scotia.



The population of Nova Scotia is 960,593 (2019 estimate), while the Hants County region supports an estimated population of 42,564. This represents a population decrease of 0.59 % over the five year period 2014-2019, in contrast to the trend of overall 1.89% provincial population increase during the same period.

The population in the Hants County region is aging: the median age in 2019 is 45.7, up from 43.8 in 2014, above the median provincial age of 44.8 years. The dominant age group in the region, defined as the five-year age bracket with the largest percentage of the population, is 55-59 years, also in line with the dominant provincial age group. The Age Dependency ratio, which measures the ratio of dependents (people younger than 15 or older than 64) to the working age population (15 to 64), in the Hants County region is 0.55, above the provincial ratio of 0.53. The average household income (2019) in the Hants County region is $85,594: slightly above that of Nova Scotia as a whole ($84,593).

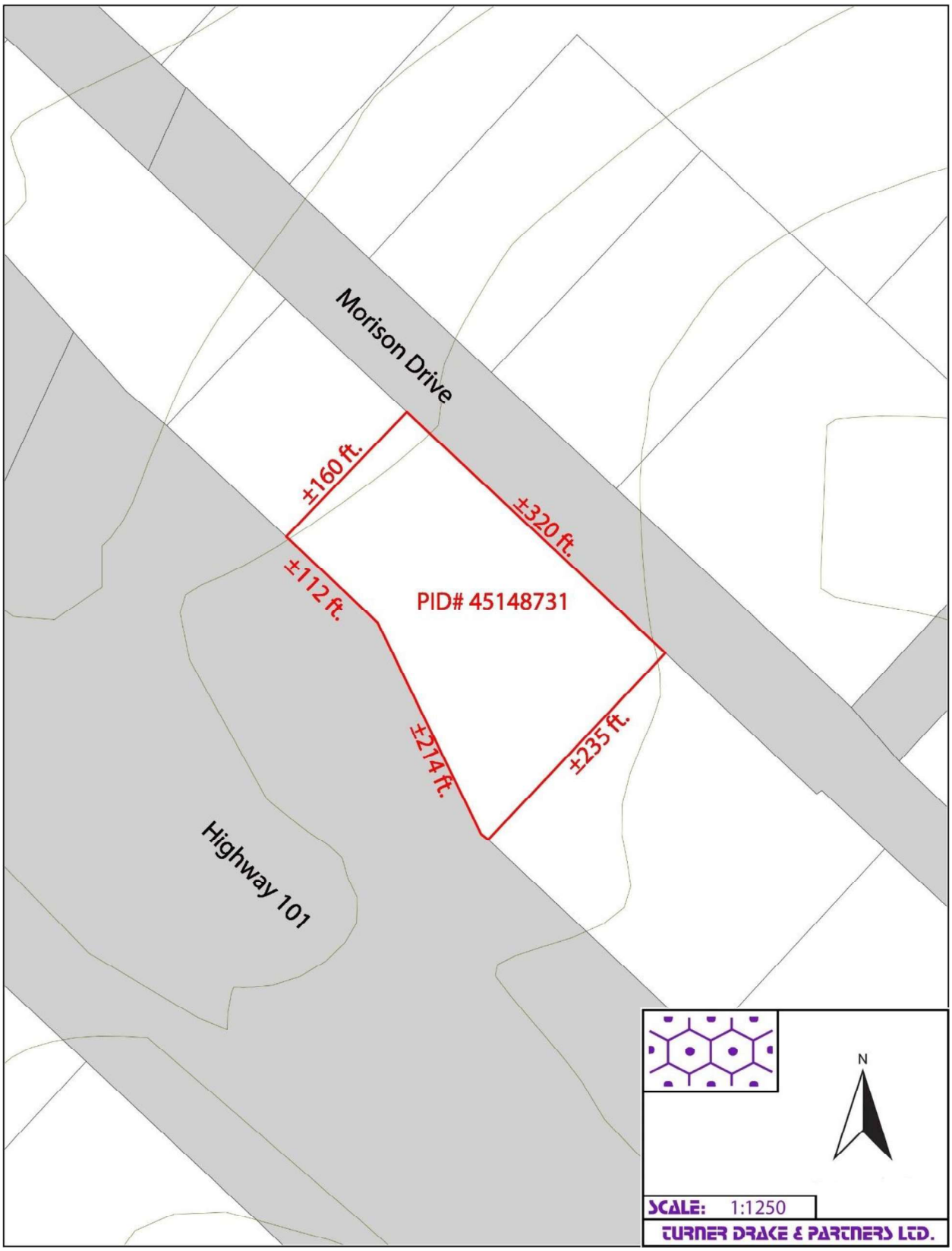
The county's economic base is primarily supported by the agricultural, forestry, light manufacturing, tourism and hospitality sectors. The county is also home to commuters working in HRM. Economic activity as evidenced by new construction appears to be steady, particularly in East Hants. The principal town in West Hants is Windsor which represents the local commercial centre for the area. The town has lost some of its commercial importance to metropolitan HRM over the years. However, the current Hwy 101 twinning represents a major construction project in the locality which will should attract more development to the area

In general, the area can best be described as gradually improving in terms of its economic outlook.

NEIGHBOURHOOD DATA

The neighbourhood represents the West Hants Industrial Park bordered on the north by Wentworth Road, the south by the former Fundy Gypsum mine, the east by wooded acreage and the west by Highway 101. It is mainly industrial in nature. In terms of its life cycle, it is fairly static with a number of established light industrial and quasi-industrial uses. It has not been infiltrated by alien uses There is some vacant land available and consequently there is low pressure on land values

SITE PLAN


Morison Drive
±160 ft.
±320 ft.
±112 ft.
PID# 45148731
±214 ft.
±235 ft.
Highway 101
N
SCALE: 1:1250
TURNER DRAKE & PARTNERS LTD.

SITE DATA

The subject property is located on the west side of Morrison Dr and backs onto Highway 101. The land is shown edged red on the Site Plan (opposite page). It is irregular in shape and has the following dimensions:

Morrison Drive Frontage	320	ft.	
Eastern Boundary	235	ft.	
Southern Boundary	326	ft.	
Western Boundary	160	ft.	
Area	59,241	ft.²	(1.36 acres)

Reference

We have taken as our source, the legal description from the deed conveying the property to the present owner as well a survey plan and property data from the Nova Scotia online property database. The dimensions have been plotted onto a Provincial Map, Scale 1:1250, prepared from aerial photographs.

Site Improvements

We noted the following site improvements:

Parking:	45	spaces
Asphalt paving	24,300	ft.²
Sod and landscaping	12,270	ft.²
Concrete walkways	300	ft.²
Chain link fenced compound	1,600	ft.²
Water service dispensing shed.		
“Olympian” self contained diesel generator		

Services Available to the Site

Main sewer, water, and electrical services are available to the site.

Building Description

Municipal Office Building

Architectural Style - Modern.

 # Storeys - One.

Basement Area - 8,395 ft.².

Above Grade Area - 8,395 ft.².

Year Built - 1988. Renovation 2000 (basement finished to offices).

Brief Specifications

Exterior:

Foundation - Poured concrete.

Walls	-	Brick veneer over concrete block and wood framing.
Frame	-	Wood and steel.
Roof	-	Gable. Asphalt shingles.
Insulation - Walls	-	Fibreglass.
- Roof	-	Fibreglass.

Observed Condition:

Exterior Structure	-	Average.
Window System	-	Average.
Roof	-	Average.
Paintwork	-	Average.
Interior Condition	-	Average to good.
Electrical	-	Good.
Service Entrance	-	Good.
HVAC	-	Good.
Paintwork	-	Average.

Interior:

Basement (Storage/Maint. Shop)

Floor	-	Poured concrete.
Walls (finish)	-	Painted concrete block and gyproc.
Ceilings (finish)	-	Painted gyproc.
Clear Height	-	9.5 ft.

Basement (Finished Area)

Floor	-	Vinyl tiles.
Walls (finish)	-	Painted gyproc.
Ceilings (finish)	-	Suspended T-bar with acoustic tiles.
Clear Height	-	8 ft.

Ground Floor (Council Chambers)

Floor	-	Hardwood.
Walls (finish)	-	Painted gyproc.
Ceilings (finish)	-	Suspended T-bar with acoustic tiles.
Clear Height	-	8.5 ft.

Ground Floor (Offices)

Floor	-	Carpet. Sheet vinyl.
Walls (finish)	-	Painted gyproc.
Ceilings (finish)	-	Suspended T-bar with acoustic tile.
Clear Height	-	9 ft.

Ground Floor (Washrooms)

Floor	-	Ceramic tiles.
Walls (finish)	-	Ceramic tiles.
Ceilings (finish)	-	Suspended T-bar with acoustic tile.
Clear Height	-	9 ft.

Plumbing -

Fixtures and Location

- Basement:
  - 3 x 4 piece washrooms.
- Ground floor:
  - 2 x 4 piece washroom.
  - Kitchen sink to staff room.
  - 1 x janitor sink.

Equipment - 60 gal electric water heater.

Heating

Type of Furnace	-	Geothermal system with HRV units.
Type of Radiation	-	Forced air.
Supplementary Heating	-	Electric baseboards. Heat pump.

Airconditioning

Type of Airconditioner	-	Carrier heat pumps. Mini -split heat pumps to basement.
Type of Radiation	-	Forced air ceiling diffusers.

Supplementary Ventilation	-	None.
Energy Management System		
Central Control	-	Yes.
Type of Equipment Controlled	-	HVAC.
Electrical		
Service Entrance	-	400 amp 3 phase 208 volts.
Fixtures	-	Mainly fluorescent.
Sprinkler System		
Type	-	None
Fire Protection		
Sensors	-	Yes.
Central Station Monitor	-	Yes.
Computer		
Network Cable	-	Yes.
Security System		
Internal	-	Yes.
External	-	No.
Fixed Equipment		
Type	-	Record storage vault.
Size (Capacity)	-	156 ft.^{2}.

AGE/LIFE ANALYSIS - The building has an actual age of 33 years with renovations to the basement and ground floor in 2000. Overall the building appears to be in average to good condition: this is at par with its actual age. Accordingly its effective age is less than its actual age.

ASSESSED VALUE AND ANNUAL TAXES (2021)

Assessment:

Commercial	-	$ 83,300
Commercial Exempt	-	$1,192,000
Total	-	$1,275,300

Taxes (2021): - Tax Exempt

ZONING

The property is zoned “Joint Industrial Type Two (LI-2) Zone”. The types of uses allowed under this zoning can be summarised as follows:

- Animal hospitals and veterinarian establishments;
- Any manufacturing, industrial, assembly, or warehousing operation conducted and wholly contained within an enclosed building and which is not considered obnoxious by reason of sound, odour, dust, fumes, smoke, or other emission;
- Any activity connected with the automotive trade other than an automotive scrap yard or automobile-related commercial recreational establishment;
- Breweries, distilleries, wineries;
- Building supply and equipment depots;
- Business and professional offices excluding doctor, dentist and lawyer officers, financial institutions, real estate offices, and personal service office uses such as beauty consultants;
- Chemical and chemical products;
- Commercial uses accessory to a permitted main use which is conducted in the main building;
- Courier services;
- Display courts;
- Existing donut shop;
- Farm implement sales, service and repair;
- Fencing and fence erectors;
- Fuel storage depots;
- Garden and nursery sales and supplies;
- Government establishments except retail outlets;
- Indoor recreation establishments;
- Industrial training facilities;
- Laundry and dry cleaning establishments;
- Manufacturing and processing machinery or equipment, sales and service;
- Marine sales, service & repair;
- Manufactured homes sales and service;
- Moving and storage depots;
- Railway uses;
- Research facilities;
- Recreation vehicles sales and service;
- Recycling depots;
- Service industries;
- Support services;
- Taxi and bus depots;
- Transportation depots;
- Utility facilities;
- Wholesaling and wholesale sales;
- Ambulance service; and
  Animal shelters.

ENVIRONMENTAL CONTAMINATION

No hazardous materials or environmental concerns were observed or brought to our attention during our inspection of the property.

The property has been valued on the assumption that it is environmentally “clean”.

CLIMATE CHANGE CONCERNS

Climate change resulting from global warming exposes property to the increased risk of flooding from pluvial (rain), fluvial (watercourses) and coastal (storm surge) sources. Most municipal infrastructure for water dispersal was not designed to accommodate the heavier rainfalls that are a consequence of a warming climate. Former and current National Building Codes do not contemplate the present regime of climate change which is resulting in higher winds, temperatures and rainfall. Excessive rainfall has a concomitant, adverse, impact on the ability of watercourses to function without overflowing their banks. Excess precipitation coupled with a storm surge, conspire to elevate the danger of flooding for coastal property since both are the outcome of a hurricane. Where they exist, flood plain maps are often outdated or inaccurate.

Since no Climate Risk and Vulnerability Assessment Report was available to us for the property we restricted our investigation to our on-site inspection, enquires of the present owner or occupier, an Internet search, and our general knowledge of the property and the neighbourhood. We did not observe any immediate risks from flooding, nor were any brought to our attention.

VALUATION METHODOLOGY

Scope

The objective of this assignment is to render an opinion as to the **Market Value** (Highest and Best Use) and **Market Rent**) of the fee simple interest in the property for Lease and Sale purposes.

We inspected the site and the interior and exterior of the improvements located thereon. We also interviewed the property owner and others knowledgeable of the property. We analysed the available financial data and validated it by comparing the information with that for comparable properties and industry benchmarks. We obtained and reviewed the assessment, zoning information and other pertinent municipal data. We undertook a full background analysis and valuation of the property. Our findings, analysis and conclusions are set out in this narrative report.

Methodology

It was necessary to proceed through a number of steps in order to achieve the foregoing objective. Valuation is by nature often experiential, in which the output of one stage results in re-computing the input to a prior stage so that the final figure is arrived at by an iterative process: rather than by rigidly proceeding in a mechanical fashion through a series of steps in fixed order. Thus, whilst we have described the steps below in ordinal sequence, the reader should bear in mind that this has been done purely for administrative convenience and readability.

(i) **Highest and Best Use -** this is the use for the property which will produce the greatest net return for the foreseeable future. The use must be (1) physically possible, (2) legally permissible, (3) financially feasible, and (4) maximally productive. It is determined by considering the various alternate purposes for which the property can legally be used, having regard not only to existing zoning and other legal constraints, but also to any probable modification of them. The use which generates the highest value is, ipso facto the Highest and Best Use. Unless the property comprises vacant (i.e. unimproved) land we have to consider two different scenarios of Highest and Best Use: the vacant site, and the property improved with the present buildings. This can result in two different Highest and Best Uses:

(a) **Cleared Site –** as at the effective date of the valuation, the Highest and Best Use of the property as a cleared site was for commercia/industrial purposes as permitted under the zoning law designation. We have computed the land value on this basis.

(b) **As Presently Improved –** as at the effective date of the valuation, the property was utilised as an office building. Based on our analysis, we are of the opinion that the Highest and Best Use of the property is a continuation of that use and it has been valued on that basis.

(ii) **Land Value -** this is the value of the site, cleared of all buildings and site improvements, available for development for its Highest and Best Use. The land value was calculated using a Direct Comparison Approach. Essentially this Approach is a systematic procedure for comparing the Subject Property with other land sales transactions.

(iii) **Property Value -** this is the value of the property (land, buildings and site improvements) under its Highest and Best Use.

Potentially, three alternate approaches are available for measuring the value of an improved property:

(a) **Cost Approach -** the justification for this approach as a method of valuation rests on two, classical theory underpinnings. First there is the argument that market values in the long run should equal the costs of production. Second, there is the position that reproduction costs represent a ceiling for market values since investors should not be willing to pay more for an improvement than the cost of obtaining a substitute in the marketplace.

Under this approach, value is measured by adding to the land value (found by Direct Comparison) the cost, in current prices, of reproducing the structure and site improvements, and then subtracting any loss in value due to physical depreciation, functional and external obsolescence.

(b) **Income Approach -** this approach is based on the assumption from neoclassical theory that the market value of an interest in real property is equal to the present value of future benefit flows. This approach first estimates the expected future benefit flows from a property. These benefit flows are then converted into a market value through a variety of alternative mathematical techniques for capitalisation.

(c) **Direct Comparison Approach -** this approach relies on marginal demand theory and derives the market value of a particular interest in real property through the analysis of the sale prices of **similar** properties. The underlying idea is that the marginal demand should be the same for two similar properties in a real estate market. Therefore, the fact that one sold for a certain price should indicate that the other property, if offered for sale, would sell for approximately the same amount (provided that market conditions have not changed). The approach utilises market information on the prices and characteristics of recently sold properties to determine the value of the subject property.

(iv) **Reconciliation and Final Estimate of Value**

This is a reconciliation of the values indicated by the various Approaches, in which the alternate value indications are considered, the relative significance of each is carefully weighed, and a final estimate of value is then computed. Although reconciliation necessarily involves judgement, the latter results from a careful logical analysis of the procedures leading to each indication of value. The analysis is based on several criteria, (appropriateness, accuracy and quantity of evidence) which result in the formation of a meaningful and defensible conclusion about the final value estimate.

HIGHEST AND BEST USE

The "Highest and Best Use" can be defined as "that use which will produce the greatest net return for the foreseeable future".

Site

The subject comprises a parcel of serviced land located within the West Hants Industrial Park. The site has frontage and access from Morrison Drive. The property is zoned Joint Industrial Type Two (LI-2) Zone which permits a wide variety of commercial, industrial and quasi-industrial uses.

In our opinion, the Highest and Best Use of the property is for development to a light industrial or commercial use.

Property

At present the site is improved with modern one storey office building, with a full finished basement with at-grade access, currently used by the municipality for an office and service complex. The layout of the building is generally typical for modern office accommodation. The building is in average to good condition overall. The site also offers adequate on- site parking.

In our opinion, the Highest and Best Use of the property is a continuation of an office type use.

MARKET ANALYSIS AND EXPOSURE TIME

Exposure time is the estimated length of time the property interest being valued would have been offered on the market prior to the hypothetical consummation of a sale or lease at market value or market rent on the effective date of the valuation. Since it is a retrospective opinion based upon an analysis of past events, assuming a competitive and open market, it can only be estimated after an analysis of the market.

Exposure time is the estimated length of time the property interest being valued would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of the valuation. Since it is a retrospective opinion based upon an analysis of past events, assuming a competitive and open market, it can only be estimated after an analysis of the market.

Market Analysis

Prior to, and at the effective date of the valuation, the supply and demand for the subject and competing properties can be summarised as follows:

(a) Supply: Prior to, and at the effective date of the valuation the supply of this category of property in the area was fair.

(b) Demand: Prior to, and at the effective date of the valuation demand for this category of property in the area was fair.

Exposure Time

Our estimate of Exposure Time is 6 to 18 months. This is based on the foregoing Market Analysis and the data summarised below:

(1) Properties similar to the subject property have been listed for sale for between 3 months and 24 months.

(2) Based on our research when we were gathering information on comparable sales it became apparent that there was a fair demand for commercial/industrial properties in the area.

(3) As part of our research we interviewed brokers, buyers and sellers. They indicated that the marketability of this type of property, prior to the effective date of valuation was fair.

LAND VALUE

Methodology

The land has been valued by the Direct Comparison Approach. Essentially this Approach is a systematic procedure for carrying out comparative shopping in which the Subject Property site is "priced" by comparing it with other, similar parcels of land (Indices) that have sold, been subject to offer or are listed for sale. Based on our experience working with land sales data, we have determined that the four most significant independent variables influencing value are **Time** (Date of Sale), **Location**, **Motivation** and **Size**. The unit price (ft.²) of each Index (comparable transaction) has first been adjusted when applicable, for the **Time** variable. These time adjusted unit prices have then been utilised to value the Subject Property. **Zoning** is often a significant variable depending on the breadth of uses allowed within the zoning band, and the flexibility of the planning authority with respect to variances and rezoning. It is therefore best accommodated by choosing Indices with similar zoning restrictions and on the weight to be placed on each Index after the Time adjustment has been applied. The weight placed on each Index as a predictor for the Subject Property value, is a function of its comparability in terms of **Location**, **Motivation, Size** and **Zoning**.

Discussion of Land Sales

We have researched the sales, offers and listings (Indices) of comparable parcels of land in the locality. The data was collected from vendors, purchasers, brokers, appraisers, MLS®, public and other sources deemed to be reliable. The most relevant data has been detailed on the Land Sales Schedule on the following pages. We have adjusted the prices in this Land Sales Schedule to the date of valuation to reflect an annual compound increase of 2%. This is based on an analysis study of prices in the area.

The Indices are described in greater detail below:

Index #1

This property was sold in October 2017, approximately 3 years 5 months before the effective date of valuation. Sales data indicates that prices were increasing **[time]**. The property is situated within the West Hants Industrial Park. The location is considered to be slightly inferior to the Subject Property since it has no exposure to Highway #101 **[location]**. The property comprises a fully service cleared parcel of land purchased for light industrial development. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The parcel was similar in size to the Subject Property: similar parcels typically command similar prices per acre because they attract a similar pool of purchasers **[size]**. The property is zoned LI-2 (Industrial). This zoning is the same as the Subject Property **[zoning]**.

We consider this Index to be a good indicator of value on a **time** adjusted unit basis for the Subject Property.

Index #2

This property was sold in May 2014, approximately 6 ¾ years before the effective date of valuation. Sales data indicates that prices were increasing **[time]**. The property is situated within the West Hants Industrial Park in a low visibility location. The location is considered to be inferior to the Subject Property **[location]**. The property comprises a small parcel of serviced land acquired by the adjoining owner for additional yard space. However, it does not appear a premium was paid over market **[motivation]**. The parcel was much smaller than the Subject Property. Smaller parcels typically command higher prices per acre because they attract a wider pool of purchasers **[size]**. The property is zoned LI-2 (Industrial). This zoning is the same as the Subject Property **[zoning]**.

We consider this Index to be a poor indicator of value on a **time** adjusted unit basis for the Subject Property.

Index #3

This property was sold as two parcels in October 2020, 5 months before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated in the West Hants Industrial Park. It comprises a portion of a block of land with frontage to 3 streets. The location is considered to be slightly inferior to the Subject Property **[location]**. The property was subdivided from a larger parcel by the vendor and sold as part of a fish farming operation. The purchase price was significantly above normal market levels for the Park **[motivation]**. The total parcel was approximately the same size as the Subject Property: similar parcels typically command similar prices per acre because they attract a similar pool of purchasers **[size]**. The property is zoned LI-2 (Industrial). This zoning is the same as the Subject Property **[zoning]**.

We consider this Index to be a fair indicator of value on a **time** adjusted unit basis for the Subject Property.

Index #4

This property was sold in October 2016, approximately 4 ½ years before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated in a highway commercial area with exposure to Highway #101. The location is considered to be comparable to the Subject Property **[location]**. The property was acquired for future commercial development which did not procced. It is still vacant and currently listed for sale at $625,000 ($92,867/acre). We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The parcel was approximately 5 times the size of the Subject Property: larger parcels typically command lower prices per acre because they attract a smaller pool of purchasers **[size]**. The property is zoned LI-3. This zoning is more permissive than the Subject Property **[zoning]**.

We consider this Index to be an average indicator of value on a **time** adjusted unit basis for the Subject Property.

Index #5

This property was sold in January 2012, approximately 9 ¼ years before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is in a highway commercial area with exposure to Highway #101. The location is considered to be comparable to the Subject Property **[location]**. The property was purchased for commercial development. However, it is still vacant. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The parcel was approximately 10 times the size of the Subject Property: larger parcels typically command lower prices per acre because they attract a smaller pool of purchasers **[size]**. The property is zoned General Commercial Zone with some environmental constraints as it located at the edge of marshland. This zoning is more restrictive than the Subject Property **[zoning]**.

We consider this Index to be a fair indicator of value on a **time** adjusted unit basis for the Subject Property.

Conclusion

The time adjusted unit prices for all of the Indices range from $35,923 to $226,879 with a median of $63,193 per acre. Having regard to all of the variables (**time**, **location**, **motivation**, **size, zoning**) we are of the opinion that Index #'s 1, 4 and 5 are the most reliable indicators of value for the Subject Property. Their time adjusted unit prices range between $60,288 and $89,198 and have an arithmetic mean of $70,893/acre. In our opinion the unit value of the Subject Property lies near the top end of the range.

Having regard to the foregoing, we are of the opinion that the value of the land is as follows:

1.36 acres @ $80,000/acre	$ 108,800
Rounded to	**$ 110,000**

LAND SALES SCHEDULE

No.	Location Vendor/Purchaser	Date of Sale	Sale Price	Area	Sale Price/Unit At Date of Sale	Sale Price/Unit Adjusted to Date of Valuation @ 2.0% p.a.	Comments
1.	Lot H, Sandford Dr. Wentworth Creek Hants County, NS PID #45347150 E. Caldwell Holdings to K. Kingston	Oct. 2017	$ 75,000	1.27 acres	$ 59,055	$ 63,193	Fully serviced lot n West Hants Industrial Park. Unimproved cleared site. Zoned LI2.
2.	Lot 28A, Ivey Ln. Wentworth Creek Hants County, NS PID #45395514 NSBI to Mernova Medicinal Inc.	May 2014	$ 9,100	0.29 acres	$ 31,379	$ 35,923	Vacant cleared fully serviced site. Purchased by adjoining owner.
3.	Lot L45A2, Ivey Ln. Wentworth Creek Hants County, NS PID #45391869 Nu-Aire Ventilation Systems Inc.to Sustainable Fish Farming (Canada) Inc.	Oct. 2020	$315,000	1.40 acres	$225,000	$226,879	Cleared vacant serviced industrial site. Frontage to 3 streets. Subdivided off adjoining parcel by vendor. Zoned LI-2.
4.	Cole Dr. Garlands Crossing Hants County, NS PID #45366440 3102673 NS Ltd. to J.D. Irving, Limited	Oct. 2016	$550,000	6.73 acres	$ 81,723	$ 89,198	Cleared serviced commercial land. Exposure to Highway #101. Zoned LI-3. Purchased for site of building supplies store which did not proceed. Currently listed for sale at $625,000 ($92,867/acre).

LAND SALES SCHEDULE

No.	Location Vendor/Purchaser	Date of Sale	Sale Price	Area	Sale Price/Unit At Date of Sale	Sale Price/Unit Adjusted to Date of Valuation @ 2.0% p.a.	Comments
5.	Wentworth Rd. Windsor Hants County, NS PID #45055456 Somerled Property No. 1 Inc. to Sobeys Capital Incorporated	Jan. 2012	$700,000	13.92 acres	$ 50,287	$ 60,288	Cleared serviced land located at Exit 5. Exposure to Highway #101. Zoned Commercial with environmental constraints.

COST APPROACH

Methodology

The Cost Approach has as its underlying foundation, the assumption that market participants will not pay more for a property than the cost of creating a substitute property. In order to undertake this exercise, the cost of a new "substitute" building was calculated as of the effective valuation date, using reliable sources of cost data. The accrued depreciation in the structure, characterised by physical deterioration, functional and external obsolescence, was then calculated and deducted from the reproduction cost new. The resultant depreciated reproduction cost was then added to the land value to derive the market value.

Physical deterioration is caused by wear and tear on the structure and is a function of age, maintenance and use. It was calculated by comparing its "effective" age with its total physical life. (Effective age is the actual age modified by factors such as abnormal wear and tear, maintenance, modernisation, etc. Remaining physical life is calculated having regard to the physical condition of the building itself, and empiric evidence of the actual physical lives of former, similar buildings. Total physical life is the sum of the two).

Functional obsolescence is caused by internal property characteristics, such as poor floor plan, inadequate mechanical equipment, or functional inadequacy or overadequacy due to size or other characteristics.

External obsolescence is caused by conditions external to the property, such as lack of economic demand, changing property uses in the area, or national economic conditions.

Analysis and Conclusion

(1)	**Building Reproduction Cost New**			
	Gross Floor Area (incl.basement)	16,790 ft.² @ $131/ft.²		$ 2,199,490
	Less Obsolescence:			
(2)	**Physical:**			
	Effective Age	24 years		
	Remaining Physical Life	36 years		
	Total Physical Life	60 years		
	Depreciation	24years / 60years = 40%		$ 879,796
(3)	**Functional:**			$ Nil
(4)	**External:**			$ Nil
	Depreciated Reproduction Cost of Building			$ 1,319,694
(5)	**Plus Site Improvements (Depreciated Cost)**			
	Asphalt paving	24,300 ft.² @ $ 1.75/ft.²	$ 36,450	
	Sod and landscaping	12,270 ft.² @ $ 1.25/ft.²	$ 15,338	
	Concrete walkways	300 ft.² @ $ 10.00/ft.²	$ 3,000	
	Chain link fenced compound	180 ft. @ $ 10.00/ft.	$ 1,800	
	Water service dispensing shed.		$ 2,500	
	Self contained diesel generator		$ 10,000	
	Total		$ 69,088	$ 69,088

(6) Plus Land Value

Total Land Value	$	110,000
Total Indicated Value	$	1,498,782
Rounded to	**$**	**1,500,000**

Notes:

(1) The estimated Reproduction Cost New was derived using the Boeckh/Marshall & Swift/Computerised Costing Service. It excludes HST.

(2) The effective age is based on the actual age of the building and the observed condition of the structure. The building has an actual age of 33 years. It has had regular maintenance over the years and some upgrades. The basement and some of the ground floor was renovated in 2000. The building is considered to be in generally average condition overall. We have estimated the effective age at 24 years and the remaining physical life at 36 years. The total physical life is 60 years which typical for buildings of this type.

(3) We are not aware of any building inadequacies that would create measurable Functional Obsolescence.

(4) We are not aware of any external factors that would create measurable External Obsolescence.

(5) The Reproduction Cost New was derived from "Yardsticks for Costing" published by RS Means Engineering Department, supplemented with information from Boeckh/Marshall & Swift. The Depreciated Cost was computed by deducting observed obsolescence from the Reproduction Cost New.

(6) See Land Value section of this report.

INCOME APPROACH

Methodology

The Income Approach is based on the premise that the value of the property to an investor is the present worth of the income stream it is capable of generating.

The income stream (net operating income) has been calculated by estimating the potential rental income on a net absolute to landlord basis, as if fully leased, and then deducting therefrom an allowance for vacancy and credit loss, structural allowance and cost of vacancy.

The income stream has been expressed on a "stabilised" basis i.e. the projected income has been adjusted to reflect a normal or average year reflective of the remaining economic life of the property.

The income stream has been converted into a market value by using an Overall Capitalisation Rate. The latter is an income rate which represents the ratio of a single year's income amount to capital value.

Analysis and Conclusion

(1)	**Estimated Net Rental Income**				
	Basement:	Unfinished Space	2,040 ft.² @ $ 6.00/ft.²	$	12,240
		Finished Space	6,355 ft.² @ $ 9.00/ft.²	$	57,195
	Ground Floor:	Finished Space	8,395 ft.² @ $11.00/ft.²	$	92,345
	Total Potential Net Rental Income			$	161,780
(2)	Less Vacancy & Credit Loss @ 5%			$	8,089
	Estimated Effective Gross Income (EGI)			$	153,691
	Less Outgoings				
(3)	Structural Allowance @ $0.30/ft.²		$ 5,037		
(4)	Cost of Vacancy		$ 6,359		
	Total Outgoings		$ 11,396	$	11,396
	Net Operating Income			$	142,295
(5)	Overall Capitalisation Rate @ 8.5%			÷	0.085
	Capital Value			$	1,674,059
	Rounded to			**$**	**1,670,000**

Notes:

(1) Estimated Net Rental Income

The rental rates are based on an analysis of comparable properties, details of which are included on the Space Rental Schedule on the following pages. We have analysed the rents on a "net absolute to landlord" basis, i.e. the tenant pays all outgoings, including real estate taxes.

The rental rates range from $6.13/ft.² - $15.00/ft.². The median is $10.27/ft.². Index #'s 1, 5, 6, and 9 provide the most reliable indication of the ground floor finished space in the building and indicate a range of $8.00/ft.² to $12.91/ft.² and an average of $10.03/ft.². The lower end of the range represents renovated office space located in an older renovated building: the high end of the range represents modern professional office space located in a modern three storey office building. The ground floor space in the subject represents average quality office space. We have adopted a rental rate of $11.00/ft.² for the ground floor space. We have adopted $9.00/ft.² for the finished space in the basement and $6.00/ft.² for the unfinished basement space. The overall total market rent equates to $9.64/ft.² of total GFA.

(2) Vacancy and Credit Loss

Since this is an owner occupied property we have based our estimated vacancy rate at 5% based on observations of similar type properties.

(3) Structural Allowance

The Structural Allowance is utilised to finance a sinking fund to cover major capital repairs, and is based on our experience with similar properties. We have stabilized the structural allowance at $0.30/ft.². GFA.

(4) Cost of Vacancy

Real Estate Taxes	-	2021 Estimate	$ 22,955
Insurance	-	$2,202,112 @ $2.50/$1,000 R.C.N.	$ 5,505
Water & Sewer	-	7 Washrooms @ $500 each	$ 3,500
Management	-	5% x EGI $153,691	$ 7,685
Heating & Electricity	-	16,790 ft.² @ $4.00/ft.²	$ 67,160
Repairs & Maintenance	-	10% x EGI $153,691	$ 15,369
Miscellaneous	-	Market allowance	$ 5,000
Total Operating Expenses		($7.57/ft.²)	$127,174
Vacancy @ 5%			x 0.05
Cost of Vacancy			$ 6,359

(5) Overall Capitalisation Rate

The Overall Capitalisation Rate has been computed using the Ellwood Mortgage Equity Technique and the following assumptions:

(a) Mortgage Financing:

Type of Loan	- Conventional Loan Canadian Funds
Loan to Value Ratio	- 70%
Interest Rate (Stated Annual Rate)	- 5%
Amortisation Period	- 25 years

(b) Equity Data:

Equity Investment	- 30% of Market Value
Equity Yield Rate	- 15%
Time Horizon	- 10 years

(c) Capital Growth:

Annual Compound Appreciation/Depreciation	- 0%

(d) *Overall Capitalisation Rate:

Rounded to	**- 8.5%**

The Overall Capitalisation Rate has been verified by comparison with the sales of other income producing properties, a selection of which are detailed on the Capitalisation Rate Analysis Schedule on the following pages. The Indices have the most comparable risk profile to the Subject Property since they comprise single and multiple tenant commercial properties and are similar in size to the Subject Property. Their small market locations are similar to the Subject Property: the quality of their tenant covenant is similar. The average indicated capitalization rate is 8.49%. Having regard to all of the foregoing we are of the opinion that their Overall Capitalisation Rates reflect a similar level of risk than the Subject Property. We are therefore satisfied that our computed Overall Capitalisation Rate is supported by the market.

SPACE RENTAL SCHEDULE

Space No.	Tenant & Location	*Tenant Class	Rentable Area (ft.²)	Rent Starts	Rent Ends	Current Income Per ft.²				Estimated Market Rent (Net Absolute)		Comments
						Base Rent	Landlord's Operating Costs	Overage Rent	Net Absolute Rent	Per ft.²	Total	
1.	10-14 Water St. Windsor, NS	F	799	1 Feb. 18	31 Jan. 23	$12.23	$2.02	---	$10.21	---	---	Two storey retail/office building.
2.	73 Morison Dr. Windsor, NS	F	2,432	19 June 17	19 May 22	$10.27	---	---	$10.27	---	---	Single storey flex building comprised of finished retail space and unfinished warehouse/shop space. Currently an operating Speedy Glass centre.
3.	40 Gray St. Windsor, NS	O	2,318	Current	---	$11.13	$5.00 (est)	---	$ 6.13	---	---	Asking rent. Finished 2nd floor office space. Rent quoted on gross basis. Tenant pays own heat.
4.	Gerrish St. Windsor, NS	R	4,000	Current	---	$18.00	$8.00	---	$10.00	---	---	Asking rent. Rent quoted on gross basis. Ground floor turnkey restaurant space.
5.	4 Cornwallis St. Kentville, NS	O	6,533	Current	Current	$15.00	$6.00	---	$ 9.00	---	--	Class B office space. Corner location.
6.	12-16 Cornwallis St. Kentville, NS	O	4,170	Current	Current	$10.00	± $2.00	---	$ 8.00	---	---	Renovated office space.
7.	9198 Commercial St. New Minas, NS	O	1,968	1 Apr. 11	31 Mar. 21	$12.50	U/K	---	± $12.50	---	---	Office space currently on gross basis. Landlord operating costs uncertain.
8.	28 Aberdeen Street Kentville, NS	O	1,150	1 Jan. 19	31 Dec. 24	$18.10	± $6.00	---	$12.10	---	---	Landlord pays for CAM, utilities and taxes. The tenant pays HST.

SPACE RENTAL SCHEDULE

Space No.	Tenant & Location	*Tenant Class	Rentable Area (ft.²)	Rent Starts	Rent Ends	Current Income Per ft.²				Estimated Market Rent (Net Absolute)		Comments
						Base Rent	Landlord's Operating Costs	Overage Rent	Net Absolute Rent	Per ft.²	Total	
9.	100 Station Ln. Kentville, NS	O	14,488	Current	Current	$12.91	± $7.00	---	$12.91	---	---	Modern office space. Three storey concrete commercial office building. Elevator. Pharmacy and medical and general offices.
10.	15 Webster St. Kentville, NS	O	29,148	Current	Current	±$13.19	U/K	---	± $13.19	---	---	Class B office building.
11	360 Main St. Wolfville, NS	O	1,000	Current	Current	$15.00	$ 5.45	---	$15.00	---	----	Storefront office space. Landlord provided tenant allowance of $4,000. ($4.00/ft.²) for 1 year term.

***Tenant Class**

A = Additional Revenue.
I = Industrial.
F = Flex Space (Industrial – Retail – Office).
L = Locker Storage.
M = Mixed Office/Warehouse.
O = Office Space.
R = Restaurant.
S = Retail Store.
W = Warehouse (Storage Space).

CAPITALISATION RATE ANALYSIS SCHEDULE

No.	Location Vendor/Purchaser	Bldg. GFA (ft.^{2})	Date of Sale	Sale Price	Sale Price/ft.^{2}	Overall Cap. Rate (Year 1)	Comments
1.	8927 Commercial Street New Minas Kings County, NS PID #55214852 Dorian Properties Ltd. to RTS Consultants Inc.	28,710	Sept. 2016	$4,000,000	$139.32	9.01%	Multi-tenant strip mall located in New Minas. Located along a major commercial thoroughfare.
2.	84-94 Main Street Yarmouth Yarmouth County, NS PID #'s 90196718, 90196726, 90196734, 90196742, 90194119, 90194127 Freshco Retail Maintenance Inc. to Rennduprat Design & Fabrication Inc.	7,317	Feb. 2018	$ 630,000	$ 86.10	9.00%	Three separate commercial buildings converted into one. Older commercial buildings.
3.	11 Crescent Drive New Minas Kings County NS PID #55204341 Carline Strong to Wanda Lynn Balsor	3,488	Sept. 2019	$ 200,000	$ 57.33	8.14%	Ground floor retail with two apartments above.
4.	16 Church Street Amherst Cumberland County, NS PID #25369489 3105152 NS Ltd. to Avison Young, Michael Brown	39,336	Aug. 2017	$2,299,000	$ 58.45	8.00%	Maritime Block Professional Centre. Three-storey building built in 1907 and refurbished in 1989. In good condition. Has HVAC heat pump systems for each unit.

CAPITALISATION RATE ANALYSIS SCHEDULE

No.	Location Vendor/Purchaser	Bldg. GFA (ft.^{2})	Date of Sale	Sale Price	Sale Price/ft.^{2}	Overall Cap. Rate (Year 1)	Comments
5.	360-370 Main Street Wolfville Kings County, N.S. PID #'s 55278758 and 55278766 3255781 Nova Scotia Limited to 3344206 Nova Scotia Limited	25,084	Mar. 2021	$2,325,000	$ 92.69	9.00%	Warehouse Mall in Wolfville. Sale also includes Tim Horton's. Mixed-use plaza including free-standing pad, retail strip and second floor residential units.
6.	5110 St. Margarets Bay Road Upper Tantallon St. Margaret's Square Ltd. to Pro Reit Acquisition (1) Inc.	25,523	Apr. 2016	$4,300,000	$168.48	7.79%	Single-tenant industrial building, pre-engineered steel frame with metal panel exterior walls and roof. Grade level loading doors and 22 ft. clear heights.

DIRECT COMPARISON APPROACH

Methodology

The Direct Comparison Approach is based on the premise that properties with the same characteristics will transact at the same selling price since knowledgeable purchasers "comparison shop" when buying property.

Essentially this Approach is a systematic procedure for carrying out comparative shopping in which the Subject Property is “priced” by comparing it with other, similar properties (Indices) that have sold, been subject to offer or are listed for sale**.** With most “improved” property, building size is taken as the unit of comparison because most of the property’s value usually resides in the structure, rather than the land**.** Based on our experience working with property sales data, we have determined that the five most significant independent variables influencing value are **Time** (Date of Sale), **Location**, **Quality** (Fit for Purpose), **Motivation** and building **Size**. The unit price ft.² Gross Floor Area of each Index has first been adjusted, when applicable, for the **Time** variable. These time adjusted unit prices have then been utilised to value the Subject Property. The weight placed on each Index as a predictor for the Subject Property value, is a function of its comparability in terms of **Location**, **Quality**, **Motivation** and **Size**.

Discussion of Building Sales

We have researched the sales, offers, and listings of comparable commercial properties in the region. The data was collected from vendors, purchasers, brokers, appraisers, MLS®, public and other sources deemed to be reliable. The most relevant data has been detailed on the Building Sales Schedule on the following pages. We have adjusted the prices in the Building Sales Schedule to the date of valuation to reflect an annual compound increase of 2 %. This is based on a study of prices

In analysing this data, we have divided the total selling, offer or asking price by the building gross floor area in the building to provide an indication of the sale, offer or asking price on a building unitised basis.

These unitised figures vary considerably depending on the size, type, location, physical condition and revenue of the building, in addition to the circumstances of the particular transaction. None of them prove conclusively the value of the Subject Property. However, they do paint the background against which the Subject Property can be viewed. Valuation in this instance is by way of interpolation and synthesis.

We have also investigated whether there have been any prior offers, sales, options, Agreements of Sale or listings of the Subject Property within the past three years. We understand that there has been no such activity.

Our analysis is included in the Building Sales Schedule on the following pages. The Indices are discussed in greater detail below:

Index #1

This property was sold in April 2018, approximately 2 years 11 months before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated opposite the subject across Highway #101 on Cole Drive. The location is considered to be comparable to that of the Subject Property **[location]**. The building is a steel frame ICF wall two storey structure built in 2015 which was originally intended for use a craft brewery and restaurant. The exterior shell was completed, but the interior finishes were not. The building is of similar quality to the Subject Property **[quality]**. The vendor had stopped construction of the building before completing the interior and the building sat vacant for several years **[motivation]**. The property was subsequently finished by the purchaser to function as light industrial space. The building was approximately the same size as the Subject Property: similar buildings typically command similar prices per ft.² because they attract a similar pool of purchasers **[size]**. However, it is moted the that sale price represents the sale of the building as an unfinished shell.

We consider this Index to be a fair indicator of value on a time adjusted unit basis for the Subject Property.

Index #2

This property was sold in January 2021, approximately two months before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated in the heart of a commercial are in Kentville on a corner lot. The location is considered to be superior to that of the Subject Property **[location]**. The building is an older two storey structure which has been renovated and updated over the years and functions as a modern office space. The building has a masonry exterior. The building is of similar quality to the Subject Property **[quality]**. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The building was approximately ¾ the size of the Subject Property: smaller buildings typically command higher prices per ft.² because they attract a wider pool of purchasers **[size]**.

We consider this Index to be a good indicator of value on a time adjusted unit basis for the Subject Property.

Index #3

This property was sold in January 2021, approximately two months before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated in the heart of a commercial are in Kentville on an interior lot adjacent to Index #2. The location is considered to be superior to that of the Subject Property **[location]**. The building is an older two storey structure which has also been renovated and updated over the years and functions as a modern office space. The building has a masonry exterior. The building is of similar quality to the Subject Property **[quality]**. The property was purchaser by the same party as Index#2 for a similar price **[motivation]**. The building was approximately ¾ the size of the Subject Property: smaller buildings typically command higher prices per ft.² because they attract a wider pool of purchasers **[size]**.

We consider this Index to be a good indicator of value on a time adjusted unit basis for the Subject Property.

Index #4

This property was sold in July 2019 approximately 1 year and 9 months before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated in a commercial area in the town of Truro on a corner lot. The location is considered to be comparable to that of the Subject Property **[location]**. The building is a one storey structure used for office purposes. The building has a masonry exterior finish. The building was constructed in 1973 and appears to be in average condition. The building is of similar quality to the Subject Property **[quality]**. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The building was approximately ⅔ the size of the Subject Property: smaller buildings typically command higher prices per ft.² because they attract a wider pool of purchasers **[size]**.

We consider this Index to be an average indicator of value on a time adjusted unit basis for the Subject Property.

Index #5

This property was sold in September 2017, approximately 3 years and 6 months before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated in the heart of a commercial area in Sydney on a corner lot. The location is considered to be superior to that of the Subject Property **[location]**. The building is a 2 storey structure used for office purposes. The building has a masonry exterior. It was recently renovated and is in average condition. The building is of similar quality as the Subject Property **[quality]**. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The building is similar in size to the Subject Property: similar buildings typically command similar prices per ft.² because they attract a similar pool of purchasers **[size]**.

We consider this Index to be a good indicator of value on a time adjusted unit basis for the Subject Property.

Index #6

This property was sold in April 2020, approximately 1 year before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated in the heart of a commercial are in Kentville on an interior lot. The location is considered to be superior to that of the Subject Property **[location]**. The building is a two storey steel frame structure built in 1973. It functions as a showroom and offices. The building has a masonry exterior. The building is of slightly inferior quality to the Subject Property **[quality]**. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The building was approximately the same size of the Subject Property: similar buildings typically command similar prices per ft.² because they attract a wider pool of purchasers **[size]**.

We consider this Index to be an average indicator of value on a time adjusted unit basis for the Subject Property.

Index #7

This property was sold in April 2017, approximately 4 years before the effective date of valuation. Sales data indicates that prices were rising **[time]**. The property is situated in semi-rural commercial area. The location is considered to be similar to that of the Subject Property **[location]**. The building is a one storey structure functioning as modern commercial space. The building has a masonry exterior. The building is of similar quality to the Subject Property **[quality]**. We are not aware of any factors that would give rise to an adjustment for motivation **[motivation]**. The building was approximately ¾ the size of the Subject Property: smaller buildings typically command higher prices per ft.² because they attract a wider pool of purchasers **[size]**.

We consider this Index to be a good indicator of value on a time adjusted unit basis for the Subject Property.

Conclusion

The time adjusted unit prices for all of the Indices range from $59 to $115 with a median of $89 per ft.². Having regard to all of the variables (**time**, **location**, **quality**, **motivation**, **size**) we are of the opinion that Index #'s 2, 3, 5 and 7 are the most reliable indicators of value for the Subject Property. Their time adjusted unit prices range between $89 and $115 and have an arithmetic mean of $99/ft.². In our opinion the unit value of the ground floor finished area of the Subject Property lies near the average of this range: $100/ft.². We have adopted a unit value of $85/ft.² for the finished basement space and $70/ft.² for the unfinished basement space.

Based on our analysis it is our opinion that the indicated value of the Subject Property is as follows:

Building Value

Basement			
Unfinished Space	GFA	2,040 ft.² @ $ 70/ft.²	$ 142,800
Finished Space	GFA	6,355 ft.² @ $ 85/ft.²	$ 540,175
Ground Floor			
Finished Space	GFA	8,395 ft.² @ $100/ft.²	$ 839,500
Total Indicated Value		16,790 ft.² @ $90.17/ft.²	$ 1,522,475
Rounded to			**$ 1,520,000**

Note: Site Improvements are included in the building value.

BUILDING SALES SCHEDULE

No.	Location Vendor/Purchaser	Date of Sale	Sale Price	Land Area ($ft.^2$)	Bldg. GFA ($ft.^2$)	Bldg. Value/$ft.^2$ GFA At Date of Sale	 Adjusted to Date of Valuation @ 2.0% p.a.	Comments
1.	49 Cole Drive Garlands Crossing Hants County, NS PID #45394913 3288476 NS Ltd. To `49 Cole Drive Ltd.	Apr.2018	$ 830,000	102,906	14,902	$ 56	$ 59	Two storey commercial building. Steel frame ICF walls. Built 2015. Partially complete at time of sale. Subsequently finished to commercial office space.
2.	50 Cornwallis St. Kentville Kings County, NS PID #55268114 DPP General Partner Limited to 3323061 NS Ltd.	Jan. 2021	$1,050,000	8,475	11,834	$ 89	$ 89	Masonry office building located on a corner lot. Occupied by law firm and investment firms. Previously sold Jan. 2019 for $1,120,000 ($94.64/ft2) Job# 2014754
3.	19 Webster St. Kentville Kings County, NS PID #55255905 Marivest Capital to 3323061 NS Ltd.	Jan. 2021	$1,050,000	6,680	11,250	$ 93	$ 93	Two storey masonry office building. Built 1940. Renovated and updated to modern professional office space. Occupied by accounting firm.
4.	6 Louise St. Truro Colchester County, NS PID #20183158 Saltwire Network Inc. to Futureworx Society	Jul. 2019	$ 732,800	39,640	10,498	$ 70	$ 72	One storey masonry office. Built 1973. Newspaper publishing office.

BUILDING SALES SCHEDULE

No.	Location Vendor/Purchaser	Date of Sale	Sale Price	Land Area ($ft.^2$)	Bldg. GFA ($ft.^2$)	Bldg. Value/$ft.^2$ GFA At Date of Sale	Bldg. Value/$ft.^2$ GFA Adjusted to Date of Valuation @ 2.0% p.a.	Comments
5.	283 Charlotte St. Sydney Cape Breton County, NS PID #15688500 Carol Rizzetto to J. Francis Investments Ltd.	Sept. 2017	$1,500,000	20,473	16,200	$ 93	$ 98	Masonry office building with commercial tenants to the ground floor, located on a corner lot. Built 1988 Job# 2014754
6.	59 Webster St. Kentville Kings County, NS PID# 55255996 Ken Mor Realties Ltd. to Kentville Property Ltd.	Apr.2020	$1,000,000	11,653	14,802	$ 68	$ 69	Two storey steel frame and masonry building. Built 1973. Ground floor showroom and offices. Second floor offices. Full basement.
7.	49 Riverside Ave. Stewiacke Hants County, NS PID# 20410486 Associated Maritime Pharmacies Ltd. to Atypia Holdings Ltd.	Apr. 2017	$1,210,000	26,392	11,422	$106	$115	One story wood frame steel and masonry clad commercial building. Built 1988. Occupied by Post Office, pharmacy and RBC ATM.

RECONCILIATION AND FINAL ESTIMATE OF VALUE

Summary
The market value indicated by the various approaches is as follows:

Cost Approach	$1,500,000
Income Approach	$1,670,000
Direct Comparison Approach	$1,520,000

Reliability of the Various Approaches as an Indicator of Value

The strengths and weaknesses of the valuation approaches utilised in this assignment are as follows:

Cost Approach - The Cost Approach can provide a reliable indicator of value for properties where the buildings are fairly generic and relatively new and have very little depreciation.

This approach is less reliable when the building is older and begins to suffer from depreciation. It is also less reliable if the building is not of a typical design or style.

Income Approach - The Income Approach can provide a reliable indicator of value for properties which are acquired as investment vehicles. The value of the property is determined by its ability to generate revenue.

This approach is less reliable when applied to properties which are not likely to be rented to a tenant. When the property is to be utilised by an owner/occupier the Income Approach may not produce the most reliable indicator of value.

Direct Comparison Approach - The Direct Comparison Approach can provide a reliable indicator of value when there is comparable sales data available.

This approach is less reliable when sales data is sparse or when the various sales are not truly comparable to the subject thereby requiring extensive adjustments.

Reconciliation and Final Estimate of Value

We place the equal weight in the Income and Direct Comparison Approaches in this instance. The Income Approach reflects the value to a potential purchaser as an investment type property. The Direct Comparison approach is based on good quantity of recent market data for similar type office buildings in small market locations. The Cost Approach is somewhat less reliable in this instance since a typical potential purchaser would put minimal weight on this approach in a purchase decision,

We have rated the relative strength of each Approach to Value on a 5 point scale, i.e. Poor = 1, Fair = 2, Fairly Good = 3, Good = 4, Excellent = 5. The final estimate of value is computed as follows:

$\frac{(2 \times \$1,500,000) + (4 \times \$1,670,000) + (4 \times \$1,520,000)}{10} =$	$1,576,000
Rounded to	$1,575,000
Final Estimate of Value	**$1,575,000**

CERTIFICATION

Re: PID #45148731, West Hants Municipal Complex, 76 Morrison Drive, Wentworth Creek, Nova Scotia

I certify that, to the best of my knowledge and belief:

the statements of fact contained in this report are true and correct;

the reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions;

neither I, nor Turner Drake & Partners Ltd., have any past, present or prospective material involvement with the property that is the subject of this report, other than this assignment;

neither I, nor Turner Drake & Partners Ltd., have received any fees, in connection with the purchase of the property the subject of this report, within twelve months preceding the date of valuation. Turner Drake & Partners Ltd. have not received, nor will they receive, an introductory, mortgage financing or any other fees in connection with such a purchase. They have not negotiated the purchase on behalf of the client;

neither I, nor Turner Drake & Partners Ltd., have any past, present or prospective material involvement with the customer, client, or any parties contemplated to be involved in any transaction resulting from this assignment other than previous valuation assignments on other properties for the client;

neither I, nor Turner Drake & Partners Ltd., share any fiduciary interest with the client. Turner Drake & Partners Ltd. has a prior relationship with the client.

during the twelve months preceding the date of valuation the total fees paid by the client to Turner Drake & Partners Ltd. represented a minimal (< 5%) proportion of Turner Drake & Partners Ltd.'s gross income;

my compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favours the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this report;

my analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Royal Institution of Chartered Surveyors' Valuation Standards [2017 Edition] (RICS Red Book), the International Valuation Standards (IVS), the Uniform Standards of Professional Appraisal Practice (USPAP), and the Canadian Uniform Standards of Professional Appraisal Practice;

I have made a personal inspection of the property that is the subject of this report;

no one provided significant professional assistance to the person signing this report;

I have sufficient current local, national and international knowledge of the market, and the skills and understanding, to undertake this valuation in a competent manner;

all Extraordinary Assumptions and/or Hypothetical Conditions detailed in this report were agreed with the party to whom this report is addressed;

I certify that the use of this report is subject to the requirements of the professional institutes of which I am a member, relating to review by their duly authorised representatives;

as of the date of this report, I have completed the requirements of the continuing education programs of the professional institutes of which I am a member;

that the **Market Value** of the Fee Simple Interest in the subject property, premised on the basis that it will be utilised for its Highest and Best Use with vacant possession as of the 8th March 2021, subject to the Limiting Conditions and Assumptions contained herein and a Reasonable Exposure Time of 6-18 months, is the sum of $1,575,000;

that the **Market Rent** of the subject property, on a net absolute to landlord basis (i.e. assuming that the lessee pays for the property taxes and all operating expenses other than structural repairs) for a typical term of 5 years as of the 8th March 2021 subject to the Limiting Conditions and Assumptions contained herein and a Reasonable Exposure Time of 6-18 months, is the sum of $161,780 ($9.64/ft.^{2}) per annum.

13th April 2021
Date



RICHARD J. ESCOTT, BES, MRICS, AACI
NSREAA #213480

TERMS OF ENGAGEMENT

Our Ref: 2114912/13/14:HQ/RE

TURNER DRAKE & PARTNERS LIMITED
TERMS OF ENGAGEMENT

THIS AGREEMENT made the 8th day of January, A.D. 2021.

BETWEEN Turner Drake & Partners Ltd.
hereinafter referred to as "TURNER DRAKE" OF THE FIRST PART

and

Windsor/West Hants Regional Municipality
hereinafter referred to as the "CUSTOMER" OF THE SECOND PART

WITNESSETH THAT for consideration, TURNER DRAKE agrees to provide, subject to the terms and conditions set forth in this Agreement, the services described below and any additional services as may be requested by the CUSTOMER and accepted by TURNER DRAKE in the course of this Agreement.

1.01 The CLIENT for this assignment is Windsor/West Hants Regional Municipality.

1.02 TURNER DRAKE shall prepare and provide to the CUSTOMER 1 electronic copy in pdf format, of a summary valuation report on the Fee Simple interest in:

Windsor Municipal Complex, PID 45057742, 100 King Street, Windsor, Nova Scotia
West Hants Municipal Complex, PID 45148731, 76 Morrison Drive, Windsor, Nova Scotia
Hants County Court House, PID 45059987, 226 King Street, Windsor, Nova Scotia

(hereinafter referred to as the "PROPERTIES") for the purpose of establishing its value for Lease and Sale purposes with vacant possession. Use of the valuation report for other purposes or by other parties may invalidate the conclusions. The RICS Valuation Standards require that we prepare a new report if the CLIENT, intended user, date, or purpose of the assignment, is changed.

1.03 Since the purpose of a draft valuation report is frequently misinterpreted by the CLIENT (the party relying upon the final valuation report referred to in Paragraph 1.02), the valuation report will not be prepared initially in "draft" format.

1.04 The effective date of the valuation of the PROPERTIES is to be date of inspection 2021. The value will be expressed in Canadian currency.

1.05 The PROPERTIES comprise municipal office buildings.

1.06 The basis of the valuation is **Market Value** (Highest and Best Use) and **Market Rental Value**.

1.07 The reported analyses, opinions and conclusions will be developed in accordance with the Royal Institution of Chartered Surveyors' Valuation Standards [2017 Edition] (RICS Red Book), and the International Valuation Standards (IVS). The valuation report will conform with the Uniform Standards of Professional Appraisal Practice (USPAP). The conduct of the assignment and the preparation of the report will also comply with the Canadian Uniform Standards of Professional Appraisal Practice. The report and assignment will be subject to the requirements of the Code of Professional Ethics of the professional institutes of which the author of the report is a member, which include provision for peer review.

1.08 The Valuer responsible for the assignment will have sufficient current local, national and international knowledge of the market, and the skills and understanding, to undertake the valuation in a competent manner, and will act as an External Valuer.

...2

1.09 TURNER DRAKE will undertake a detailed on-site inspection of the PROPERTIES and the neighbourhood including the exterior and interior of the building situated thereon that impact the value of the PROPERTIES.

1.10 TURNER DRAKE will undertake such fiscal, physical and legal investigations as are necessary and prudent to arrive at the value of the PROPERTIES. This research will not include an investigation of title, a property survey, engineering or environmental studies of the land and structures, or tests to determine whether there is a supply of potable water or that the property has, or will support, a fully functioning sewage disposal system. The PROPERTIES will be valued on the assumption that they are not, and never have been, subject to environmental contamination, and that it is not in such proximity to another contaminated property as to adversely impact the value of the subject PROPERTIES.

TURNER DRAKE anticipates utilising the Cost, Direct Sales Comparison and Income Approaches to value, on this assignment.

1.11 TURNER DRAKE, in order to value the PROPERTIES, will undertake such investigations as are necessary and prudent to verify that information supplied by the CUSTOMER, the CLIENT and other parties, is reliable and accurate. However, these investigations may be limited by privacy legislation and the absence of publicly available, verified, sales and rental data. It will be necessary, in part, to rely upon hearsay data.

1.12 TURNER DRAKE has no material involvement (past, current, or future) with the PROPERTIES other than the assignment contemplated by these TERMS OF ENGAGEMENT.

1.13 TURNER DRAKE has no material involvement (past, current, or future) with the CLIENT, the CUSTOMER, or any parties contemplated to be involved in any transaction resulting from these TERMS OF ENGAGEMENT other than previous valuation assignments for the client.

2.01 The valuation report will contain such confidential information as is necessary to support the analyses, opinions and conclusions contained therein. It may also be subject to Extraordinary Assumptions and/or Hypothetical Conditions: reference to the report in any published document without an adequate contemporaneous reference to these Extraordinary Assumptions or Hypothetical Conditions would be misleading and is prohibited. For these reasons, and to protect the integrity of the report, TURNER DRAKE will retain copyright to the report; reproduction in whole or part will be prohibited without their written permission.

2.02 The valuation report has to be used in its entirety since parts taken out of context may be misleading. Use of the report will be subject to the statements, limited conditions, assumptions and other terms set forth in the report. The report, or any parts thereof, may not be used for any purpose other than that for which it is undertaken and will be furnished for the exclusive use of the CLIENT. **All liability to any party other than the CLIENT will be denied.**

2.03 Turner Drake & Partners Ltd. (TURNER DRAKE) is regulated by RICS (Royal Institution of Chartered Surveyors) for the provision of surveying i.e. property consulting, services. This means we agree to uphold the RICS Rules of Conduct for Firms and all other applicable mandatory professional practice requirements of RICS, which can be found at www.rics.org As an RICS regulated firm we have committed to cooperating with RICS in ensuring compliance with its standards. The firm's nominated RICS Responsible Principal is Mark Blair Turner, President, Email: markturner@turnerdrake.com TURNER DRAKE's complaints handling procedure, available upon request, is governed by a quality system registered to the international ISO 9001:2015 standard. In addition, TURNER DRAKE is subject to provincial licencing with respect to its appraisal and brokerage services.

2.04 These TERMS OF ENGAGEMENT will be included in and form part of the valuation report.

3.01 The CUSTOMER, for the performance of the services referred to in Article 1 shall pay to TURNER DRAKE:

(a) A fee of:

Windsor Municipal Complex, 100 King Street, Windsor:	$ 5,000
West Hants Municipal Complex, 76 Morison Drive, Windsor:	$ 4,200
Total	$ 9,200
Hants County Court House, 226 King Street, Windsor:	$4,500

These fees do not include H.S.T.

(b) Disbursements, to be invoiced at actual cost, are included in the above fee.
(c) A retainer in the amount of $NIL.
(d) All accounts are payable on receipt and interest is charged at 2% per month (24% per annum) on outstanding invoices.

Accepted by:
TURNER DRAKE & PARTNERS LTD.
Per: _____
Title: Senior manager
Date: 11 JAN /2024

The above is agreed to by the CUSTOMER.
Per: _____
Authorised Signing Officer
Title: _____
Date: _____
PO #: _____

TURNER DRAKE & PARTNERS LTD.

West Hants Municipal Complex Review
9-May-21

100 King Street

Lease of Property	Sale of Property
Lease based on market rent value of $6.05 per SqFt.	Sale and Taxation based on : $1,200,000

	Rate / sq ft	*Square Area	Rent	Cell Tower	Total Rev	Total Exp	NET	Taxes	Total Exp	Net
*Appraisal Value / Rate	$ 6.05	15,479.00	$ 93,647.95	$ 8,000.00	$ 101,647.95	$ 151,479.00	$ (49,831.05)	$ 46,920.00	$ 151,479.00	$ 198,399.00
								annual taxation	annual savings	net impact
100 King Street	$ 7.00	15,479.00	$ 108,353.00	$ 8,000.00	$ 116,353.00	$ 151,479.00	$ (35,126.00)			
	$ 8.00	15,479.00	$ 123,832.00	$ 8,000.00	$ 131,832.00	$ 151,479.00	$ (19,647.00)			
	$ 9.00	15,479.00	$ 139,311.00	$ 8,000.00	$ 147,311.00	$ 151,479.00	$ (4,168.00)			
	$ 10.00	15,479.00	$ 154,790.00	$ 8,000.00	$ 162,790.00	$ 151,479.00	$ 11,311.00			
	$ 11.00	15,479.00	$ 170,269.00	$ 8,000.00	$ 178,269.00	$ 151,479.00	$ 26,790.00	**New WFD required if property was sold.**		

Notes
*Appraisal values taken from Turner & Drake Appraisal - March 8, 2021.
* Square Area fixed for calculation comparisons.

76 Morison Drive

Lease of Property	Sale of Property
Lease based on market rent value of $9.64 per SqFt.	Sale and Taxation based on : $1,575,000

	Rate / sq ft	*Square Area	Rent	Total Rev	Total Exp	NET	Taxes	Total Exp	Net
*Appraisal Value / Rate	$ 9.64	15,479.00	$ 149,217.56	$ 149,217.56	$ 99,087.00	$ 50,130.56	$ 28,193.00	$ 99,087.00	$ 127,280.00
							annual taxation	annual savings	net impact
76 Morison Drive	$ 7.00	15,479.00	$ 108,353.00	$ 108,353.00	$ 99,087.00	$ 9,266.00			
	$ 8.00	15,479.00	$ 123,832.00	$ 123,832.00	$ 99,087.00	$ 24,745.00			
	$ 9.00	15,479.00	$ 139,311.00	$ 139,311.00	$ 99,087.00	$ 40,224.00			
	$ 10.00	15,479.00	$ 154,790.00	$ 154,790.00	$ 99,087.00	$ 55,703.00			
	$ 11.00	15,479.00	$ 170,269.00	$ 170,269.00	$ 99,087.00	$ 71,182.00			

Prepared by: MP, CAO
5/10/2021

WINDSOR / WEST HANTS TOGETHER

WEST HANTS REGIONAL MUNICIPALITY REPORT

Information ☐	Recommendation ☐	Decision Request ☐	Councillor Activity ☐

To: WHRM Committee of the Whole

Submitted by: Mark Phillips, Chief Administrative Officer

Date: May 11, 2021

Subject: Former Windsor Outdoor Pool Site – Surplus Lands

LEGISLATIVE AUTHORITY

Municipal Government Act, Chapter 18 of the Acts of 1998
Allows for sale of land at market value when property is not needed - MGA 50 (5)(b)
Allows for sale of land at less than market value to non-profit – MGA 51
***Note: If Market value is above $10,000 and want to sell below market value then a Public Hearing is required.

RECOMMENDATION or DECISION REQUEST

…That Committee of the Whole recommend to Council that PIDs 45059797 and 45059805 formerly known as the Windsor Outdoor Pool site, 65 Fort Edward Street, Windsor, NS, be deemed as surplus property and that the properties be listed for sale at market value.

BACKGROUND

Property☐	Public Opinion☐	Environment☐	Social☐	Economic☐	Councillor Activity ☐

The former Windsor Outdoor Pool site has not been used for municipal purposes since it's operations closed in 2006. The new Hants Aquatic Centre opened in 2007 accommodating aquatic activities for the former Town and Municipality. The lower parking area has been used for municipal parking since that time until present day.

In the years 2010 and 2013 the Town pursued development opportunities with a developer which did not translate into a sale of the lands or a development.

In the fall of 2018, an exercise was undertaken by the former Town to explore a project in association with the 100th Anniversary of the Jewish Legion and its' historic connectivity to the Fort Edward Site. This project was not pursued by the Town. Parks Canada has further confirmed they do not have a desire to explore the project or development of the site in relation to Parks Canada.

Prior to consolidation in the fall of 2019 the former Town finished its' remediation of the site and removed all remaining structures including concrete and hard surfaces. All wood and steel were disposed of. The concrete was broken into 6-12" pieces, voids were filled with 6-12" rock and top dressed with type 1 gravel. The sites today would appear as gravel parking lots with areas that are grassed or in a natural state.

Property Information

Details regarding the two noted properties:

#1 PID 45059797 (upper pool site)

Square Area:	28,600 Sq.Ft.
Assessed Value:	$121,000
Zoning:	Open Space (OS) designated Community Use (CU)

#2 PID 45059805 (lower parking lot area)

Square Area:	16,800 Sq.Ft.
Assessed Value:	$47,500
Zoning:	Two Unit Residential (R2) designated Residential (R)

2019 Appraisals

#1 PID 45059797 (upper pool site)

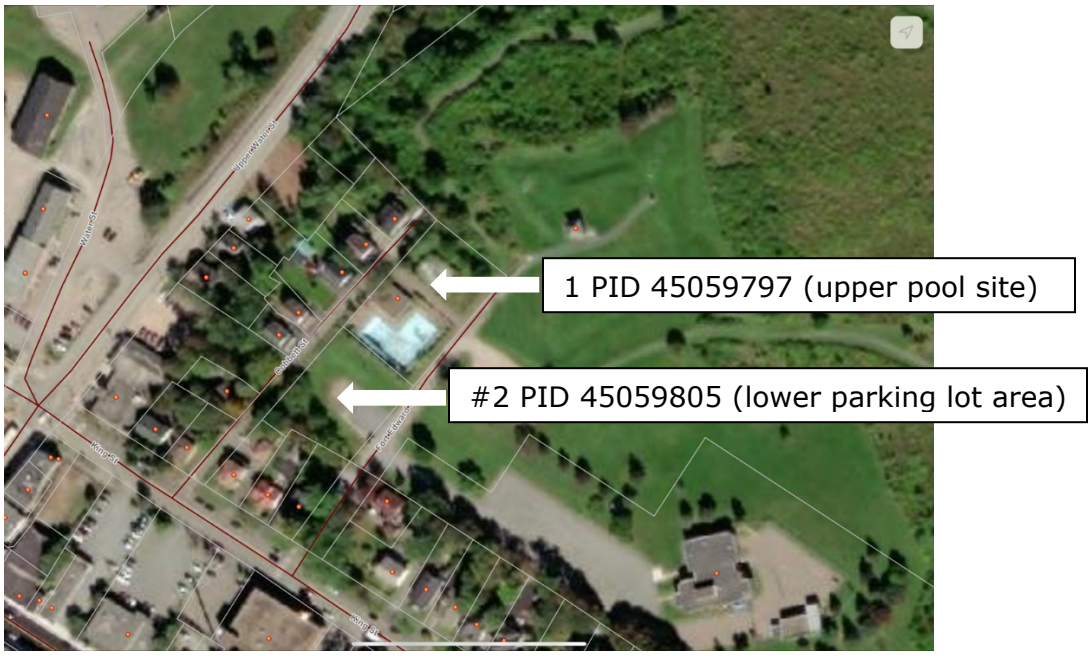
Square Area:	28,600 Sq.Ft.	
Appraised Value:	"as is"	$43,000
	"improved" (current conditions)	**$191,000**

#2 PID 45059805 (lower parking lot area)

Square Area:	16,800 Sq.Ft.	
Appraised Value:		**$112,000**

Independent appraisals were carried out for both properties in 2019. Both have been provided for Council's reference. As noted above the upper pool site was assigned two values, "as is" and "improved". The site has been improved due to the demolition and restoration of the site and the values listed should be used pending rezoning.

An additional appraisal from 2010 is attached to the report for reference. The noted values were established presuming the sites would be remediated and that the lands would be ready for R4 development. The report concluded the estimated final value to be $192,950 R4 for a combined 45,400 Sq.Ft. and reflect the values of the day (2010).



DISCUSSION

As the Regional Municipality moves forward it must evaluate the use of municipal properties and buildings to ensure the highest level of efficiencies are achieved in relation to costs and revenue generation. The properties are surplus and not used for municipal purposes, with the exception, of the lower parcel which currently accommodates municipal parking. Alternative parking for the municipality is being discussed with neighboring federal lands should municipal operations be consolidated at the 100 King Street location. Alternatively, the municipality reserves the right to retain one, both or part of the properties later should we decide they are of value to operations by taking the property(s) off the market.

In addition to the comments noted above, it is felt that the property(s) can help to serve as an economic stimulus to the core business area with what is assumed at this time as potential resident development. Housing needs are high, and it is hoped that positioning these parcels on the market will help to respond to those demands within our community.

NEXT STEPS

Pending Council approval of the recommendation.

1. Municipal staff inventory all documentation associated with the properties.
2. Survey the properties.
3. Geotechnical assessment being carried out - $11,200.
4. Consider a rezoning request to facilitate its best future use.
5. Assign a Commercial Realtor.

FINANCIAL IMPLICATIONS

- Geotechnical costs $11,200 plus HST.

ALTERNATIVES

1. Council may elect to retain the property or part of the properties for Municipal purposes.
2. Council may elect to retain the property and lease the space at market value to a 3rd party.
3. Council may elect to retain the property and lease the space below market value to a non-profit or charitable organization.
4. Council may elect to donate the property to a non-profit or charitable organization.

ATTACHMENTS

1. 36 Fort Edward Street Appraisal – May 28, 2019
2. 65 Fort Edward Street Appraisal – May 28, 2019
3. Appraisal of 65 and PID 45059805 Fort Edward Street Windsor, NS – September 16, 2010. Provided by: Jacklyn Parker Appraisals Limited.

CHIEF ADMINISTRATIVE OFFICER REVIEW

N/A – Report submitted by Chief Administrative Officer

Report Prepared by: 

Mark Phillips, Chief Administrative Officer

Report Reviewed by: _____

Carlee Rochon, Director of Finance

Report Reviewed by: _____

Todd Richard, Director of Public Works

COMPLETE SUMMARY APPRAISAL ON THE SUBJECT PROPERTY VACANT LAND LOCATED AT 36 FORT EDWARD STREET, WINDSOR, HANTS COUNTY, NOVA SCOTIA

Carmquin Property Appraisals Ltd.
30 Peter Street
New Minas, NS
B4N 3C4

Submitted to: Town of Windsor
Submitted by: Carmel O'Quinn, AACI, P.App
Accredited Appraiser
NSREAA - Registration #243730

Carmquin
Property
Appraisals Ltd.

30 Peter Street
New Minas, NS B4N 3L8
Tel: 902-681-5868
Cell: 902-679-8176
coqc@ns.sympatico.ca

Carmel O'Quinn, AACI, P.App
Accredited Appraiser
NSREAA - Registration # 243730

Tuesday, May 28, 2019

Town of Windsor
100 King Street
Windsor, NS B0N 2T0

Attn: Mr. Louis Coutinho, Chief Administrative Officer

RE: Complete Summary Appraisal Report on the Subject Vacant Land, PID # 45059805, Located at 36 Fort Edward Street, Windsor, Hants County, Nova Scotia

Dear Mr. Coutinho:

In accordance with your request, the Appraiser has carried out an inspection and completed an appraisal for the purpose of estimating the fair Market Value of the above referenced property for possible sale purposes.

Market Value is as defined on Page IX of this report and in the attached Contingent and Limiting Conditions.

This appraisal is being completed for the purpose of expressing our opinion of the Market Value of the freehold interest in the subject property, VACANT land only, located at 36 Fort Edward Street, Windsor, as of the effective date, April 25, 2019.

The subject site is located on the north side of Fort Edward Street and the south side of Corbett Street in the Town of Windsor and is in close proximity to downtown commercial area. The site is basically rectangular shaped and level at Fort Edward Street and slopes slightly upward from Corbett Street and has an area of approximately 16,800 square foot.

At the date of the inspection the site was covered with gravel and natural vegetation. The site area has been obtained from the GIS Land Registry and is approximate and subject to legal verification.

Tuesday, May 28, 2019

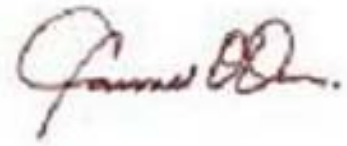
Town of Windsor
Attn: Mr. Louis Coutinho, Chief Administrative Officer

As a result of the investigation and analysis, it is the Appraiser's opinion that the Market Value of the subject property, land only, subject to there being no contamination of any kind to the site, to legal verification of the site and to the Contingent and Limiting Conditions listed in this Report, as of the effective date, April 25, 2019 is as follows:

$ 112,000.00
ONE HUNDRED AND TWELVE THOUSAND DOLLARS

We trust that the enclosed Report is satisfactory and should you require any further clarification or additional information, please contact the undersigned.

Respectfully submitted,



Carmel O'Quinn, AACI, P.App
Accredited Appraiser
NSREEA Registration # 243730

PHOTOGRAPHS OF SUBJECT PROPERTY



VIEW OF SUBJECT SITE LOOKING TOWARD CORBETT STREET



VIEW OF SUBJECT SITE LOOKING TOWARD FORT EDWARD STREET

PHOTOGRAPHS OF SUBJECT PROPERTY



STREET VIEW LOOKING EAST ON FORT EDWARD STREET

CARMQUIN PROPERTY APPRAISALS LTD.
CONTINGENT AND LIMITING CONDITIONS
(To be attached to all Appraisal Reports)
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1. *This Report is prepared at the request of Mr. Louis Coutinho, Chief Administrative Officer with the Town of Windsor, Nova Scotia for the purpose of an Appraisal as of April 25, 2019 to assist in estimating the Market Value of the subject Vacant Parcel of Land, for possible sale purposes. It is not reasonable for any person, other than the Town of Windsor, to rely upon this Appraisal without first obtaining written authorization from the client and this Appraiser. There may be qualifications, assumptions or Limiting Conditions in addition to those set out below relevant to that persons' identity or their intended use.*

   The Report is prepared on the assumption that no other person will rely on it for any other purpose and that all liability to all such persons is denied.

2. *While expert in appraisal matters, the Author is not qualified and does not purport to give legal advice. It is assumed that:*

   a) *The site information as obtained from the GIS Land Registry is accurate and is subject to legal verification;*
   b) *title to the property is good and marketable;*
   c) *there are no encroachments, encumbrances, restrictions, leases or covenants that would in any way affect the valuation, except as expressly noted herein;*
   d) *the existing use is a legally conforming use which may be continued by any purchaser from the existing owner;*
   e) *rights of way, easements or encroachments over other real property and leases or other covenants noted herein are legally enforceable;*
   f) *the final estimate of value of the subject site is subject to there being no contamination of any kind to the site and to legal verification of the site area and measurements.*

   Because these assumptions have been made, no investigation, legal or otherwise, has been undertaken which would verify these assumptions except as expressly noted herein.

3. *The Author is not a qualified surveyor. Sketches, drawings, diagrams, photographs, etc., are presented in this Report for the limited purpose of illustration and are not to be relied upon in themselves.*

Carmquin Property Appraisals Ltd.
Contingent of Limiting Conditions (cont'd)

4. *The Author is not qualified to give engineering advice. It is assumed that there are no patent or latent defects in the subject improvement, that no objectionable materials such as Urea Formaldehyde Foam are present and that it is structurally sound in need of no immediate repairs, unless expressly noted within this Report. No soil tests have been done, nor have tests been done of the heating, plumbing, electrical, elevator, or other systems and for the purpose of this Report, they are assumed to be in good working order.*

5. *No investigation has been undertaken with the local zoning office, the fire department, the building inspector, the health department or any other government regulatory agency unless such investigations are expressly represented to have been made in this Report. The subject property must comply with such government regulations and if it does not comply, non-compliance may affect the Market Value. To be certain of compliance, further investigations may be necessary.*

6. *Neither possession of this Report nor a copy of it carries with it the right of publication. All copyright is reserved to the Author and is considered confidential by the Author and their client. It shall not be disclosed, quoted from or referred to, in whole or in part, or published in any manner, without the express written consent of the Appraiser. This is subject only to confidential review by the APPRAISAL INSTITUTE OF CANADA as provided in the Code of Ethics, Standards of Professional Conduct and Standards of Professional Practice of the Appraisal Institute of Canada.*

7. *Market data has been obtained, in part, from documents at the land registry office, or as reported by the Real Estate Board. As well as using such documented and generally reliable evidence of market transactions, it was also necessary to rely on hearsay evidence. Except as noted herein, a reasonable attempt has been made to verify all such information.*

8. *Because market conditions, including economic, social and political factors, change rapidly and, on occasion, without warning, the Market Value expressed as of the date of the Appraisal cannot be relied upon to estimate the Market Value as of any other date except with further advice of the Appraiser.*

Carmquin Property Appraisals Ltd.
Contingent of Limiting Conditions (cont'd)

9. *The compensation for services rendered in this Report does not include a fee for court preparation or court appearance, which must be negotiated separately. However, neither this nor any other of these Limiting Conditions is an attempt to limit the use that might be made of this Report should it properly become evidence in a judicial proceeding. In such a case, it is acknowledged that it is the judicial body which will decide the use of the Report which best services the administration of justice.*

10. *It is assumed that there is no contamination to the subject site. While no evidence of contamination was noted, should any contaminants exist, the final estimate of value contained in this Report may not reflect the actual value of the property.*

11. *It is imperative that the reader or any other interested party be aware that the Appraiser did not inspect the premises for fire detection or smoke detection systems, or for the presence of Carbon Monoxide Detectors, nor did the Appraiser inspect the condition of such equipment, if present. The Appraiser takes no responsibility whatsoever for the lack of, or condition of, detection devices that may be located on the premises, nor does the Appraiser warrant compliance in any manner of such equipment, if present.*

12. *The Appraiser is not qualified to comment on environmental issues that may affect the market value of the property appraised, including but not limited to pollution or contamination of land, buildings, water, groundwater or air. Unless expressly stated, the property is assumed to be free and clear of pollutants and contaminants, including, but not limited to moulds or mildews or the conditions that might give rise to other, and in compliance with all regulatory environmental requirements, government or otherwise and free of any environmental conditions, past, present or future, that might affect the market value of the property appraised. If the party relying on this report requires information about environmental issues, than that party is cautioned to retain an expert qualified in such issues. We expressly deny any legal liability relating to the effect of environmental issues on the market value of the property appraised.*

Carmquin Property Appraisals Ltd.
Contingent of Limiting Conditions (cont'd)

13. DEFINITION OF MARKET VALUE: The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

a) Buyer and seller are typically motivated;

b) both parties are well informed or well advised and acting in what they consider their own best interest;

c) a reasonable time is allowed for exposure in the open market;

d) payment is made in terms of cash in Canadian dollars or in terms of comparable financial arrangements comparable thereto; and

e) the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

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PART I - PREFACE

SUMMARY OF SALIENT FACTS AND IMPORTANT CONCLUSIONS

ADDRESS:	*36 Fort Edward Street, Windsor, Hants County, Nova Scotia.*
TYPE:	*Vacant Parcel of Land. PID # 45059805*
SITE AREA:	*16,800 square feet*
ASSESSED OWNERS:	*Town of Windsor*
ZONING:	*R2- Two Unit Residential*
HIGHEST AND BEST USE:	*Development in conjunction with the present zoning for R2- Two Unit Residential Zone*
ASSESSED VALUE:	*$ 36,700.00 - 2019 Account # 04657101*
TAXES:	*Tax Exempt*
EFFECTIVE DATE OF APPRAISAL:	*April 25. 2019*
DATE OF INSPECTION:	*April 25, 2019*
FINAL ESTIMATE OF VALUE:	*$ 112,000.00 (land only)*

TERMS OF REFERENCE

SCOPE OF THE APPRAISAL

The scope of the Appraisal encompasses the necessary research and analysis to prepare a Report in accordance with the intended use, the Canadian Standards of Professional Practice of the Appraisal Institute of Canada and the Canadian Uniform Standards of Professional Practices of the Appraisal Foundation. In regard to the subject property, this involves the following steps:

1. *The subject site was inspected by the Appraiser on April 25, 2019 during working hours and photographs were taken at that time. Information concerning the property was obtained from the client.*

2. *Regional and neighbourhood data were based on information available on the Province and Communities in the Appraisal Library of Carmquin Property Appraisals Ltd. This information was originally obtained from the Town of Windsor, Municipality of the County of Hants and from other sources. The zoning, assessment and services for the subject were obtained from the Town Planning Department, office Zoning Maps and Regulations Library and from the applicable government and municipal departments.*

3. *The data concerning the area of the subject site was obtained from the GIS Land Registry and is subject to legal verification.*

4. *In estimating the Highest and Best Use for the subject property, an analysis was made of data compiled in the three steps noted above. In addition, a market analysis was completed of similar type land to help determine the best used of the property. The zoning for the subject site is R2- Two Unit Residential and the property is located in an area of Windsor which is developed with the Fort Edward Park and single family and multi unit residential dwellings.*

5. *In developing the approach to value, the market data utilized was taken from the data collected in the office files of Carmquin Property Appraisals Ltd., and from other appraisers, realtors, property managers or other persons familiar with the subject market.*

6. *After assembling and analyzing the data defined in this Scope of the Appraisal, a final estimate of Market Value was made.*

TERMS OF REFERENCE (cont'd)

PURPOSE OF THE APPRAISAL

The purpose of this Appraisal is to provide the client with an estimate of the Market Value of the subject vacant land located at 36 Fort Edward Street, Hants County, Nova Scotia, as at the effective date, April 25, 2019.

FUNCTION OF THE APPRAISAL

The function of the Appraisal is to provide the client with an estimate of the Market Value of the subject vacant land located at 36 Fort Edward Street, Hants County, Nova Scotia, as at the effective date, April 25, 2019 for possible sale purposes.

PROPERTY RIGHTS APPRAISED

The property rights being appraised are those of Fee Simple Interest, which is free and clear of all encumbrances, charges or restrictions other than those mentioned in this Report.

DEFINITION OF MARKET VALUE

Market Value is defined as the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. *buyer and seller are typically motivated;*
2. *both parties are well informed or well advised and acting in what they consider their own best interest;*
3. *a reasonable time is allowed for exposure in the open market;*
4. *payment is made in terms of cash in Canadian dollars or in terms of comparable financial arrangements comparable thereto; and*
5. *the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.*

TERMS OF REFERENCE (cont'd)

HISTORY OF THE SUBJECT PROPERTY

The subject land has been vacant for a few years and is owned by the Town of Windsor who is presently looking at selling the property. It is understood that the subject has not been listed on the market or privately over the years.

MORTGAGES, LIENS OR ENCUMBRANCES

The property is being appraised on the basis that there are no mortgages, liens or other encumbrances claimed against them.

EFFECTIVE DATE OF THE APPRAISAL

The subject property was inspected on April 25, 2019 and this is considered to be the effective date of the Appraisal.

EXPOSURE TIME

The value is estimated as if the subject property was to be exposed for sale on the open market in a manner typical for this class of property for at least six to twelve months prior to the effective date of the listing.

REGIONAL DATA

The subject property is located in the Town of Windsor, Hants County, Nova Scotia. The Province of Nova Scotia, located on the Eastern Atlantic Seaboard, is actually a peninsula connected to the remainder of Canada by 27 kilometres of land. The Island of Cape Breton is joined to mainland Nova Scotia by the Canso Causeway.

The Province has a total area of 54,400 square kilometres and according to information obtained from Statistics Canada 2006 Census, Nova Scotia has a population of 913,462 residents. The Province is divided into five geographical regions, with Halifax as the capital. One of these geographical regions, where the subject property is located, is the Annapolis Valley, which is world famous as a farming area. The climate is suited for the growing of all types of vegetables and produce, with apples being the speciality. (Refer to Schedule "A" - Area Map in the Addenda)

NEIGHBOURHOOD DATA

The subject site is located on the north side of Fort Albert Street and the south side of Corbett Street and in close proximity to the downtown commercial area in Windsor and close to all amenities. Over the past few years the town has expanded its commercial development onto Wentworth Road with an Atlantic Super Store, a second Tim Hortons, MacDonalds and a new Super 8 Motel. Windsor is the county seat for Hants County and has a population of approximately 3,700. The Town of Windsor has a Business Development Centre which was formed to assist residents of the area in establishing a library of relevant data related to the establishment of small businesses in the Windsor-West Hants area. The twinning of the 101 Highway to the Cities of Halifax and Dartmouth has made the town more attractive for new residents and businesses. There are two Industrial Parks in the town, The Town of Windsor Industrial Park and the Windsor-West Hants Industrial Park. Both parks are centrally located, easily accessible and provide serviced lots and mini-malls for new and existing buildings. Opportunities are available in various sections of the Town for further commercial development which lies in close proximity to downtown commercial area. (Refer to Schedule “B” - Neighbourhood Map in the Addenda)

SITE DESCRIPTION

The subject site, PID # 45059805, is located on the north side of Fort Edward Street and the south side of Corbett Street in the Town of Windsor. The site is basically rectangular shaped and level at street grade at Fort Edward Street and slopes upward slightly at the rear from Corbett Street. The site measurements were not available to the Appraiser and the site area of approximately 16,800 square feet has been obtained from the GIS Land Registry and is subject to legal verification. The site is gravelled over and has natural vegetation.

SUBJECT SITE



ASSESSMENT AND TAXES

From information obtained from the Town of Windsor, Assessment Department it is understood that the subject property is assessed on the 2019 Assessment Roll as at base date January 1, 2018 at account # 04657101 for $ 36,700.00.

From information obtained from the Town of Windsor, Tax Department it is understood that the subject site is owned by the town and is tax exempt.

SERVICES

From information obtained from the Town of Windsor, it is understood that the subject property is located in an area which is serviced with town water and sewer.

Other services provided to the site include paved roads, street lights, snow removal, garbage collection and police and fire protection.

ZONING

From information obtained from the Town of Windsor Planning Department, it is understood that the subject site is located in an area of the town which is zoned R2- Two Unit Residential, which permits the development of two unit dwellings. (Refer to Schedule "C" Zoning Map and Schedule "D" Zoning Regulations in the Addenda)

R2- TWO UNIT RESIDENTIAL

Permitted Uses

9.1 The following uses shall be permitted in the Two Unit Residential (R2)

- *Uses permitted in the R-1 Zone subject to the R-1 zone requirements.*
- *Converted dwellings to a maximum of two dwelling units*
- *Two Unit dwellings*

PART II - ANALYSIS AND CONCLUSIONS

HIGHEST AND BEST USE

Highest and Best Use, as defined by the Appraisal Institute of Canada, is "that use which is most likely to produce the greatest net return in monies or amenities over a given period of time". Net return may involve net income as from an investment property, or satisfaction and amenities as from a residential property.

Many factors and appraisal principals become a consideration in determining the Highest and Best Use of a property such as current zoning, physical characteristics, neighbourhood trends, present usage and profitability.

The concept of Highest and Best Use recognizes that land can change over a period of time and the optimum use of a site is determined by need or demand at any given period of time. Other factors of consideration in the analysis of Highest and Best Use are government regulations, supply and demand, productivity, contribution, competition and public opinion.

The subject approximate 16,800 square foot vacant site located on Fort Edward Street and on Corbett street at the rear. The site is located in an area of Windsor which is zoned R2- Two Unit Residential and the area is developed with residential dwellings and the Fort Edward Park and is in close proximity to the downtown commercial area.

Based on the information provided, and after giving consideration to all factors concerned, it is the Appraiser's opinion that the Highest and Best Use of the subject site is for development in conjunction with the present R2- zoning for duplex dwellings.

SITE VALUATION AND ANALYSIS

In estimating the value of a site, there are four basic methods of valuation depending upon the type and use of the site, as well as the available market evidence. These methods include:

1. *The Comparative Sales Method*
2. *The Abstraction Method*
3. *The Development Method*
4. *Land Residual Method*

The usual method of valuing undeveloped land, and the most used, is the Comparative Sales Method, which is the comparison with similarly zoned land in an area similar to the subject or in another comparable area, which has recently sold on the market. Information is also analysed from the past record of sales of similar sites and from land which is presently listed for sale on the Real Estate Market.

This Comparative Sales Approach is based on the idea that an informed purchaser would pay no more for a site than the cost of acquiring one of equal attractiveness and utility on the open market.

In estimating the value of the subject vacant parcel of land, the Appraiser has considered all relevant factors including:

1. *Size, location and zoning.*

2. *Supply and demand of vacant land.*

3. *Recent sales and asking prices of vacant land similar to the subject.*

4. *Other factors considered necessary.*

In analysing the Market Value of the subject site, an investigation was undertaken of the real estate market for recent sales of residential and other land in the subject and similar areas.

The following sales were acquired and analysed, and adjustments were applied to reflect the variations from the subject site. These sales are thought to give the greatest degree of comparability to the subject.

DIRECT COMPARISON APPROACH

In valuing a site by the Direct Comparison Approach, land values are obtained from land sales which have occurred in the subject or similar areas. Adjustments are applied to the comparables to reflect variations from the subject for site size, location, zoning, utility and topography.

LAND SALES

Item	Subject	Comparable 1	Comparable 2
Address	36 Fort Edward Street, Street, Windsor	54 Woodworth Road, Kentville	245-247 Victoria Street, Windsor
Vendor or Purchaser	PID # 45059805	PID # 55048698	PID # 45056690
Sale Price	N/A	$19,500.00	$40,000.00
Sale Date	N/A	05/03/2019	10/24/2018
Lot Size	16,800 sf	10,010 sf	6,000 sf
Sale Price per SF	N/A	$1.95	6.67
Zoning	R2- Two Unit Residential	Residential	R2- Two Unit Residential
Comments	The subject vacant site has an area of approximately 16,800 square feet and has road frontage on Fort Edward Street and Corbett Street in the Town of Windsor	Comp One is a lot in Kentville in a residential zoned area and in close proximity to the Valley Regional Hospital. Inferior in location and lot size.	Comp Two is a R2-zoned lot in Windsor area. Similar in location and zoning and inferior in lot size.

LAND SALES (cont'd)

Item	Comparable 3	Comparable 4	Comparable 5
Address	Unit # 3 Town Road, Falmouth	Lot 14 Woodman Road, Wolfville	7270 Highway # 1, Coldbrook
Vendor or Purchaser	PID # 45339116	PID # 55509608	Not available
Sale Price	$62,000.00	$127,000.00	$405,000.00
Sale Date	09/19/2018	09/11/2018	06/21/ 2016
Lot Size	16,592 sf	19,716 sf	265,298 sf
Sale Price per SF	$3.74	$6.44	$1.53
Zoning	Residential	Residential	C1- Highway Commercial
Comments	Comp Three is a residential lot in Falmouth which lies in close proximity to the west of Windsor. Inferior in location and similar in lot size.	Comp Four is a large lot in an executive subdivision in the Town of Wolfville in close proximity to the downtown area. Similar in location and utility and superior in lot size.	Comp Five is a large acreage site in Coldbrook zoned Commercial which was improved with a hotel. There was a fire in the hotel which burnt down and only a small one storey section of the building remained and is to be removed from the site. Inferior in location and superior in lot size and zoning.

THE COST APPROACH (cont'd)

SUMMARY

Of the land sales analyzed, those listed are the most recent and offer the best indication of value for the subject site. The value ranges of the five sales analyzed before adjustments range from $ 1.53 to $ 6.67 per square foot. Comparable Two is located in the subject area and is zoned r2- Two Unit Residential and is most comparable to the subject. The subject has road frontage on two streets and is also zoned r20 Two Unit Residential and can be developed with two unit dwellings. Adjustments were applied to the comparables to reflect the differences from the subject for site size, location, utility and zoning. It is the Appraiser's opinion that the price per square foot most applicable to the subject site is $ 6.67.

LAND VALUE: (rounded)

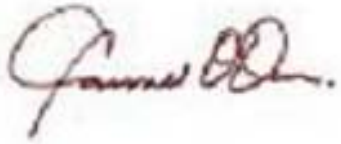
16,800 square feet X $ 6.67/sq.ft. = $ 112,000.00

RECONCILIATION AND FINAL ESTIMATE OF VALUE

The indicated value of the subject vacant site has been obtained from comparable vacant land sales in the subject and surrounding areas. Based on the data analysed in this Report, it is the Appraiser's opinion, subject to the Contingent and Limiting Conditions listed in this Report, to there being no contamination of any kind to the subject site, and to legal verification of the site area and measurements, that the final estimate of value as of the effective date, April 25, 2019 is:

$ 112,000.00
ONE HUNDRED AND TWELVE THOUSAND DOLLARS

Respectfully submitted



Carmel O'Quinn, AACI, P.App
Accredited Appraiser
NSREEA Registration # 243730

CERTIFICATE OF APPRAISER

The Appraiser hereby certifies:

1) *That I personally inspected the subject property of this Complete Summary Appraisal Report on April 25, 2019 and that I have investigated and considered all factors affecting its value.*

2) *That I have no past, present or contemplated interest in the property that is the subject of this Report and that I have no personal interest or bias with respect to the parties involved.*

3) *That to the best of my knowledge and belief, all of the information reported in this Report is true and factual data has been verified where possible.*

4) *That this Complete Summary Appraisal Report has been made and the Report rendered in conformance with the Code of Ethics and the Canadian Uniform Standards of Professional Appraisal Practices of the Appraisal Institute of Canada.*

5) *That this Report is subject only to the Contingent and Limiting Conditions, whether such conditions are imposed by the terms of this assignment or by the Appraiser.*

6) *That neither the terms of employment nor the compensation from rendering my opinion in this Report are contingent upon value found, nor anything else than the delivery of this Report.*

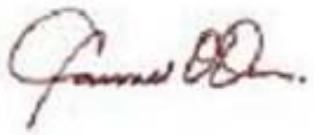
7) *No one provided professional assistance to the person signing this Report.*

8) *The Appraiser has fulfilled the requirements of the Appraisal Institute of Canada Continuing Professional Development program for designated members and is recertified.*

CERTIFICATE OF APPRAISER (cont'd)

9) That the Final Estimate of Value of the subject vacant land, as defined elsewhere in this Report, as of the effective date, April 25, 2019, subject to there being no contamination of any kind to site, to verification of the site area and to the Contingent and Limiting Conditions listed in this Report, is $ 112,000.00

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Carmel O'Quinn, AACI, P.App
Accredited Appraiser
NSREEA Registration # 243730

QUALIFICATIONS OF CARMEL O'QUINN, AACI, P.App

BACKGROUND

Born in Grand Falls, Newfoundland and educated at Windsor, Grand Falls and St. John's, Newfoundland.

EDUCATION AND PROFESSIONAL BACKGROUND

College of Trades and Technology, St. John's, Newfoundland, Diploma in Appraisal/Assessment Technology.

Memorial University of Newfoundland, St. John's, Newfoundland, five credits.

Appraisal Institute of Canada, Accredited Appraiser Canadian Institute, AACI plus the P.App. for Professional Appraiser

APPRAISAL EXPERIENCE

Presently self-employed as Carmquin Property Appraisals in New Minas, Nova Scotia as a Fee Appraiser having a wide variety of appraisal functions. Appraisals of commercial, industrial, agricultural and residential properties. Experience in other functions in the appraisal of properties such as consultancy, research work, compiling comparable data banks for commercial and residential appraisals, market analysis, computer programming and data entry.

Appraisals completed of large commercial office buildings, retail stores, industrial buildings, nursing homes, motels, hotels, agricultural properties, Fish Plants, Wharves and Vacant Land. V.Day valuations for Capital Tax, Replacement Costs and Actual Cash Value for insurance purposes, appraisals for mortgage financing for sales and refinancing, estate sales, assessment appeals and various other functions.

Several years appraisal experience working as Appraisal Manager with MacKay Real Estate Limited, Appraisal Division, Wolfville, Nova Scotia and other appraisal companies in St. John's, Newfoundland, in commercial and residential work, as well as self-employed for two years with own appraisal company in Newfoundland.

CORPORATE MEMBERSHIP

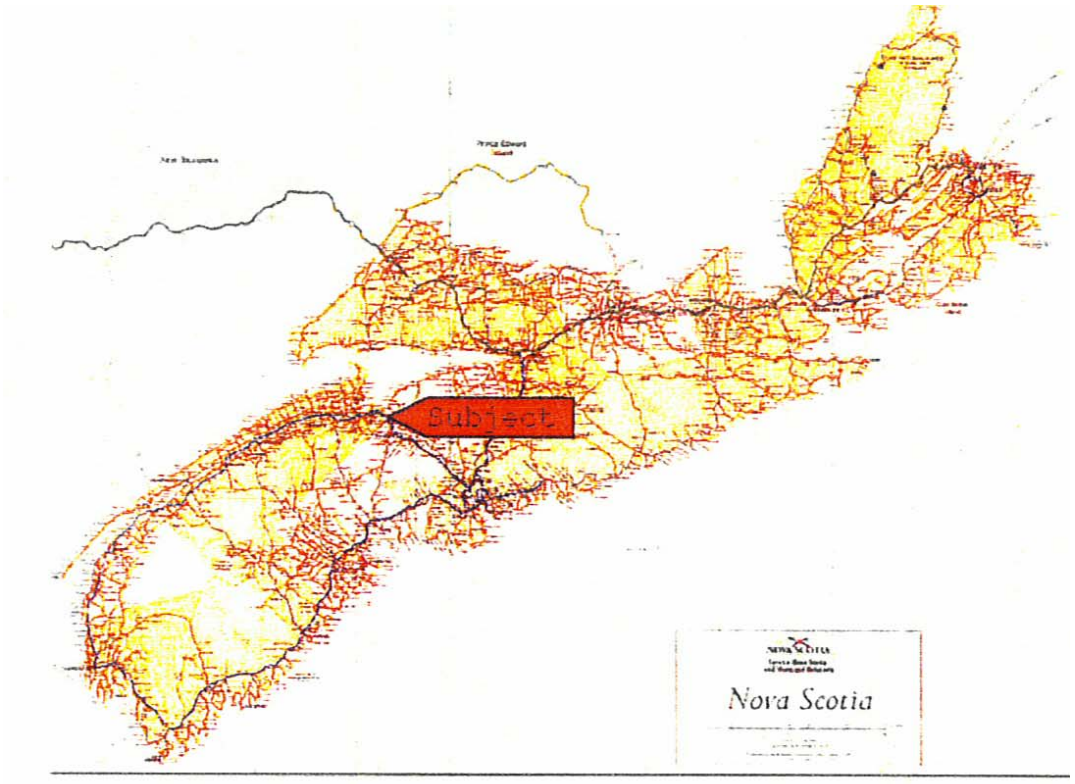
Member, Appraisal Institute of Canada, Winnipeg.

EXPERT WITNESS

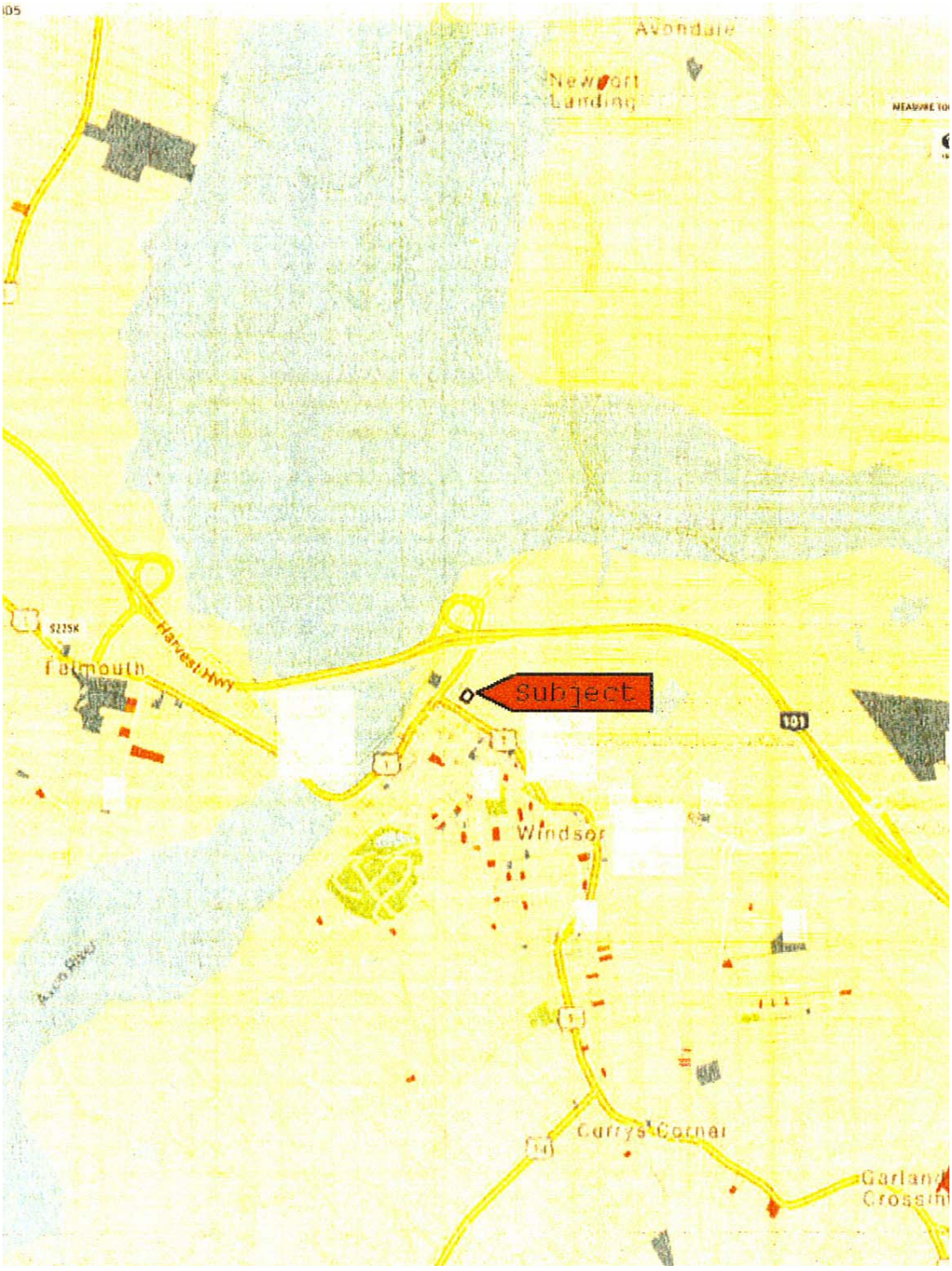
Supreme Court of Canada

PART III - ADDENDA

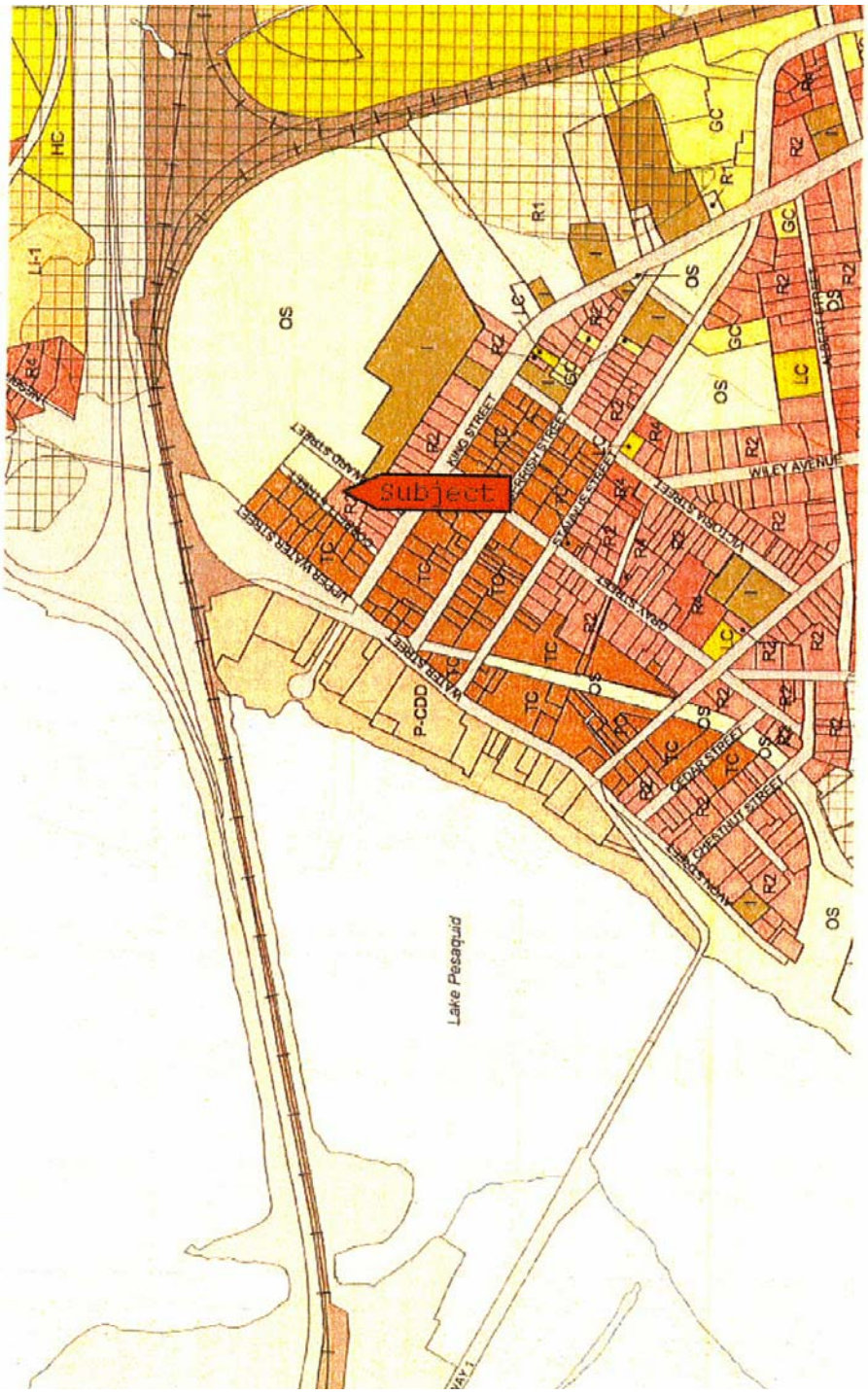
SCHEDULE "A" - AREA MAP



SCHEDULE "B" - NEIGHBOURHOOD MAP



SCHEDULE "C" - ZONING MAP



9.0 TWO UNIT RESIDENTIAL (R-2)

Permitted Uses

9.1 The following uses shall be permitted in the Two Unit Residential (R-2) zone:

- Uses permitted in the R-1 zone subject to the R-1 zone requirements
- Converted dwellings to a maximum of two dwelling units
- Two unit dwellings

R-2 Zone General Requirements

(Amendment WLUB 10-01 Effective July 16, 2010)

9.2 (a) In the R-2 zone, no development permit shall be issued except in conformity with the following:

Minimum lot area	3,500 ft²/unit (325.15 m²/unit)
Minimum lot frontage	35 ft/unit (10.67 m/unit)
Minimum front yard	25 ft (7.62 m)
Minimum rear yard	25 ft (7.62 m)
Minimum side yard	10 ft (3.05 m)
Maximum height of main building	35 ft (10.67 m)
Maximum height of accessory building	15 ft (4.57 m)

(b) **Exception for PID 45336773** - Notwithstanding section 9.2(a), the minimum side yard requirement for an approximately 13.6 acre parcel of land owned by Brison Developments Limited, Payzant Drive (PID 45336773) shall be 8 ft (2.44 m).

Converted Dwellings - Special Requirements

9.3 In addition to all other regulations, the following provisions shall apply to converted dwellings in the R-2 zone:

(a) all conversions shall be limited to one additional dwelling unit;

(b) no alterations shall change the roof line or increase the height of the existing dwelling except for the addition of dormers or structures necessary for public safety;

(c) no alteration shall be undertaken which will extend into the front or side yard of the lot;

(d) lot coverage of the entire structure shall be limited to 50 percent; and

(e) parking shall be provided as required in Section 5.25 in the side or rear yard of the lot.

Services Required

9.4 A development permit shall not be issued for a new residential dwelling of two or more units in the R-2 zone where the proposed development is not serviced with Town water and sewer.

Subdivision of Semi-detached Units

9.5 Semi-detached dwelling units located on an approved water and sewer serviced lot may be subdivided into lots provided each dwelling unit has separate service connections and provided all applicable provisions of the Town of Windsor Subdivision By-law and this By-law are met. No side yard shall be required along the common lot boundary dividing a semi-detached dwelling.

COMPLETE SUMMARY APPRAISAL
ON THE SUBJECT PROPERTY
VACANT LAND LOCATED AT
65 FORT EDWARD STREET, WINDSOR,
HANTS COUNTY, NOVA SCOTIA

Carmquin Property Appraisals Ltd.
30 Peter Street
New Minas, NS
B4N 3C4

Submitted to: Town of Windsor
Submitted by: Carmel O'Quinn, AACI, P.App
Accredited Appraiser
NSREAA - Registration #243730

Carmquin
Property
Appraisals Ltd.

30 Peter Street
New Minas, NS B4N 3L8
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coqc@ns.sympatico.ca

Carmel O'Quinn, AACI, P.App
Accredited Appraiser
NSREAA - Registration # 243730

Wednesday, May 29, 2019

Town of Windsor
100 King Street
Windsor, NS B0N 2T0

Attn: Mr. Louis Coutinho, Chief Administrative Officer

RE: Complete Summary Appraisal Report on the Subject Vacant Land, PID # 45059805, Located at 65 Fort Edward Street, Windsor, Hants County, Nova Scotia

Dear Mr. Coutinho:

In accordance with your request, the Appraiser has carried out an inspection and completed an appraisal for the purpose of estimating the fair Market Value of the above referenced property for possible sale purposes.

Market Value is as defined on Page IX of this report and in the attached Contingent and Limiting Conditions.

This appraisal is being completed for the purpose of expressing our opinion of the Market Value of the freehold interest in the subject property, vacant land "As Is" and "As Improved" located at 65 Fort Edward Street, Windsor, as of the effective date, April 25, 2019.

The subject site is located on the north side of Fort Edward Street and the south side of Corbett Street in the Town of Windsor and is in close proximity to downtown commercial area. The site is basically rectangular shaped and level at Fort Edward Street and slopes slightly upward from Corbett Street and has an area of approximately 28,600 square foot. The site is the location of the old swimming pool for the Town of Windsor.

At the date of the inspection the site was enclosed with a chain link fence and a concrete in-ground pool with approximately 4,788 square feet and various depths from four to eight feet, is still in place and is empty and has been vacant for ten or more years. There is also a concrete block building with approximately 1,645 square feet on the site which was used as a pool house and is also vacant.

Wednesday, May 29, 2019

Town of Windsor
Attn: Mr. Louis Coutinho, Chief Administrative Officer

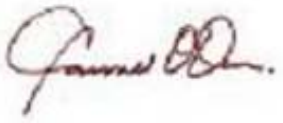
There is a gravel driveway at the east side of the site. The fence was locked at the inspection date and the pool and pool house were measured on the exterior of the fence and the measurements are approximate and subject to legal verification. The site area has been obtained from the GIS Land Registry and is approximate and subject to legal verification.

The client has requested the value of the subject site in its "As Is" condition with the vacant in-ground pool and pool house and the "As Improved" value with the pool removed and the site filled in and ready for development. As a result of the investigation and analysis, it is the Appraiser's opinion that the Market Value of the subject property, "As Is" and "As Improved" as vacant land only, subject to there being no contamination of any kind to the site, to legal verification of the site and to the Contingent and Limiting Conditions listed in this Report, as of the effective date, April 25, 2019 is as follows:

"AS IMPROVED"	***= $ 191,000.00***
"AS IS "	***= $ 43,000.00***

We trust that the enclosed Report is satisfactory and should you require any further clarification or additional information, please contact the undersigned.

Respectfully submitted,



Carmel O'Quinn, AACI, P.App
Accredited Appraiser
NSREEA Registration # 243730

PHOTOGRAPHS OF SUBJECT PROPERTY



VIEW OF SUBJECT SITE LOOKING TOWARD CORBETT STREET



VIEW OF SUBJECT SITE LOOKING TOWARD FORT EDWARD STREET

PHOTOGRAPHS OF SUBJECT PROPERTY



STREET VIEW LOOKING EAST ON FORT EDWARD STREET



STREET VIEW LOOKING WEST ON FORT EDWARD STREET

CARMQUIN PROPERTY APPRAISALS LTD.
CONTINGENT AND LIMITING CONDITIONS
(To be attached to all Appraisal Reports)
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1. *This Report is prepared at the request of Mr. Louis Coutinho, Chief Administrative Officer with the Town of Windsor, Nova Scotia for the purpose of an Appraisal as of April 25, 2019 to assist in estimating the Market Value of the subject property "As Is" and "As Improved" as vacant land, for possible sale purposes. It is not reasonable for any person, other than the Town of Windsor, to rely upon this Appraisal without first obtaining written authorization from the client and this Appraiser. There may be qualifications, assumptions or Limiting Conditions in addition to those set out below relevant to that persons' identity or their intended use.*

   The Report is prepared on the assumption that no other person will rely on it for any other purpose and that all liability to all such persons is denied.

2. *While expert in appraisal matters, the Author is not qualified and does not purport to give legal advice. It is assumed that:*

   a) *The site information as obtained from the GIS Land Registry is accurate and is subject to legal verification;*
   b) *title to the property is good and marketable;*
   c) *there are no encroachments, encumbrances, restrictions, leases or covenants that would in any way affect the valuation, except as expressly noted herein;*
   d) *the existing use is a legally conforming use which may be continued by any purchaser from the existing owner;*
   e) *rights of way, easements or encroachments over other real property and leases or other covenants noted herein are legally enforceable;*
   f) *the final estimate of value of the subject site is subject to there being no contamination of any kind to the site and to legal verification of the site area and measurements.*

   Because these assumptions have been made, no investigation, legal or otherwise, has been undertaken which would verify these assumptions except as expressly noted herein.

3. *The Author is not a qualified surveyor. Sketches, drawings, diagrams, photographs, etc., are presented in this Report for the limited purpose of illustration and are not to be relied upon in themselves.*

Carmquin Property Appraisals Ltd.
Contingent of Limiting Conditions (cont'd)

4. *The Author is not qualified to give engineering advice. It is assumed that there are no patent or latent defects in the subject improvement, that no objectionable materials such as Urea Formaldehyde Foam are present and that it is structurally sound in need of no immediate repairs, unless expressly noted within this Report. No soil tests have been done, nor have tests been done of the heating, plumbing, electrical, elevator, or other systems and for the purpose of this Report, they are assumed to be in good working order.*

5. *No investigation has been undertaken with the local zoning office, the fire department, the building inspector, the health department or any other government regulatory agency unless such investigations are expressly represented to have been made in this Report. The subject property must comply with such government regulations and if it does not comply, non-compliance may affect the Market Value. To be certain of compliance, further investigations may be necessary.*

6. *Neither possession of this Report nor a copy of it carries with it the right of publication. All copyright is reserved to the Author and is considered confidential by the Author and their client. It shall not be disclosed, quoted from or referred to, in whole or in part, or published in any manner, without the express written consent of the Appraiser. This is subject only to confidential review by the APPRAISAL INSTITUTE OF CANADA as provided in the Code of Ethics, Standards of Professional Conduct and Standards of Professional Practice of the Appraisal Institute of Canada.*

7. *Market data has been obtained, in part, from documents at the land registry office, or as reported by the Real Estate Board. As well as using such documented and generally reliable evidence of market transactions, it was also necessary to rely on hearsay evidence. Except as noted herein, a reasonable attempt has been made to verify all such information.*

8. *Because market conditions, including economic, social and political factors, change rapidly and, on occasion, without warning, the Market Value expressed as of the date of the Appraisal cannot be relied upon to estimate the Market Value as of any other date except with further advice of the Appraiser.*

Carmquin Property Appraisals Ltd.
Contingent of Limiting Conditions (cont'd)

9. *The compensation for services rendered in this Report does not include a fee for court preparation or court appearance, which must be negotiated separately. However, neither this nor any other of these Limiting Conditions is an attempt to limit the use that might be made of this Report should it properly become evidence in a judicial proceeding. In such a case, it is acknowledged that it is the judicial body which will decide the use of the Report which best services the administration of justice.*

10. *It is assumed that there is no contamination to the subject site. While no evidence of contamination was noted, should any contaminants exist, the final estimate of value contained in this Report may not reflect the actual value of the property.*

11. *It is imperative that the reader or any other interested party be aware that the Appraiser did not inspect the premises for fire detection or smoke detection systems, or for the presence of Carbon Monoxide Detectors, nor did the Appraiser inspect the condition of such equipment, if present. The Appraiser takes no responsibility whatsoever for the lack of, or condition of, detection devices that may be located on the premises, nor does the Appraiser warrant compliance in any manner of such equipment, if present.*

12. *The Appraiser is not qualified to comment on environmental issues that may affect the market value of the property appraised, including but not limited to pollution or contamination of land, buildings, water, groundwater or air. Unless expressly stated, the property is assumed to be free and clear of pollutants and contaminants, including, but not limited to moulds or mildews or the conditions that might give rise to other, and in compliance with all regulatory environmental requirements, government or otherwise and free of any environmental conditions, past, present or future, that might affect the market value of the property appraised. If the party relying on this report requires information about environmental issues, than that party is cautioned to retain an expert qualified in such issues. We expressly deny any legal liability relating to the effect of environmental issues on the market value of the property appraised.*

Carmquin Property Appraisals Ltd.
Contingent of Limiting Conditions (cont'd)

13. DEFINITION OF MARKET VALUE: The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

a) Buyer and seller are typically motivated;

b) both parties are well informed or well advised and acting in what they consider their own best interest;

c) a reasonable time is allowed for exposure in the open market;

d) payment is made in terms of cash in Canadian dollars or in terms of comparable financial arrangements comparable thereto; and

e) the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.

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PART III - ADDENDA

Schedule "A" *Area Map*

Schedule "B" *Neighbourhood Map*

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Schedule "D" *Zoning Regulations*

PART I - PREFACE

SUMMARY OF SALIENT FACTS AND IMPORTANT CONCLUSIONS

ADDRESS:	65 Fort Edward Street, Windsor, Hants County, Nova Scotia.
TYPE:	"As Is" and "As Improved" Vacant Parcel of Land. PID # 45059797
SITE AREA:	28,600 square feet
ASSESSED OWNERS:	Town of Windsor
ZONING:	OS - Open Space
HIGHEST AND BEST USE:	"As Improved" Development of the site with a zoning change similar to the adjacent site.
ASSESSED VALUE:	$ 219,300.00 - 2019 Account # 04657101
TAXES:	Tax Exempt
EFFECTIVE DATE OF APPRAISAL:	April 25. 2019
DATE OF INSPECTION:	April 25, 2019
FINAL ESTIMATE OF VALUE:	**"AS IMPROVED" = $ 191,000.00** **"AS IS " = $ 43,000.00**

TERMS OF REFERENCE

SCOPE OF THE APPRAISAL

The scope of the Appraisal encompasses the necessary research and analysis to prepare a Report in accordance with the intended use, the Canadian Standards of Professional Practice of the Appraisal Institute of Canada and the Canadian Uniform Standards of Professional Practices of the Appraisal Foundation. In regard to the subject property, this involves the following steps:

1. *The subject site was inspected by the Appraiser on April 25, 2019 during working hours and photographs were taken at that time. Information concerning the property was obtained from the client.*

2. *Regional and neighbourhood data were based on information available on the Province and Communities in the Appraisal Library of Carmquin Property Appraisals Ltd. This information was originally obtained from the Town of Windsor, Municipality of the County of Hants and from other sources. The zoning, assessment and services for the subject were obtained from the Town Planning Department, office Zoning Maps and Regulations Library and from the applicable government and municipal departments.*

3. *The data concerning the area of the subject site was obtained from the GIS Land Registry and is subject to legal verification.*

4. *In estimating the Highest and Best Use for the subject property, an analysis was made of data compiled in the three steps noted above. In addition, a market analysis was completed of similar type land to help determine the best used of the property. The zoning for the subject site is presently OS - Open Space. The adjacent vacant site is zoned R2- Two Unit Residential and the property is located in an area of Windsor which is developed with the Fort Edward Park and single family and multi unit residential dwellings.*

5. *In developing the approach to value, the market data utilized was taken from the data collected in the office files of Carmquin Property Appraisals Ltd., and from other appraisers, realtors, property managers or other persons familiar with the subject market.*

6. *After assembling and analyzing the data defined in this Scope of the Appraisal, a final estimate of Market Value was made "As Is" and "As Improved".*

TERMS OF REFERENCE (cont'd)

PURPOSE OF THE APPRAISAL

The purpose of this Appraisal is to provide the client with an estimate of the Market Value "As Is" and "As Improved" of the subject vacant land located at 65 Fort Edward Street, Hants County, Nova Scotia, as at the effective date, April 25, 2019.

FUNCTION OF THE APPRAISAL

The function of the Appraisal is to provide the client with an estimate of the Market Value As Is" and "As Improved" of the subject vacant land located at 65 Fort Edward Street, Hants County, Nova Scotia, as at the effective date, April 25, 2019 for possible sale purposes.

PROPERTY RIGHTS APPRAISED

The property rights being appraised are those of Fee Simple Interest, which is free and clear of all encumbrances, charges or restrictions other than those mentioned in this Report.

DEFINITION OF MARKET VALUE

Market Value is defined as the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. *buyer and seller are typically motivated;*
2. *both parties are well informed or well advised and acting in what they consider their own best interest;*
3. *a reasonable time is allowed for exposure in the open market;*
4. *payment is made in terms of cash in Canadian dollars or in terms of comparable financial arrangements comparable thereto; and*
5. *the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.*

TERMS OF REFERENCE (cont'd)

HISTORY OF THE SUBJECT PROPERTY

The subject land was at one time the location of the Town of Windsor public in-ground swimming pool which has been closed down for ten or more years and is in a dilapidated condition. The town is in the process of selling the property. It is understood that the subject has not been listed on the market or privately over the years.

MORTGAGES, LIENS OR ENCUMBRANCES

The property is being appraised on the basis that there are no mortgages, liens or other encumbrances claimed against them.

EFFECTIVE DATE OF THE APPRAISAL

The subject property was inspected on April 25, 2019 and this is considered to be the effective date of the Appraisal.

EXPOSURE TIME

The value is estimated as if the subject property was to be exposed for sale on the open market in a manner typical for this class of property for at least six to twelve months prior to the effective date of the listing.

REGIONAL DATA

The subject property is located in the Town of Windsor, Hants County, Nova Scotia. The Province of Nova Scotia, located on the Eastern Atlantic Seaboard, is actually a peninsula connected to the remainder of Canada by 27 kilometres of land. The Island of Cape Breton is joined to mainland Nova Scotia by the Canso Causeway.

The Province has a total area of 54,400 square kilometres and according to information obtained from Statistics Canada 2006 Census, Nova Scotia has a population of 913,462 residents. The Province is divided into five geographical regions, with Halifax as the capital. One of these geographical regions, where the subject property is located, is the Annapolis Valley, which is world famous as a farming area. The climate is suited for the growing of all types of vegetables and produce, with apples being the speciality. (Refer to Schedule "A" - Area Map in the Addenda)

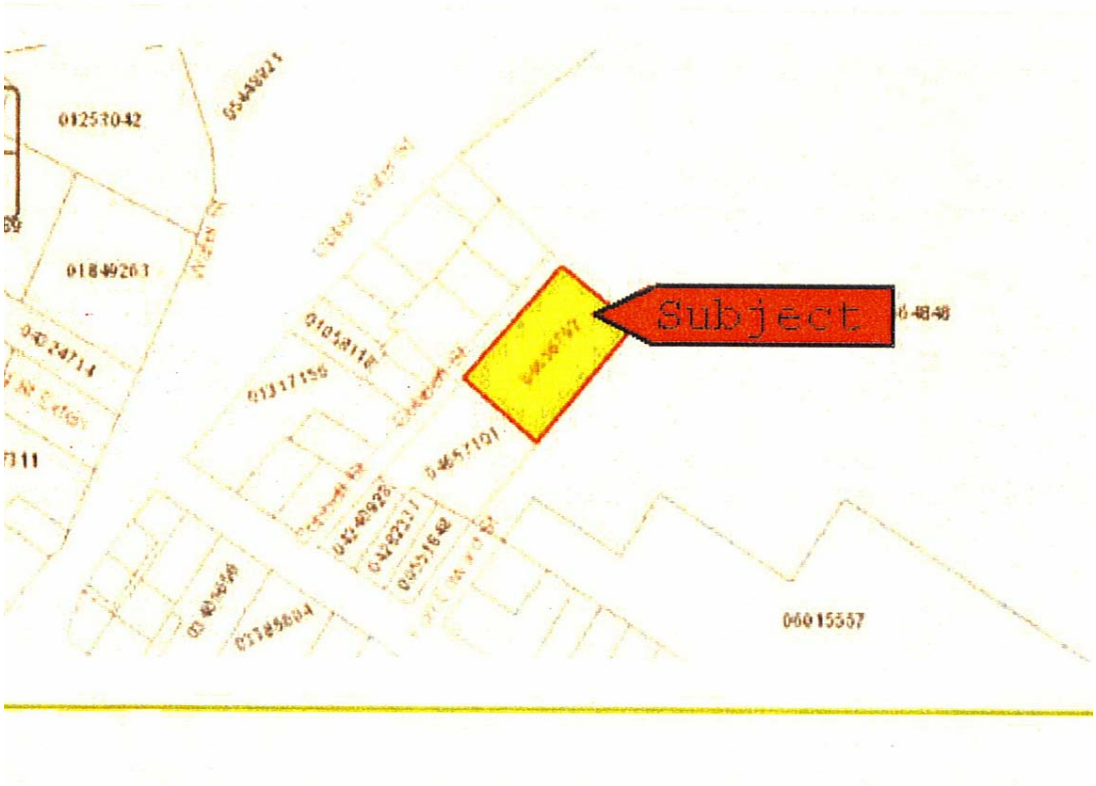
NEIGHBOURHOOD DATA

The subject site is located on the north side of Fort Albert Street and the south side of Corbett Street and in close proximity to the downtown commercial area in Windsor and close to all amenities. Over the past few years the town has expanded its commercial development onto Wentworth Road with an Atlantic Super Store, a second Tim Hortons, MacDonalds and a new Super 8 Motel. Windsor is the county seat for Hants County and has a population of approximately 3,700. The Town of Windsor has a Business Development Centre which was formed to assist residents of the area in establishing a library of relevant data related to the establishment of small businesses in the Windsor-West Hants area. The twinning of the 101 Highway to the Cities of Halifax and Dartmouth has made the town more attractive for new residents and businesses. There are two Industrial Parks in the town, The Town of Windsor Industrial Park and the Windsor-West Hants Industrial Park. Both parks are centrally located, easily accessible and provide serviced lots and mini-malls for new and existing buildings. Opportunities are available in various sections of the Town for further commercial development which lies in close proximity to downtown commercial area. (Refer to Schedule “B” - Neighbourhood Map in the Addenda)

SITE DESCRIPTION

The subject site, PID # 45059797, is located on the north side of Fort Edward Street and the south side of Corbett Street in the Town of Windsor. The site is basically rectangular shaped and level at street grade at Fort Edward Street and slopes upward slightly at the rear from Corbett Street. The site measurements were not available to the Appraiser and the site area of approximately 28,600 square feet has been obtained from the GIS Land Registry and is subject to legal verification. The site is improved with an old in-ground swimming pool and pool house which has been vacant for ten or more years. There is a gravel driveway at the east side of the site.

SUBJECT SITE



ASSESSMENT AND TAXES

From information obtained from the Town of Windsor, Assessment Department it is understood that the subject property is assessed on the 2019 Assessment Roll as at base date January 1, 2018 at account # 04656792 for $ 219,300.00.

From information obtained from the Town of Windsor, Tax Department it is understood that the subject site is owned by the town and is tax exempt.

SERVICES

From information obtained from the Town of Windsor, it is understood that the subject property is located in an area which is serviced with town water and sewer.

Other services provided to the site include paved roads, street lights, snow removal, garbage collection and police and fire protection.

ZONING

From information obtained from the Town of Windsor Planning Department, it is understood that the subject site is located in an area of the town which is zoned O2- Open Space. (Refer to Schedule "C" Zoning Map and Schedule "D" Zoning Regulations in the Addenda)

O2- OPEN SPACE

Permitted Uses

25.1 The following uses shall be permitted in the Open Space (O2) zone

- *Cemeteries*
- *Historic sites and Museums*
- *Outdoor recreation uses*
- *Parks and playgrounds*
- *Uses, buildings and structures necessary for the prevention of floods, soil erosion and other related activities.*

Abutting Zone Requirements
25.2 Where a lot in the OS zone abuts any other zone, no building shall be erected within 4 ft.(1.22m) of the abutting side of the rear lot line.

PART II - ANALYSIS AND CONCLUSIONS

HIGHEST AND BEST USE

Highest and Best Use, as defined by the Appraisal Institute of Canada, is "that use which is most likely to produce the greatest net return in monies or amenities over a given period of time". Net return may involve net income as from an investment property, or satisfaction and amenities as from a residential property.

Many factors and appraisal principals become a consideration in determining the Highest and Best Use of a property such as current zoning, physical characteristics, neighbourhood trends, present usage and profitability.

The concept of Highest and Best Use recognizes that land can change over a period of time and the optimum use of a site is determined by need or demand at any given period of time. Other factors of consideration in the analysis of Highest and Best Use are government regulations, supply and demand, productivity, contribution, competition and public opinion.

The subject approximate 28,600 square foot site is located on Fort Edward Street and on Corbett street at the rear. The site is located in an area of Windsor which is zoned O2 - Open Space and the area is developed with residential dwellings and the Fort Edward Historic Park and is in close proximity to the downtown commercial area.

Based on the information provided, and after giving consideration to all factors concerned, it is the Appraiser's opinion that the Highest and Best Use of the subject site is "As Improved" with the site of the old in-ground public pool filled in and the zoning of the site changed the same as the abutting land and ready for development as an R2- zoning for duplex dwellings.

SITE VALUATION AND ANALYSIS

In estimating the value of a site, there are four basic methods of valuation depending upon the type and use of the site, as well as the available market evidence. These methods include:

1. *The Comparative Sales Method*
2. *The Abstraction Method*
3. *The Development Method*
4. *Land Residual Method*

The usual method of valuing undeveloped land, and the most used, is the Comparative Sales Method, which is the comparison with similarly zoned land in an area similar to the subject or in another comparable area, which has recently sold on the market. Information is also analysed from the past record of sales of similar sites and from land which is presently listed for sale on the Real Estate Market.

This Comparative Sales Approach is based on the idea that an informed purchaser would pay no more for a site than the cost of acquiring one of equal attractiveness and utility on the open market.

In estimating the value of the subject vacant parcel of land, the Appraiser has considered all relevant factors including:

1. *Size, location and zoning.*

2. *Supply and demand of vacant land.*

3. *Recent sales and asking prices of vacant land similar to the subject.*

4. *Other factors considered necessary.*

In analysing the Market Value of the subject site, an investigation was undertaken of the real estate market for recent sales of residential and other land in the subject and similar areas.

The following sales were acquired and analysed, and adjustments were applied to reflect the variations from the subject site. These sales are thought to give the greatest degree of comparability to the subject.

DIRECT COMPARISON APPROACH

In valuing a site by the Direct Comparison Approach, land values are obtained from land sales which have occurred in the subject or similar areas. Adjustments are applied to the comparables to reflect variations from the subject for site size, location, zoning, utility and topography.

LAND SALES

Item	Subject	Comparable 1	Comparable 2
Address	66 Fort Edward Street, Street, Windsor	54 Woodworth Road, Kentville	245-247 Victoria Street, Windsor
Vendor or Purchaser	PID # 45059797	PID # 55048698	PID # 45056690
Sale Price	N/A	$19,500.00	$40,000.00
Sale Date	N/A	05/03/2019	10/24/2018
Lot Size	28,600 sf	10,010 sf	6,000 sf
Sale Price per SF	N/A	$1.95	6.67
Zoning	O2 - Open Space	Residential	R2- Two Unit Residential
Comments	The subject site is improved with an older in-ground pool which has been closed for ten years or more and was the public swimming pool for the Town of Windsor. The subject is being appraised “As Is” with the pool and “As Improved” with the pool removed and the site filed in ready for development.	Comp One is a lot in Kentville in a residential zoned area and in close proximity to the Valley Regional Hospital. Inferior in location and lot size and superior in zoning “As Is” .	Comp Two is a R2-zoned lot in Windsor area. Similar in location and inferior in lot size and superior in zoning “As Is” .

THE COST APPROACH (cont'd)

LAND SALES (cont'd)

Item	Comparable 3	Comparable 4	Comparable 5
Address	Unit # 3 Town Road, Falmouth	Lot 14 Woodman Road, Wolfville	7270 Highway # 1, Coldbrook
Vendor or Purchaser	PID # 45339116	PID # 55509608	Not available
Sale Price	$62,000.00	$127,000.00	$405,000.00
Sale Date	09/19/2018	09/11/2018	06/21/ 2016
Lot Size	16,592 sf	19,716 sf	265,298 sf
Sale Price per SF	$3.74	$6.44	$1.53
Zoning	Residential	Residential	C1- Highway Commercial
Comments	Comp Three is a residential lot in Falmouth which lies in close proximity to the west of Windsor. Inferior in location and lot size and superior in zoning "As Is" .	Comp Four is a large lot in an executive subdivision in the Town of Wolfville in close proximity to the downtown area. Similar in location and inferior in lot size and superior in zoning "As Is" ..	Comp Five is a large acreage site in Coldbrook zoned Commercial which was improved with a hotel. There was a fire in the hotel which burnt down and only a small one storey section of the building remained and is to be removed from the site. Inferior in location and superior in lot size and zoning "As Is" .

THE COST APPROACH (cont'd)

SUMMARY

Of the land sales analyzed, those listed are the most recent and offer the best indication of value for the subject site. The value ranges of the five sales analyzed before adjustments range from $ 1.53 to $ 6.67 per square foot. Comparable Two is located in the subject area and is superior in zoning which is R2- Two Unit Residential. The subjet is being appraised "As Is" with the closed in-ground swimming on the site and "As Improved" with the pool removed and the site cleaned up and ready for development. The subject site has road frontage on two streets and is zoned O2- Open Space and has limited permitted uses.

It is the Appraiser's opinion that the existing older swimming pool and pool house appears in poor condition and should be removed as it appears to be a safety issue and will only deteriorate more as the years go by. The site should be filled in and levelled off and the zoning to be changed to R2- Two Unit Residential similar to the abutting land at 36 Fort Edward Street or if the zoning is left at O2- Open Space then a install a public playground could be built on the site. The present condition of the property is a negative feature for the properties saleability as a potential purchaser would have to invest any where from $ 50,000 to $ 100,00.00 to clean the site up to get ready for development.

Adjustments were applied to the comparables to reflect the differences from the subject for site size, location, utility and zoning. It is the Appraiser's opinion that the price per square foot most applicable to the subject site "As Is" is $ 1.50 and "As Improved would be is $ 6.67.

LAND VALUE: (rounded)

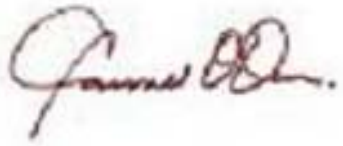
"As Improved"	*28,600 sf X $ 6.67/sf*	*= $ 191,000.00*
"As Is"	*28,600 sf X $ 1.50/sf*	*= $ 43,000.00*

RECONCILIATION AND FINAL ESTIMATE OF VALUE

The indicated value of the subject vacant site has been obtained from comparable vacant land sales in the subject and surrounding areas. Based on the data analysed in this Report, it is the Appraiser's opinion, subject to the Contingent and Limiting Conditions listed in this Report, to there being no contamination of any kind to the subject site, and to legal verification of the site area and measurements, that the final estimate of value "As Is" and "As Improved" as of the effective date, April 25, 2019 is:

"AS IMPROVED" = $ 191,000.00
"AS IS " = $ 43,000.00

Respectfully submitted



Carmel O'Quinn, AACI, P.App
Accredited Appraiser
NSREEA Registration # 243730

CERTIFICATE OF APPRAISER

The Appraiser hereby certifies:

1) *That I personally inspected the subject property of this Complete Summary Appraisal Report on April 25, 2019 and that I have investigated and considered all factors affecting its value.*

2) *That I have no past, present or contemplated interest in the property that is the subject of this Report and that I have no personal interest or bias with respect to the parties involved.*

3) *That to the best of my knowledge and belief, all of the information reported in this Report is true and factual data has been verified where possible.*

4) *That this Complete Summary Appraisal Report has been made and the Report rendered in conformance with the Code of Ethics and the Canadian Uniform Standards of Professional Appraisal Practices of the Appraisal Institute of Canada.*

5) *That this Report is subject only to the Contingent and Limiting Conditions, whether such conditions are imposed by the terms of this assignment or by the Appraiser.*

6) *That neither the terms of employment nor the compensation from rendering my opinion in this Report are contingent upon value found, nor anything else than the delivery of this Report.*

7) *No one provided professional assistance to the person signing this Report.*

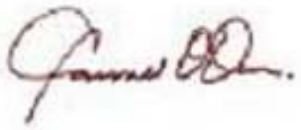
8) *The Appraiser has fulfilled the requirements of the Appraisal Institute of Canada Continuing Professional Development program for designated members and is recertified.*

CERTIFICATE OF APPRAISER (cont'd)

9) That the Final Estimates of Value "As Is" and "As Improved" of the subject vacant land, as defined elsewhere in this Report, as of the effective date, April 25, 2019, subject to there being no contamination of any kind to site, to verification of the site area and to the Contingent and Limiting Conditions listed in this Report, is as follows:

"As Improved" = $ 191,000.00
"As Is" = $ 43,000.00

`



Carmel O'Quinn, AACI, P.App
Accredited Appraiser
NSREEA Registration # 243730

QUALIFICATIONS OF CARMEL O'QUINN, AACI, P.App

BACKGROUND

Born in Grand Falls, Newfoundland and educated at Windsor, Grand Falls and St. John's, Newfoundland.

EDUCATION AND PROFESSIONAL BACKGROUND

College of Trades and Technology, St. John's, Newfoundland, Diploma in Appraisal/Assessment Technology.

Memorial University of Newfoundland, St. John's, Newfoundland, five credits.

Appraisal Institute of Canada, Accredited Appraiser Canadian Institute, AACI plus the P.App. for Professional Appraiser

APPRAISAL EXPERIENCE

Presently self-employed as Carmquin Property Appraisals in New Minas, Nova Scotia as a Fee Appraiser having a wide variety of appraisal functions. Appraisals of commercial, industrial, agricultural and residential properties. Experience in other functions in the appraisal of properties such as consultancy, research work, compiling comparable data banks for commercial and residential appraisals, market analysis, computer programming and data entry.

Appraisals completed of large commercial office buildings, retail stores, industrial buildings, nursing homes, motels, hotels, agricultural properties, Fish Plants, Wharves and Vacant Land. V.Day valuations for Capital Tax, Replacement Costs and Actual Cash Value for insurance purposes, appraisals for mortgage financing for sales and refinancing, estate sales, assessment appeals and various other functions.

Several years appraisal experience working as Appraisal Manager with MacKay Real Estate Limited, Appraisal Division, Wolfville, Nova Scotia and other appraisal companies in St. John's, Newfoundland, in commercial and residential work, as well as self-employed for two years with own appraisal company in Newfoundland.

CORPORATE MEMBERSHIP

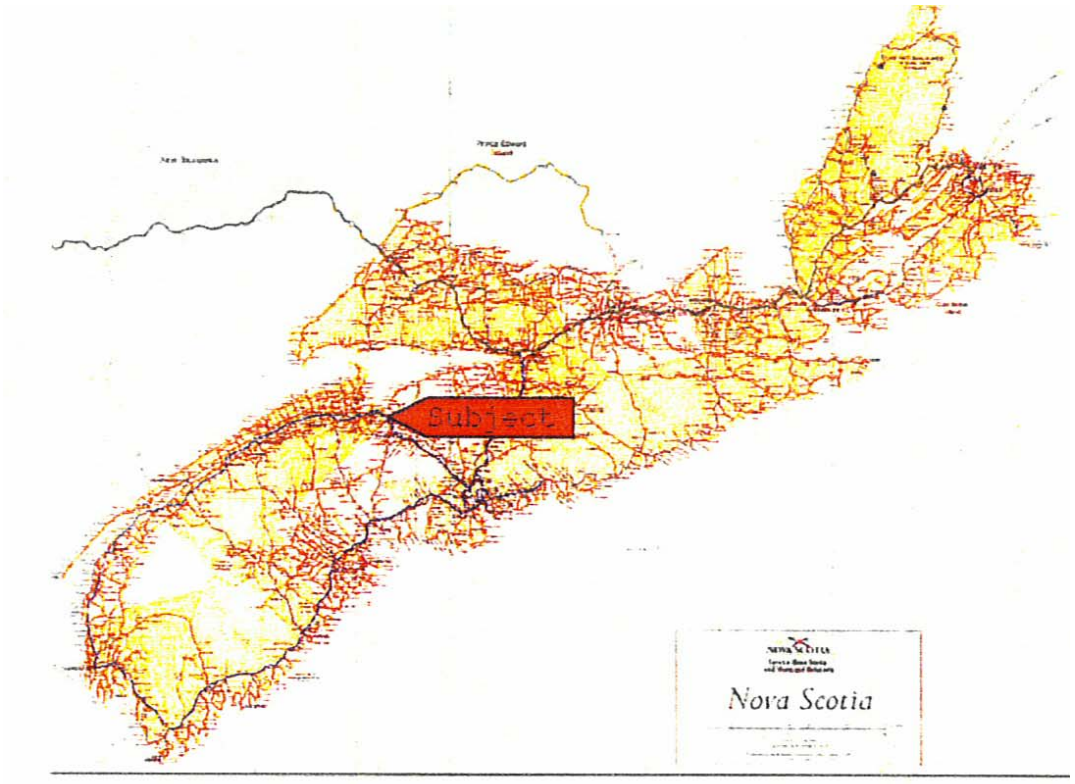
Member, Appraisal Institute of Canada, Winnipeg.

EXPERT WITNESS

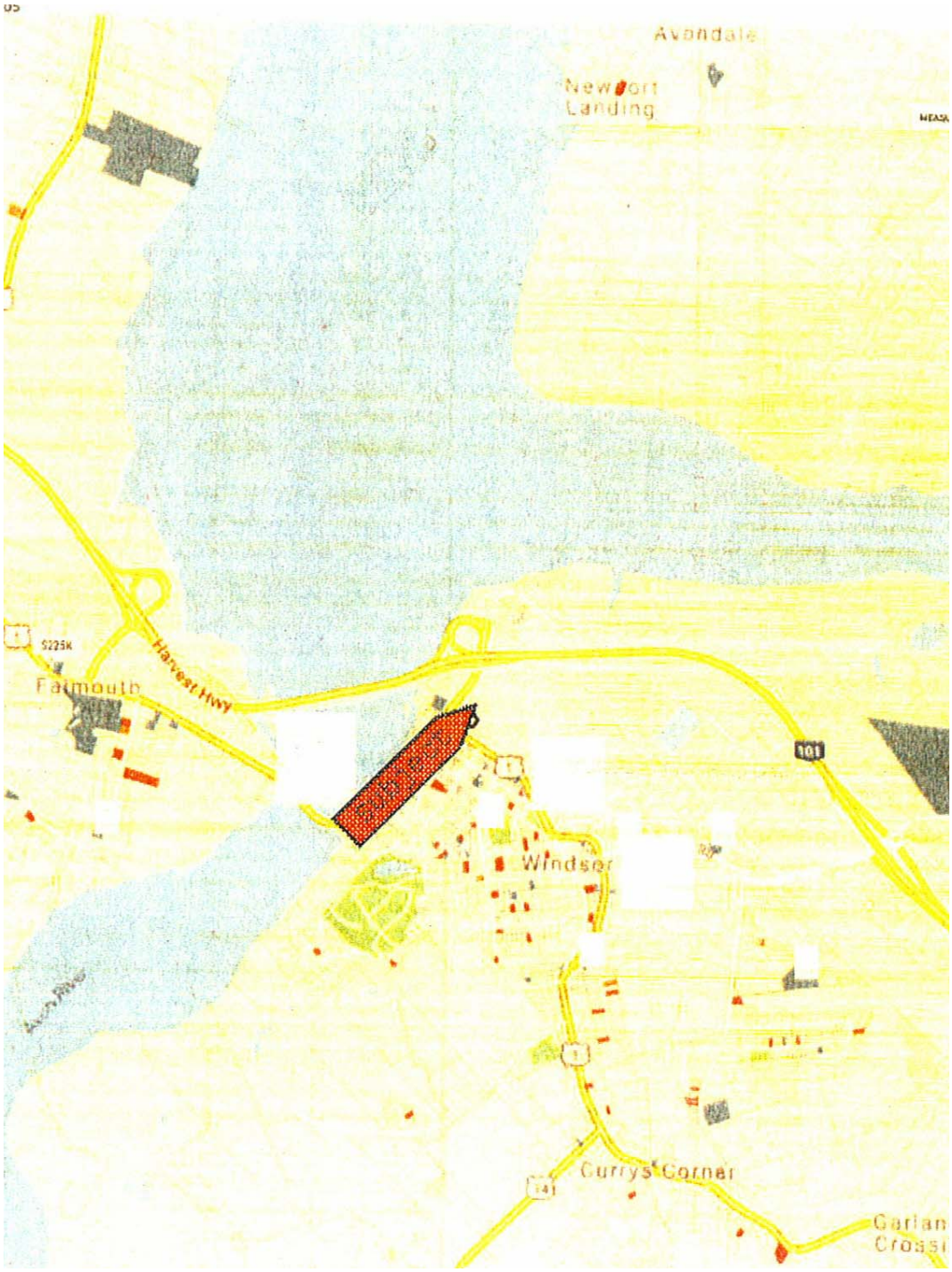
Supreme Court of Canada

PART III - ADDENDA

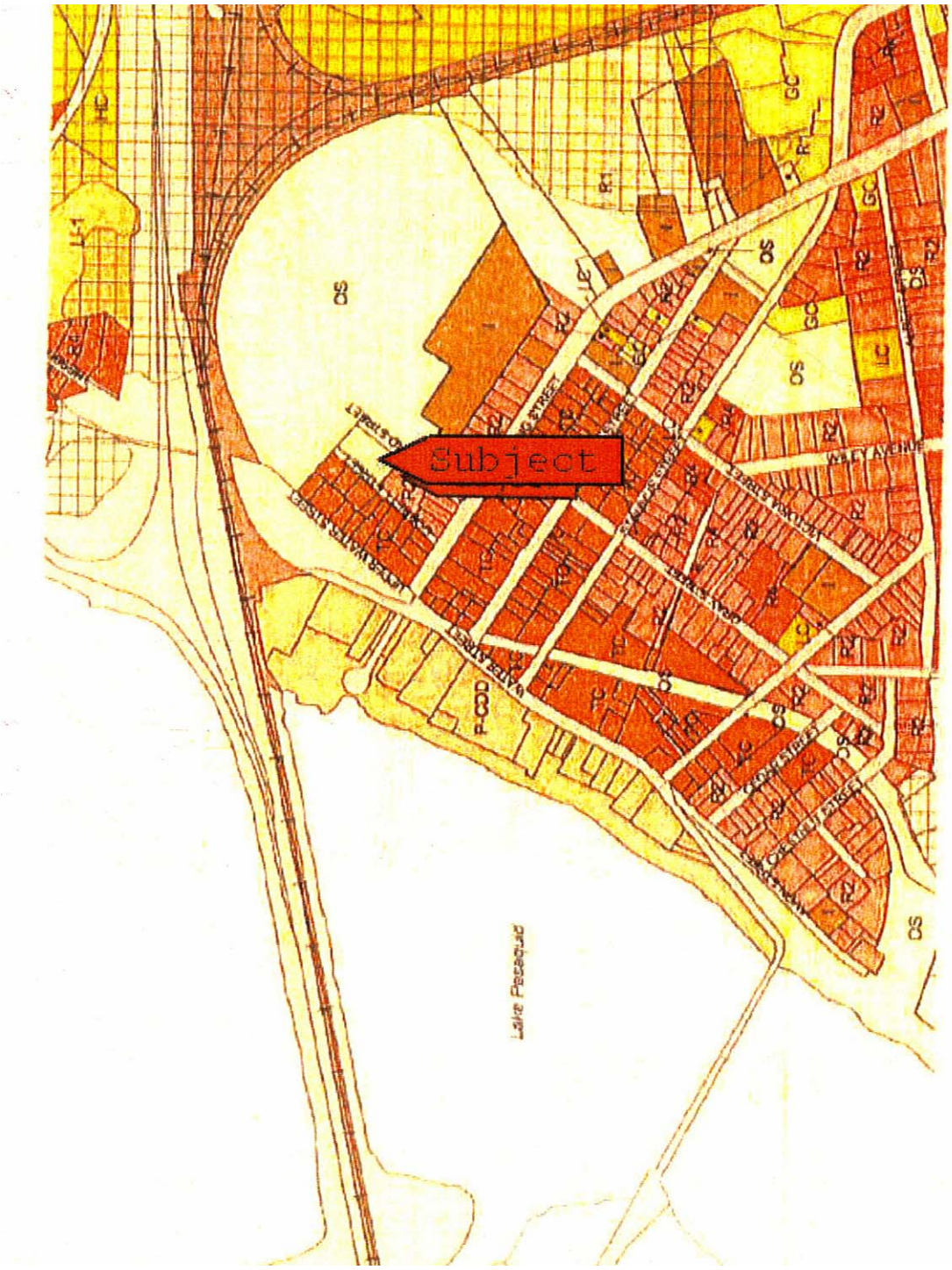
SCHEDULE "A" - AREA MAP



SCHEDULE "B" - NEIGHBOURHOOD MAP



SCHEDULE "C" - ZONING MAP



25.0 OPEN SPACE (OS)

Permitted Uses

25.1 The following uses shall be permitted in the Open Space (OS) zone:

- Cemeteries
- Historic sites and museums
- Outdoor recreation uses
- Parks and playgrounds
- Uses, buildings and structures necessary for the prevention of floods, soil erosion and other related activities

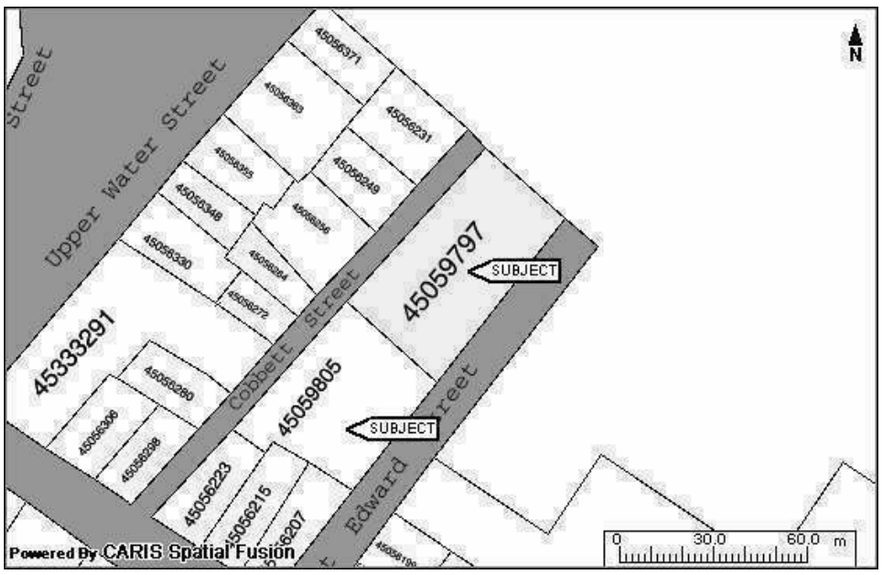
Abutting Zone Requirements

25.2 Where a lot in the OS zone abuts any other zone, no building shall be erected within 4 ft (1.22 m) of the abutting side or rear lot line.

JACKLYN PARKER APPRAISALS LIMITED
JACKLYN PARKER CRA

File No. 20100914

APPRAISAL OF



LOCATED AT:

65 AND PID 45059805 FORT EDWARD STREET
WINDSOR, NS B0N 2T0

FOR:

TOWN OF WINDSOR
PO BOX 158, 100 KING STREET
WINDSOR, NS B0N 2T0

BORROWER:

TO ESTIMATE HYPOTHETICAL VALUE R4 ZONE

AS OF:

September 16, 2010

BY:

JACKLYN PARKER
NSREAA Registration No. 267870

Client Reference No.: **File No.:** 20100914

JACKLYN PARKER APPRAISALS LIMITED
JACKLYN PARKER CRA
PO BOX 3600
WINDSOR, NS B0N 2T0

October 11, 2010

TOWN OF WINDSOR
LOUIS COUTINHO
PO BOX 158, 100 KING STREET
WINDSOR, NS B0N 2T0

Address of Property: 65 AND PID 45059805 FORT EDWARD STREET
WINDSOR, NS B0N 2T0

Market Value: $ 195,000. 00 R4

In accordance with your request and authorization, an investigation, analysis and appraisal report on the above referenced property has been completed for the purpose of estimating Market Value.

After careful consideration of all factors that affect value, the Market Value is determined to be as referenced above

This estimate is subject to the limiting conditions attached to this report and to which the reader's attention is specifically directed.

Should you require further assistance or clarification as to any portion of this report, please contact me.

I certify that I have no interest, present or contemplated in the subject property appraised.

Yours truly,



JACKLYN PARKER
CRA

Lender Reference No.

Case No.

File No. 20100914

LIMITED APPRAISAL - RESTRICTED RESIDENTIAL APPRAISAL REPORT

LENDER/CLIENT: TOWN OF WINDSOR	ADDRESS OF PROPERTY: 65 AND PID 45059805 FORT EDWARD STREET	APPRAISER: JACKLYN PARKER
ADDRESS: PO BOX 158, 100 KING STREET	City: WINDSOR	ADDRESS: PO BOX 3600
WINDSOR, NS B0N 2T0	Prov.: NS Postal Code: B0N 2T0	WINDSOR, NS B0N 2T0
TEL: ( ) 798-6675	APPLICANT: TO ESTIMATE HYPOTHETICAL VALUE R4 ZONE	TEL: (902) 798-2288 FAX: 369-2056

LEGAL DESCRIPTION: PID 45059797 AND PID 45059805 , Registry of Deeds, Hants County, NS

MUNICIPALITY or DISTRICT: Town of Windsor, NS

ASSESSMENT: LAND ____ IMP ____ TOTAL As If Vacant YEAR ____ TAXES$ ____ YEAR ____

PURPOSE OF APPRAISAL: To estimate the market value X or ____ INTENDED USE OF APPRAISAL: Hypothetical Market Value

PROPERTY RIGHTS APPRAISED: FEE SIMPLE X LEASEHOLD ____ CONDOMINIUM ____ COOPERATIVE ____ OTHER (Specify) ____

OCCUPIED BY: OWNER ____ TENANT ____ VACANT As If Vacant

HIGHEST AND BEST USE: X As Improved NOTE: IF HIGHEST & BEST USE IS NOT THE CURRENT USE - SEE COMMENTS UNDER SUBJECT PROPERTY DESCRIPTION

NEIGHBOURHOOD DESCRIPTION

NATURE OF DISTRICT	TREND OF DISTRICT	CONFORMITY OF SUBJECT		SUPPLY	DEMAND	AVERAGE PROPERTY AGE
X RESIDENTIAL	Steadily IMPROVING	AGE	SIZE	X GOOD	X GOOD	DISTRICT:
____ RURAL	____ DEVELOPING	____ NEWER	____ LARGER	____ FAIR	____ FAIR	New TO 100 YEARS
____ COMMERCIAL/ INDUSTRIAL	____ STABLE	____ OLDER	____ SMALLER	____ POOR	____ POOR	IMMEDIATE AREA:
____ MIXED	____ DETERIORATING	____ SIMILAR	____ SIMILAR			25 TO 100 YEARS

DISTANCE TO:				PRICE RANGE OF PROPERTIES IN DISTRICT	
ELEMENTARY SCHOOL	<.5 km	PUBLIC TRANSPORTATION	Kings Transit	GENERAL: $	75-300,000.00+
JUNIOR SECONDARY	10 km (Bussed)	SHOPPING FACILITIES	Adjacent Streets		
HIGH SCHOOL	<.5 km	DOWNTOWN	Adjacent Streets	IMMEDIATE AREA: $	75-300,000.00+

SUMMARY: Including apparent adverse influences in area, if any(e.g. railroad tracks, commercial/industrial properties, unkempt properties, major traffic arteries, hydro facilities, landfill sites, etc.

Windsor's central location provides close proximity to all of the major urban centres in central Nova Scotia. The Town is located immediately adjacent to Highway 101, one of Nova Scotia's major limited access thoroughfares.

IS NEIGHBOURHOOD CONSIDERED TO HAVE GOOD MARKET APPEAL? X YES ____ NO

COMMENTS: There are no adverse influences in the area. Property values are stable with no known or anticipated negative trends that would negatively affect market values. The twinning of the 100 series highways continues between the valley and Halifax regions.

SUBJECT PROPERTY DESCRIPTION

ZONING DESIGNATION: **As If R 4** SITE DIMENSIONS: NA SITE AREA: 45,400 Sq.Ft.. TOPOGRAPHY: Level/Slope

ESTIMATED AGE	CURB APPEAL	EXTERIOR CONDITION	EXTERIOR FINISH				ROOFING MATERIAL	
N/A YEARS	X GOOD	N/A GOOD	N/A BRICK VENEER	____ WOOD SIDING			N/A ASPHALT SHINGLE	
PARKING	____ AVERAGE	____ AVERAGE	____ SOLID BRICK	____ ALUMINIUM			____ WOOD SHINGLE	
____ GARAGE	____ FAIR	____ FAIR	____ STONE VENEER	____ VINYL			____ TAR & GRAVEL	
____ CARPORT	____ POOR	____ POOR	____ SOLID STONE	____ INSULBRICK			____ SLATE	
____ DRIVEWAY			____ STUCCO					

COMMENTS: See Attached Addendum..

COMPARABLE MARKET DATA

ITEM	SUBJECT PROPERTY	NO.1	NO.2	NO.3
ADDRESS	65 AND PID 45059805 FORT E S	Lot 211 FRASER DRIVE	LOT 207 BURGESS CRESCENT	1A GRAY STREET
	WINDSOR, NS	WINDSOR, NS	WINDSOR, NS	WINDSOR, NS
DATE OF SALE		05/28/2009	06/25/2010	02/19/2008
SALE PRICE		38,000	34,900	49,000
SITE SIZE	45,400 Sq.Ft.	10,860 Sq.Ft.	6664 Sq.Ft.	11,305 Sq.Ft.
SIZE L.F.A.				
AGE/CONDITION	as if vacant lot	vacant lot	vacant lot	vacant lot
STYLE	R 4 Residential	R 1 Residential	R 1 Residential	R 4 Residential Potential
ROOMS/BEDROOMS/BATHS				
BASEMENT				
GARAGE/PARKING				
$ per Sq.Ft.		3.4990792	5.2370948	4.3343653

REASONS FOR CONCLUSIONS: See Attached Addendum

SUBJECT HISTORY OF SALES/TRANSFERS/LISTINGS: The Annapolis Valley MLS confirms that the subject property has not been offered for sale.

OPINION OF VALUE

I HAVE CARRIED OUT AN INSPECTION OF THE SUBJECT PROPERTY FROM THE STREET, ANALYZED THE APPLICABLE DATA AND CONSIDERED ALL RELEVANT FACTORS. IN MY OPINION, THE PROPERTY IS ESTIMATED TO HAVE A VALUE RANGE:

OF $ 195,000.00 R4 TO $ 195,000.00 R4 AS OF September 16, 2010

NOTE TO READERS: THIS IS A LIMITED APPRAISAL PREPARED IN ACCORDANCE WITH STANDARDS OF PROFESSIONAL PRACTICE OF THE APPRAISAL INSTITUTE OF CANADA. IDENTIFICATION AND EXPLANATION OF DEPARTURES IS INDICATED BELOW.

THIS DOCUMENT IS A RESTRICTED APPRAISAL REPORT IN THAT IT CANNOT BE UNDERSTOOD PROPERLY WITHOUT ADDITIONAL INFORMATION IN THE WORKFILE OF THE APPRAISER. THE ADDRESEE OF THIS DOCUMENTHAS BEEN ADVISED REGARDING THE LIMITATIONS OF THIS TYPE OF REPORT AND HAS AGREED TO AND IS AWARE OF THESE RESTRICTIONS. DUE TO THE LIMITATION OF THIS REPORTING METHOD IT IS NOT INTENDED FOR USE BY THIRD PARTIES.

USPAP DEPARTURE DISCLOSURE

☐ Rule 1.2(a)	☐ Rule 1.2(d)	☐ Rule 1.3(b)	☐ Rule 1.4(c)	☐ Rule 1.4(f)	☐ Rule 1.4(i)
☐ Rule 1.2(b)	☐ Rule 1.2(e)	☐ Rule 1.4(a)	☐ Rule 1.4(d)	☐ Rule 1.4(g)	
☒ Rule 1.2(c)	☐ Rule 1.3(a)	☐ Rule 1.4(b)	☐ Rule 1.4(e)	☐ Rule 1.4(h)	

EXPLANATIONS:

LIMITED APPRAISAL - RESTRICTED RESIDENTIAL APPRAISAL REPORT

SCOPE OF THE REPORT:

The client has specifically requested a Limited Appraisal to be reported in a Restricted Report format. The information and conclusions are limited by the scope of this type of appraisal as follows:

1. **An inspection of the subject property from the street has been made.**
2. **No inspection has been made of the interior of the subject property.**
3. **Sales data and listing Information have been obtained from data sources considered to be reliable.**
4. **The cost approach has been excluded in this appraisal.**
5. **No registry office search has been performed and the property Is assumed to have a marketable title and is free and clear of all encumbrances, including leases, unless otherwise noted.**
6. **Sales information of physically similar properties has been gathered and analyzed on the basis that the subject is in average condition and that there are no physical or functional conditions within the interior of the property that would adversely affect the conclusions contained in this report, unless otherwise stipulated herein.**

DEFINITION OF MARKET VALUE

The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently, knowledgeably and assuming the price is not affected by undue stimulus.

ASSUMPTIONS AND LIMITING CONDITIONS:

The Certification that appears in this restricted residential appraisal report is subject to the following conditions:

1. **The appraiser will not be responsible for matters of a legal nature that affect either the property being appraised or the title to it. The appraiser assumes that the title is good and marketable and, therefore, will not render any opinions about the title. The property is appraised on the basis of it being under responsible ownership.**
2. **The appraiser will not give testimony or appear In court concerning this appraisal unless required to do so by due process of law.**
3. **The appraiser has noted in the appraisal report any significant adverse conditions (such as needed repairs, depreciation, the presence of hazardous wastes, toxic substances, etc.) observed during the street inspection of the subject property or that he or she became aware of during the normal research involved In performing the appraisal. Unless otherwise stated in the appraisal report, the appraiser has no knowledge of any hidden or unapparent conditions of the property or adverse environmental conditions (including the presence of hazardous wastes, toxic substances, etc.) that would make the property more or less valuable, and has assumed that there are no such conditions and makes no guarantees or warranties, express or implied, regarding the condition of the property. The appraiser will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because the appraiser is not an expert in the field of environmental hazards, the appraisal report must not be considered as an environmental assessment of the property.**
4. **The appraiser obtained the information, estimates and opinions that were expressed in this report from sources considered to be reliable and believes them to be true and correct. The appraiser does not assume responsibility for the accuracy of such items that were furnished by other parties.**
5. **The appraiser will not disclose the contents of the appraisal report except as provided for by the provisions of Uniform Standards of Professional Appraisal Practice (USPAP).**
6. **The appraiser has based the appraisal and valuation conclusion on the assumption that, even though only a street inspection has been made, the interior and exterior condition are assumed to be typical for this type of property, unless otherwise noted in the report.**

Comment on the efforts taken to obtain, and the source of interior and exterior inspection information. The value established presumes that the site has been remediated and that the land is ready for R4 development.

7. **The appraiser has agreed to enter into the assignment as requested by the client named in the report for the use specified by the client which is stated in the report, which calls for things that are different from the work that would otherwise be required by the specific guidelines of the USPAP. The client has agreed that the performance of this limited appraisal and the restricted report format is appropriate for the intended use.**

Other:

APPRAISER'S CERTIFICATION: I certify, to the best of my knowledge and belief:

1. **The statements of fact contained in this report are true and correct.**
2. **The unreported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, unbiased professional analyses, opinions and conclusions.**
3. **1 have no present or prospective interest in this property that is the subject of this report, and I have no personal interest or bias with respect to the parties involved.**
4. **My compensation is not contingent upon the reporting of a predetermined value or direction in value that favours the cause of the client, the amount of the value estimate, the attainment of a stipulated result, or the occurrence of a subsequent event.**
5. **My analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice and the Code of Professional Ethics of the Appraisal Institute of Canada.**
6. **I have made a street inspection of the property that is the subject of this report. If a supervisory appraiser has signed the report, that person has indicated on the report whether they did or did not make a street inspection of the appraised property.**
7. **No other person has provided me with significant professional assistance in the completion of this appraisal assignment.**

Note: The Appraisal Institute of Canada has a Mandatory Recertification Program for designated members. As of the date of this report, all designated signatories to this report have fulfilled the requirements of the program.

SUPERVISORY APPRAISER'S CERTIFICATION:

If a supervisory appraiser signed the appraisal report, he or she certifies and agrees that: "I directly supervised the appraiser who prepared the appraisal report, have reviewed the report, agree with the statements and conclusions of the appraiser, agree to be bound by the appraiser's certification, and am taking full responsibility for the appraisal and the appraisal report."

PROPERTY IDENTIFICATION

Address 65 AND PID 45059805 FORT EDWARD STREET **City** WINDSOR **Pr.** NS **Postal Code** B0N 2T0

Legal Description PID 45059797 AND PID 45059805 , Registry of Deeds, Hants County, NS

Final Estimated Value Range as of September 16, 2010 **(effective date of appraisal)** **is from $** 195,000.00 R4 **to $** 195,000.00 R4

APPRAISER

Signature Jacklyn Parker

Name JACKLYN PARKER

Designation: **CRA:** x **AACI:**

Street Inspection Date: September 16, 2010

Date Signed: October 11, 2010

SUPERVISORY APPRAISER(if applicable):

Signature

Name

Designation: **CRA:** **AACI:**

Street Inspection: **Yes:** **No:**

Street Inspection Date:

Date Signed:

LIMITED APPRAISAL - RESTRICTED RESIDENTIAL APPRAISAL REPORT

This Limited Departure Disclosure is part of a Limited Appraisal made according to the binding requirements and specific guidelines of the Uniform Standards of Professional Appraisal Practice (USPAP). The USPAP permit departures from some sections of the USPAP that are classified as specific guidelines. The USPAP places the burden of proof on the appraiser to decide before accepting an assignment which calls for something so limited as to mislead or confuse the client or other intended users of the report. The appraiser must advise the client that a Limited Appraisal may not be as reliable as a Complete Appraisal, and that the report will clearly identify and explain the departures. The client must agree that the performance of a Limited Appraisal would be appropriate.

I am satisfied that the Limited Appraisal I performed is not so limited as to mislead or confuse the client or other disclosed intended users of the report. I have indicated below those USPAP specific guidelines from which I have departed. I have prominently disclosed in the appraisal report that this is a Limited Appraisal and that I have not performed all of the items of the appraisal process for a Complete Appraisal, and that a Limited Appraisal may be less reliable than a Complete Appraisal.

INDICATE DEPARTURES AND EXPLAIN BELOW

☐ **Standard Rule 1-2 (a)** "adequately identify the real estate, identify the real property interest, consider the intended use of the appraisal, consider the extent of the data collection process, identify any special limiting conditions, and identify the effective date of the appraisal:"

☐ **Standard Rule 1-2 (b)** "define the value being considered: if the value to be estimated is market value, the appraiser must clearly indicate whether the estimate is the most probable price: (i) in terms of cash; or (ii) in terms of financial arrangements equivalent to cash; or (iii) in such other terms as may be precisely defined; if an estimate of value is based on sub market financing or financing with unusual conditions or incentives, the terms of such financing must be clearly set forth, their contributions to or negative influence on value must be described and estimated, and the market data supporting the valuation estimate must be described and explained:"

☒ **Standard Rule 1-2 (c)** "consider easements, restrictions, encumbrances, leases, reservations, covenants, contracts, declarations, special assessments, by-laws, or other items of a similar nature:"

☐ **Standard Rule 1-2 (d)** "consider whether an appraised fractional interest, physical segment, or partial holding contributes pro rata on the value of the whole:"

☐ **Standard Rule 1-2 (e)** "identify and consider the effect on value of any personal property, trade fixture or intangible items that are not real property but are included in the appraisal:"

☐ **Standard Rule 1-3 (a)** "consider the effect on use and the value of the following factors: existing land use regulations, reasonably probable modifications of such land use regulations, economic demand, the physical adaptability of the real estate, neighbourhood trends, and the highest and best use of the real estate:"

☐ **Standard Rule 1-3 (b)** "recognize that land is appraised as though vacant available for development to its highest and best use and that the appraisal of improvements is based on their actual contribution to the site:"

☐ **Standard Rule 1-4 (a)** "value the site by an appropriate appraisal method or technique:"

☐ **Standard Rule 1-4 (b)** "collect, verify, analyze, and reconcile: (i) such comparable cost data as are available to estimate the cost new of the improvements (if any); (ii) such comparable data as are available to estimate the difference between cost new and the present worth of the improvements (accrued depreciation); (iii) such comparable sales data, adequately identified and described, as are available to indicate a value conclusion; (iv) such comparable operating expenses data as are available to estimate the operating expenses of the property being appraised; (v) such comparable operating data as are available to estimate the operating expenses of the property being appraised; (vi) such comparable data as are available to estimate rates of capitalization and/or rates of discount."

☐ **Standard Rule 1-4 (c)** "base projections of future rent and expenses on reasonably clear and appropriate evidence:"

☐ **Standard Rule 1-4 (d)** "When estimating the value of a leased fee estate or a leasehold estate, consider and analyze the effect on value, if any, of the terms and conditions of the lease(s):"

☐ **Standard Rule 1-4 (e)** "consider and analyze the effect on value, if any, of the assemblage of the various estates or component parts of a property and refrain from estimating the value of the whole solely by adding together the individual values of the various estates or component parts:"

☐ **Standard Rule 1-4 (f)** "consider and analyze the effect on value, if any, of anticipated public or private improvements, located on or off the site, to the extent that market actions reflect such anticipated improvements as of the effective appraisal date:"

☐ **Standard Rule 1-4 (g)** "identify and consider the appropriate procedures and market information required to perform the appraisal, including all physical, functional, and external market factors as they may affect the appraisal:"

☐ **Standard Rule 1-4 (h)** "appraise proposed improvements only after examining and having available for future examination; (i) plans, specifications, or other documentation sufficient to identify the scope and character of the proposed improvements; (ii) evidence indicating the probable time of completion of the proposed improvements; and (iii) reasonable clear and appropriate evidence supporting development costs, anticipated earnings, occupancy projections, and the anticipated competition at the time of completion:"

☐ **Standard Rule 1-4 (I)** "all pertinent information in items (a) through (h) above shall be used in the development of an appraisal:"

Departure Explanations: SR 1-2(c) There were no apparent easements.

ADDENDUM

Borrower: TO ESTIMATE HYPOTHETICAL VALUE R4 ZONE		File No.: 20100914
Property Address: 65 AND PID 45059805 FORT EDWARD STREET		Case No.:
City: WINDSOR	Province: NS	Postal Code: B0N 2T0
Lender: TOWN OF WINDSOR		

Condition of the Improvements

The Land Registry indicates the Town of Windsor owns two parcels of land located adjacent to one another, identified by the Land Registry as PID 45059797 and PID 45059805.

PID 45059797

The property, identified by the Land Registry as PID 45059797, Registry of Deeds, Hants County, NS contains 28,600 Sq.Ft..

The property is located with road frontage on the west side of FORT EDWARD STREET and the east side of COBBETT STREET. The land is level with the roadway at FORT EDWARD STREET, sloping downward to COBBETT STREET.

The was not a Legal Description available to the appraiser. Lot size dimensions have been estimated utilizing the Land Registry sketches. The approximate distance between COBBETT AND FORT EDWARD STREETS is 118 feet, suggesting that the property offers an approximate 227 feet of road frontage.

The site is presently developed with the former, now abandoned WINDSOR OUT DOOR POOL. There is an L shaped concrete pool and an adjacent concrete pool house. The more northerly portion of the property is developed with an abandoned tennis court.

PID 45059805

This property, identified by the Land Registry as PID 45059805, Registry of Deeds, Hants County, NS contains 16,800 Sq.Ft..

The property is located with road frontage on the west side of FORT EDWARD STREET and the east side of COBBETT STREET. The land is level with the roadway at FORT EDWARD STREET , sloping downward to COBBETT STREET.

There was not a Legal Description available to the appraiser. Lot size dimensions have been estimated utilizing the Land Registry sketches. The approximate distance between COBBETT AND FORT EDWARD STREETS is 130 feet, suggesting that the property offers an approximate 130 feet of road frontage.

The site is presently developed with a flat gravel parking lot.

Although presently, Windsor-West Hants Planning Department confirms other zoning designations, the appraiser was advised that the subject property is to be analyzed as if it had achieved an R4 Residential Four zoning designation.

Permitted uses are included with in the addendum of this report.

Comments on Sales Comparison

The appraiser has analyzed three comparable sales considered to be similar to the subject property.

Every effort has been made to secure comparable sales that have occurred with in the recent three months preceding the effective date of this appraisal. Use of sales which have occurred beyond the optimum period will indicate that more recent sales were unavailable. The lack of more current sales does not mean that adverse neighbourhood conditions exist. By the expansion of the time frame, sales with the most similar characteristics and best indicators of value can be utilized.

Despite the careful selection of data, the heterogeneous nature of the real estate market dictates that cumulative adjustments may exceed ideal gross adjustments, especially when there have been a relatively low volume of recent sales to select from with in the subject and similar neighbourhoods.

Sources of market evidence includes the local real estate boards including the Annapolis Valley Real Estate Board as well as access to five other Real Estate Boards through out the province, realtors, and sellers and buyers active in the market place.

Final Reconciliation

HYPOTHETICAL MARKET VALUES

In conclusion the final estimate of value is determined to be $192,950.00 Residential 4 Lot 45,400 Sq.Ft..+/- , rounded to $195,000.00.

The value established is a Hypothetical Value. For purposes of this appraisal report, the appraiser has analysed the value of the subject property as if the zoning at the subject property were Residential Four. A different value conclusion might result but for this hypothesis.

The appraiser assumes that there are no adverse environment concerns at the subject property. The value established presumes that the site has been remediated and that the land is ready for R4 development.

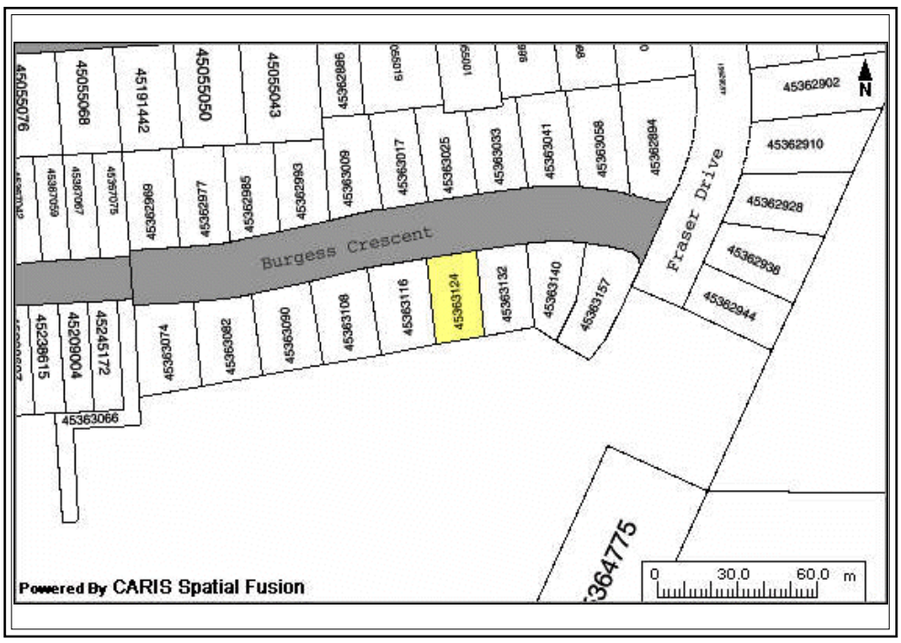
COMPARABLE PROPERTY PHOTO ADDENDUM

Borrower: TO ESTIMATE HYPOTHETICAL VALUE R4 ZONE		File No.: 20100914
Property Address: 65 AND PID 45059805 FORT EDWARD STREET		Case No.:
City: WINDSOR	Prov.: NS	P.C.: B0N 2T0
Lender: TOWN OF WINDSOR		



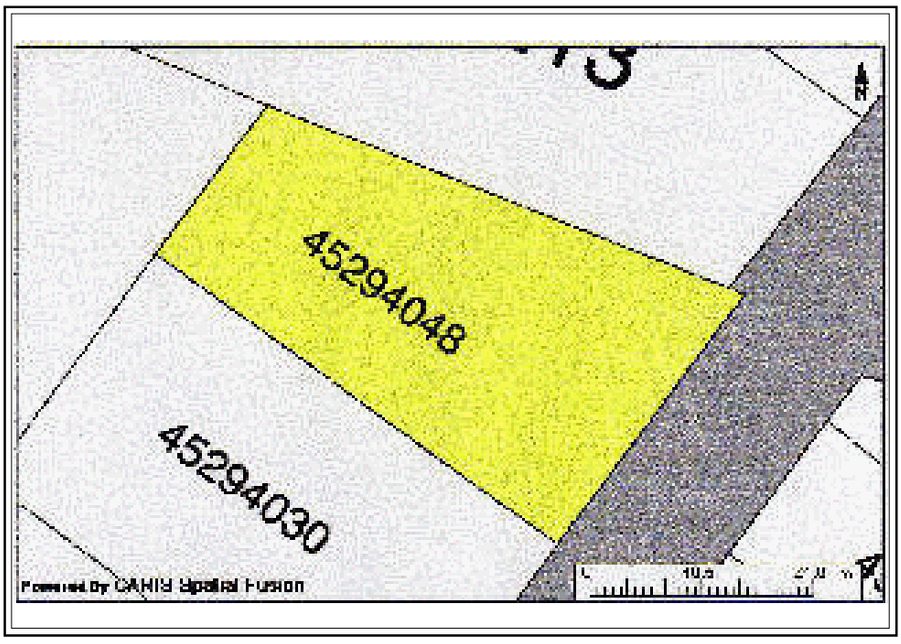
COMPARABLE SALE #1

Lot 211 FRASER DRIVE
WINDSOR, NS
Sale Date: 05/28/2009
Sale Price: $ 38,000



COMPARABLE SALE #2

LOT 207 BURGESS CRESCENT
WINDSOR, NS
Sale Date: 06/25/2010
Sale Price: $ 34,900



COMPARABLE SALE #3

1A GRAY STREET
WINDSOR, NS
Sale Date: 02/19/2008
Sale Price: $ 49,000

Borrower: TO ESTIMATE HYPOTHETICAL VALUE R4 ZONE		File No.: 20100914
Property Address: 65 AND PID 45059805 FORT EDWARD STREET		Case No.:
City: WINDSOR	Prov.: NS	P.C.: B0N 2T0
Lender: TOWN OF WINDSOR		



Tennis Court



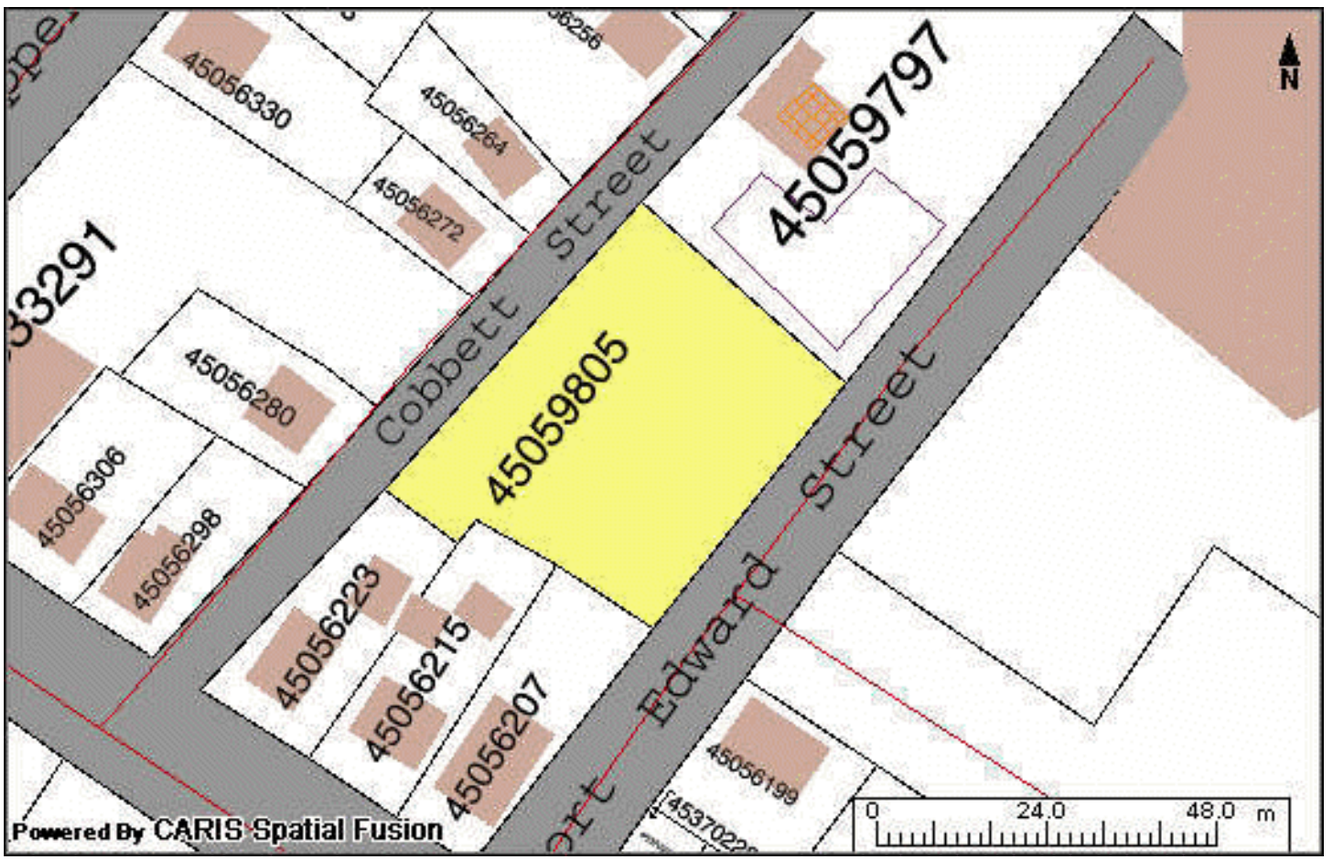
pool



View From Cobbett Street

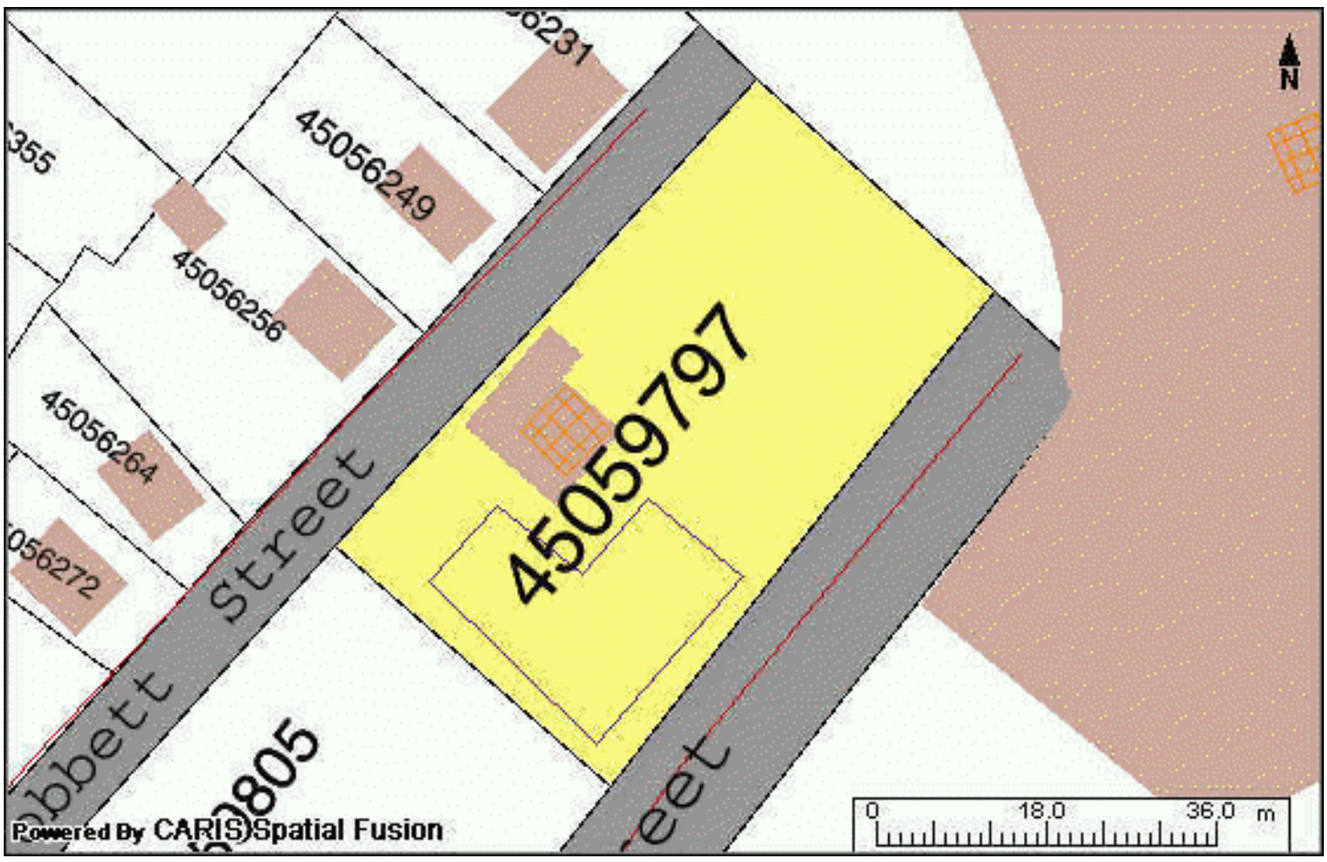
PLOT MAP

Borrower: TO ESTIMATE HYPOTHETICAL VALUE R4 ZONE		File No.: 20100914
Property Address: 65 AND PID 45059805 FORT EDWARD STREET		Case No.:
City: WINDSOR	Prov.: NS	P.C.: B0N 2T0
Lender: TOWN OF WINDSOR		

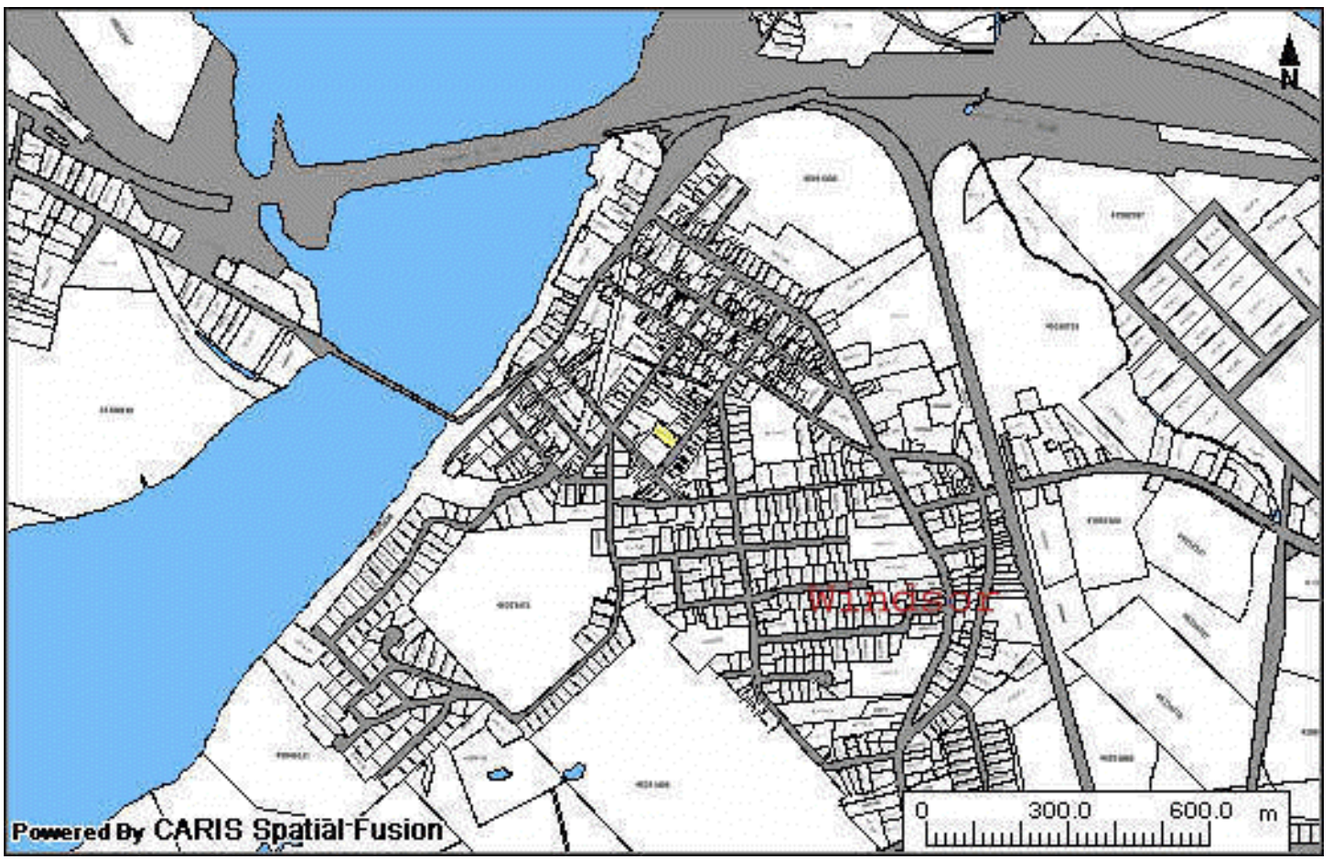


LOCATION MAP

Borrower: TO ESTIMATE HYPOTHETICAL VALUE R4 ZONE		File No.: 20100914
Property Address: 65 AND PID 45059805 FORT EDWARD STREET		Case No.:
City: WINDSOR	Prov.: NS	P.C.: B0N 2T0
Lender: TOWN OF WINDSOR		



Borrower: TO ESTIMATE HYPOTHETICAL VALUE R4 ZONE		File No.: 20100914
Property Address: 65 AND PID 45059805 FORT EDWARD STREET		Case No.:
City: WINDSOR	Prov.: NS	P.C.: B0N 2T0
Lender: TOWN OF WINDSOR		



11.0 HIGH DENSITY RESIDENTIAL (R-4)

Permitted Uses

11.1 The following uses shall be permitted in the High Density Residential (R-4) zone:

- Uses permitted in the R-1 zone subject to the R-1 zone requirements
- Uses permitted in the R-2 zone subject to the R-2 zone requirements
- Uses permitted in the R-3 zone subject to the R-3 zone requirements
- Boarding and rooming houses
- Dwellings with more than 6 units
- Grouped dwellings
- Residential care facilities providing care for 5 or fewer persons

R-4 Zone General Requirements

11.2 In the R-4 zone, no development permit shall be issued except in conformity with the following:

		Dwellings with more than 6 units, Boarding Houses, Residential Care Facilities	Grouped Dwellings
Minimum lot area		10,000 ft² (929.00 m²) for the first 4 dwelling units ***plus*** 1,500 ft² (139.35 m²) for each additional unit	3,000 ft² (278.70 m²) for each dwelling unit
Minimum lot frontage		100 ft (30.48 m)	100 ft (30.48 m)
Minimum front yard		35 ft (10.67 m)	
Minimum rear yard		35 ft (10.67 m)	
Minimum side yard	**one side**	15 ft (4.57 m) or ½ the height of the main building, whichever is greater	
	other side	5 ft (1.52 m)	
Maximum height of main building		3 storeys	
Maximum height of accessory building		15 ft (4.57 m)	

Landscaping

11.3 In the case of grouped dwellings and buildings with three or more units, outdoor parking and service areas shall be screened from the street and adjacent residential properties through the use of landscaping or opaque fencing.

Grouped Dwellings

11.4 In addition to the requirements of Section 11.2, the following special provisions shall apply to grouped dwellings:

(a) the minimum distance between grouped dwellings shall be 20 ft (6.10 m) or ½ the height of the higher of any two adjacent buildings, whichever is greater; and

(b) the maximum number of units in an attached grouped dwelling shall be eight.

Recreational Space

11.5 Recreational space shall be provided as required in Section 10.5.

Services Required

11.6 A development permit shall not be issued for a new dwelling of two or more units in the R-4 zone where the proposed development is not serviced with Town water and sewer.

Parking

11.7 Required parking may be provided on a lot other than the lot on which the use is located by development agreement subject to Policy 4.11.3 of the Municipal Planning Strategy.

WINDSOR / WEST HANTS TOGETHER

WEST HANTS REGIONAL MUNICIPALITY REPORT

Information ☒	Recommendation ☐	Decision Request ☒	Councillor Activity ☐

To: WHRM Committee of the Whole

Submitted by: Mark Phillips, Chief Administrative Officer

Date: May 11, 2021

Subject: Station Food Hub Ltd (Newport Station Investment Group Ltd)

LEGISLATIVE AUTHORITY

Municipal Government Act, Chapter 18 of the Acts of 1998

- Lease property owned by the municipality at market value - MGA 50 (5)(c)

INFORMATION / DECISION REQUEST

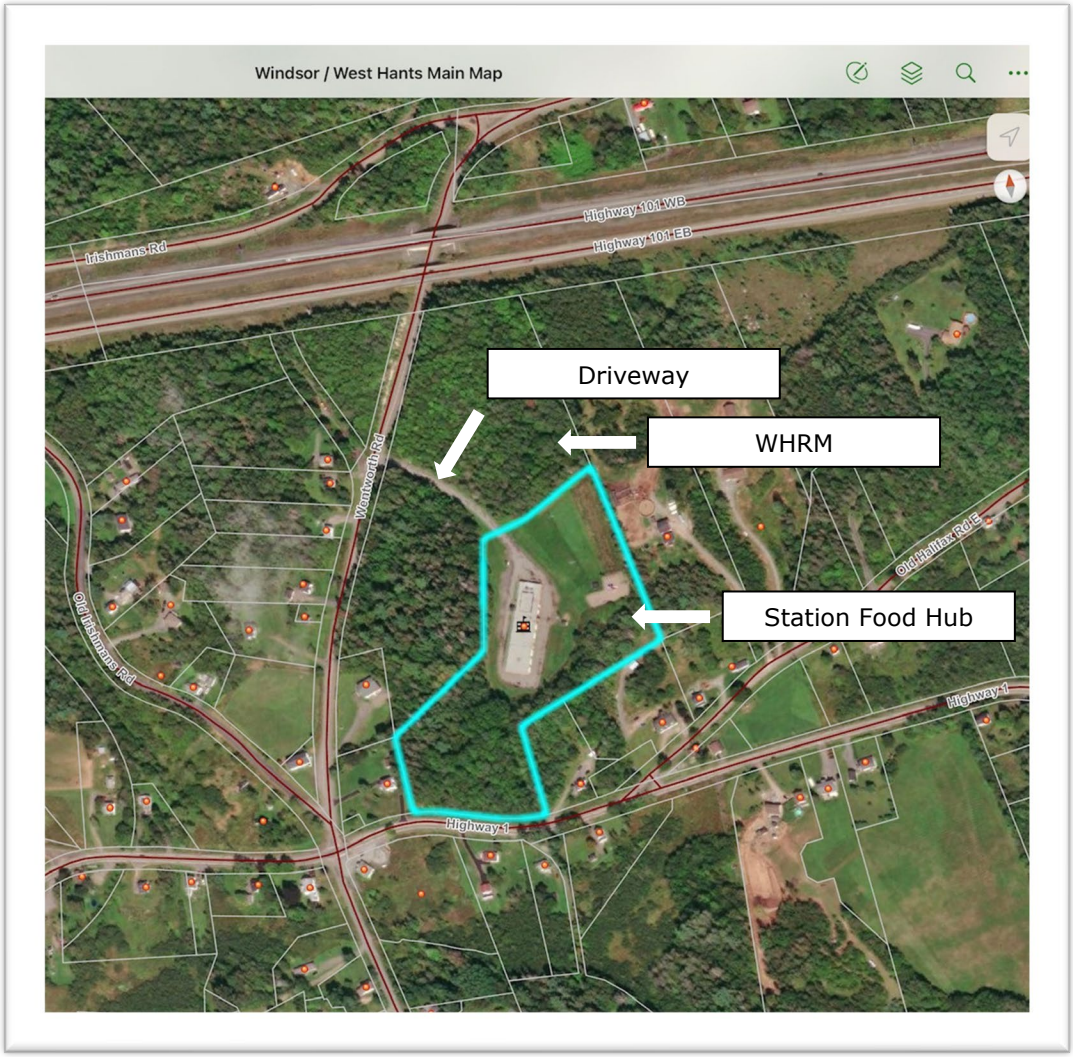
That Council discuss the requested upgrades to the driveway providing access to the Station Food Hub (SFH) across municipal during budget deliberations and further consider if Council would like to participate in the costs associated with the upgrades.

BACKGROUND

Property☒	Public Opinion☐	Environment☐	Social☐	Economic☒	Councillor Activity ☐

The former West Hants Municipality entered into an agreement with the SFH to provide access across Municipal lands to their property, the former Newport Station School in Newport Station on Wentworth Rd. (see attached agreement)

Property Information



DISCUSSION

The current agreement does not expire until July of 2022. Staff have discussed a new agreement with the SFH in advance of 2022 to provide a longer term of security and access to the property. A ten (10) year agreement has been discussed but not drafted for Council's approval yet. They do have the security through the current agreement and there is no known current or future conflict that would not allow them to continue to use the driveway into the future. There are no plans currently for the development of recreation or other municipal projects on municipal lands.

In discussing the new agreement with representatives, if they repaired the driveway, and we terminated the agreement (unlikely) what would happen to their investment? To-date I have suggested we would consider prorating or reimbursing them if we were to terminate the agreement in advance of the negotiated terms.

More recently SFH representatives have requested if the municipality would consider upgrading and resurfacing the driveway to support the increased economic activity at the former school site through the increased tenancy.

FINANCIAL IMPLICATIONS

- There are no financial impacts through the current agreement.
- A new agreement when drafted will note any implications when forwarded to Council for review.
- Driveway upgrades unknown currently (estimates will be obtained pending Council's direction)

ALTERNATIVES

1. Council would not discuss the upgrades at budget deliberations.

ATTACHMENTS

Station Food Hub Access Agreement – July 2017

CHIEF ADMINISTRATIVE OFFICER REVIEW

N/A – Report submitted by Chief Administrative Officer

Report Prepared by: 

Mark Phillips, Chief Administrative Officer

THIS LICENSE AGREEMENT dated July 28, 2017 is made between

MUNICIPALITY OF THE DISTRICT OF WEST HANTS, the "Licensor",

and

NEWPORT STATION INVESTMENT GROUP LIMITED , the "Licensee"

Recitals:

The Licensor owns the parcel of land at Wentworth Road, Newport Station, Hants County, Nova Scotia (currently having PID Number 45062270) and more particularly described in Schedule "A", the "Licensor's Lands".

1. The Licensee owns the parcel of land at Highway #1, Newport Station, Hants County, Nova Scotia (currently having PID Number 45403946) and more particularly described in Schedule "B", the "Licensee's Lands".

2. The driveway currently providing access to the Licensee's Lands from Wentworth Road crosses the Licensor's Lands (the "Driveway Access") and is identified as "asphalt driveway" shown on the attached plan at Schedule "C".

3. The Parties acknowledge and agree that the Driveway access is intended to provide temporary access to the Licencee's Lands for the term provided for in this Agreement or until such time as the Licensee establishes access to the Licensee's Lands to Highway #1.

4. The Licensor has agreed that the Licensee may use the Driveway Access to service the Licensee's Lands pursuant to the terms of this License Agreement.

License:

IN CONSIDERATION of One Dollar paid by the Licensee to the Licensor, receipt of which is acknowledged, and in further consideration of the mutual promises in this License Agreement, the parties agree as follows:

1. The Licensor licenses to the Licensee:

   a) the use the Driveway Access and for the Licensee to maintain the Driveway Access in the same or substantially the same condition it is in on the date of this License Agreement.

   b) use of the gate restricting access to the Driveway Access. In the event the Licensee wishes to change the lock on the gate, the Licensor shall permit such a change provided a key for access is provided to the Licensor.

2. Term of Agreement

   a) the term of this License Agreement shall be for five (5) years from the date of this License Agreement (the "Term") subject to paragraphs 2.b. and 2.c. below;

   b) should the Licensee still require the use of the Driveway Access after the expiry of the Term, the Licensor agrees to grant an extension following the Term (the "Extension") provided that:

      i. the Licensor has not commenced development of the Licensor's lands for municipal purposes at the expiry of the Term; and

      ii. the Licensor shall have the option to terminate this License Agreement at any time during the Extension should the Licensor commence development of the Licensor's Lands for municipal purposes, by providing the Licensee with one hundred eighty (180) days notice of the termination date.

      iii. should the Licensee establish access to the Licencee's Lands from Highway #1 during the currency of this Agreement, this License shall automatically terminate upon the Licensee establishing such access.

3. The Licensee covenants that:

   a) they shall maintain the Driveway Access in good repair in the same or substantially the same condition as existing as of the date of this Agreement; and

   b) they will indemnify and save harmless the Licensors in respect of any damage, injury, expense or loss, including but not limited to legal fees on a solicitor and client basis, resulting from the Licensee's use of the Driveway Access.

4. If the Licensee fails to perform any of their obligations under this License the Licensor may perform such work and the Licensee shall indemnify the Licensor from all costs of preforming such work.

5. The Licensee acknowledges that the Licensors own the Licensor's Lands and the Licensee disclaims any interest in the Licensor's Lands both now and during the period that this License is in effect. This disclaimer includes, but is not limited to, claims based on any or all of adverse possession (squatters' rights), prescription and lasting improvement made under the belief that the Licensee owned the Licensor's Lands upon which they made any improvement.

6. All notices required under this License may be given or sent by any means that affords proof of delivery.

7. This License is assignable by the Licensor or Licensee without the express consent of the other party provided any future assignee shall agree in writing to be bound by the terms of this agreement.

8. Subject to paragraph 7, this License shall be binding upon and enure to the benefit of the parties and their respective heirs, executors, administrators, tenants and permitted assigns.

9. Time is of the essence in this License.

10. This Agreement shall be governed, interpreted and enforced in accordance with the laws of the Province of Nova Scotia and the federal laws of Canada applicable therein and each party hereby irrevocably and unconditionally submits to the jurisdiction of the courts of the Province of Nova Scotia.

11. This Agreement, including the Schedules hereto, constitutes the entire agreement between the parties. There are no verbal statements, collateral agreements or representations, representations, warranties, undertakings or agreements between the parties except this agreement. This Agreement may not be amended or modified in any respect except by written instrument signed by the parties hereto.

12. This Agreement may be executed in any number of counterparts and signature pages may be delivered electronically, or by facsimile, each of which shall be deemed to be an original and all of which taken together shall be deemed to constitute one and the same instrument, and it shall not be necessary in making proof of this Agreement to produce or account for more than one such counterpart or to produce an originally executed counterpart.

IN WITNESS OF the parties have signed, sealed and delivered this License in the presence of:

Witness

John Di Costanzo
A Barrister and Solicitor of the
Supreme Court of Nova Scotia

Witness

Newport Station Investment Group Limited

Mohamed Ramadan, Secretary

MUNICIPALITY OF THE DISTRICT OF WEST HANTS

Per:

Per:

P:\MPC\Mun West Hants\Sale of Old Newport School\License Agreement Driveway Access.wpd

IN WITNESS OF the parties have signed, sealed and delivered this License in the presence of:

Newport Station Investment Group Limited

Witness

MUNICIPALITY OF THE DISTRICT OF WEST HANTS

Per:

Witness

MARC P. COMEAU
A Barrister of the Supreme
Court of Nova Scotia

Per:

P:\MPC\Mun West Hants\Sale of Old Newport School\License Agreement Driveway Access.wpd

PARCEL DESCRIPTION REPORT

Schedule "A"

2017-07-10 11:44:03

PID: 45062270
CURRENT STATUS: ACTIVE
EFFECTIVE DATE/TIME: 2017-07-04 12:32:08

ALL that certain piece and parcel of land situate at Newport Station, in the County of Hants in the Province of Nova Scotia, as shown on a plan by Paul Wendt, P.L.S., dated May 15th, 1963, more particularly described as follows:

BEGINNING at an iron pin set on the northern line of Provincial Highway No. 1 leading to Windsor and at the southeastern corner of a property owned by Mrs. Thomas Thompson;

THENCE following the northern line of said Highway No. 1 easterly 395' (three hundred and ninety-five feet) more or less to an iron pin being at the south western corner of a lot owned by Cyril Dicks;

THENCE following the western line of Cyril Dick's property, North 12 degrees 11 minutes East (twelve degrees eleven minutes) 282.3' (two hundred and eighty-two decimal three feet) to an iron pin;

THENCE following the northern line of said Cyril Dick's property along a fence, North 87 degrees 06 minutes East (eighty-seven degrees zero six minutes) 483.7' (four hundred and eighty-three decimal seven feet) to an iron pin;

THENCE along a fence, North 7 degrees 32 minutes East (seven degrees thirty-two minutes) 1615' (one thousand six hundred and fifteen feet) more or less to a corner tree being at the southern line of a public road leading to Sweet's Corner;

THENCE following the various courses of the southern and eastern line of the said public road, westerly and southerly a total distance of 2200' (two thousand two hundred feet) more or less to an iron pin at the north western corner of said Mrs. Thomas Thompson's lot;

THENCE following the northern line of said Mrs. Thomas Thompson's lot, South 89 degrees 00 minutes East (eighty-nine degrees zero zero minutes) 187.6' (one hundred and eighty-seven decimal six feet) to an iron pin;

THENCE following the eastern line of said Mrs. Thomas Thompson's lot, South 16 degrees 54 minutes West (sixteen degrees fifty-four minutes) 227' (two hundred and twenty-seven feet) to the point of beginning.

All bearings are magnetic 1963.

EXCEPTIONS:

SAVING AND EXCEPTING therefrom the existing School site conveyed to the Trustees of the Newport Station Community church Hall, Section 49 School, in Book 245 at page 563 and recorded in the Hants County Land Registration Office on November 6, 1964 as document 634.

SAVING AND EXCEPTING Highway 101.

SAVING AND EXCEPTING all the lands North of the 101 Highway.

SAVING AND EXCEPTING all the lands west of the Wentworth Road.

SAVING AND EXCEPTING that portion of the Wentworth Road conveyed to Her Majesty the Queen in Book 285 at Page 166, recorded in the Hants County Land Registration Office on February 17, 1971 as Document 50.

SAVING and EXCEPTING LOT A as shown on registsred Plan No. 110721421 at the Land Registration Office for Hants County.

PARCEL DESCRIPTION REPORT

Schedule "A"

2017-07-10 11:44:03

PID: 45062270
CURRENT STATUS: ACTIVE
EFFECTIVE DATE/TIME: 2017-07-04 12:32:08

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SAVING AND EXCEPTING all the lands west of the Wentworth Road.

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SAVING and EXCEPTING LOT A as shown on registsred Plan No. 110721421 at the Land Registration Office for Hants County.

PARCEL DESCRIPTION REPORT

2017-07-10 11:44:03

SUBJECT TO the granted easement/right of way (burden) created by the instrument recorded in the Land Registration Office for Hants County, Nova Scotia as Document 110921724 on June 15, 2017.

*** Municipal Government Act, Part IX Compliance ***

Compliance:

The parcel is created by a subdivision (details below) that has been filed under the Registry Act or registered under the Land Registration Act
Registration District: HANTS COUNTY
Registration Year: 2017
Plan or Document Number: 110721421

The MGA compliance statement has been applied by SNSMR during the processing of Land Registration Plan.

External Comments:

Description Change Details:

Reason:
Author of New or Changed Description:

Name:

Registered Instruments:

Comments:

PARCEL DESCRIPTION REPORT

Schedule "B"

2017-07-10 11:44:18

PID: 45403946
CURRENT STATUS: ACTIVE
EFFECTIVE DATE/TIME: 2017-07-04 12:32:13

Registration County: HANTS COUNTY
Street/Place Name: WENTWORTH ROAD /NEWPORT STATION
Title of Plan: PLAN OF S/D OF LANDS OF MUNICIPALITY OF THE DISTRICT OF WEST HANTS TO CREATE LOT A
Designation of Parcel on Plan: LOT A
Registration Number of Plan: 110721421
Registration Date of Plan: 2017-05-09 09:34:18

SUBJECT TO the granted easement/right of way (burden) created by the instrument recorded in the Land Registration Office for Hants County, Nova Scotia as Document 110921724 on June 15, 2017.

*** Municipal Government Act, Part IX Compliance ***

Compliance:

The parcel is created by a subdivision (details below) that has been filed under the Registry Act or registered under the Land Registration Act
Registration District: HANTS COUNTY
Registration Year: 2017
Plan or Document Number: 110721421

External Comments:

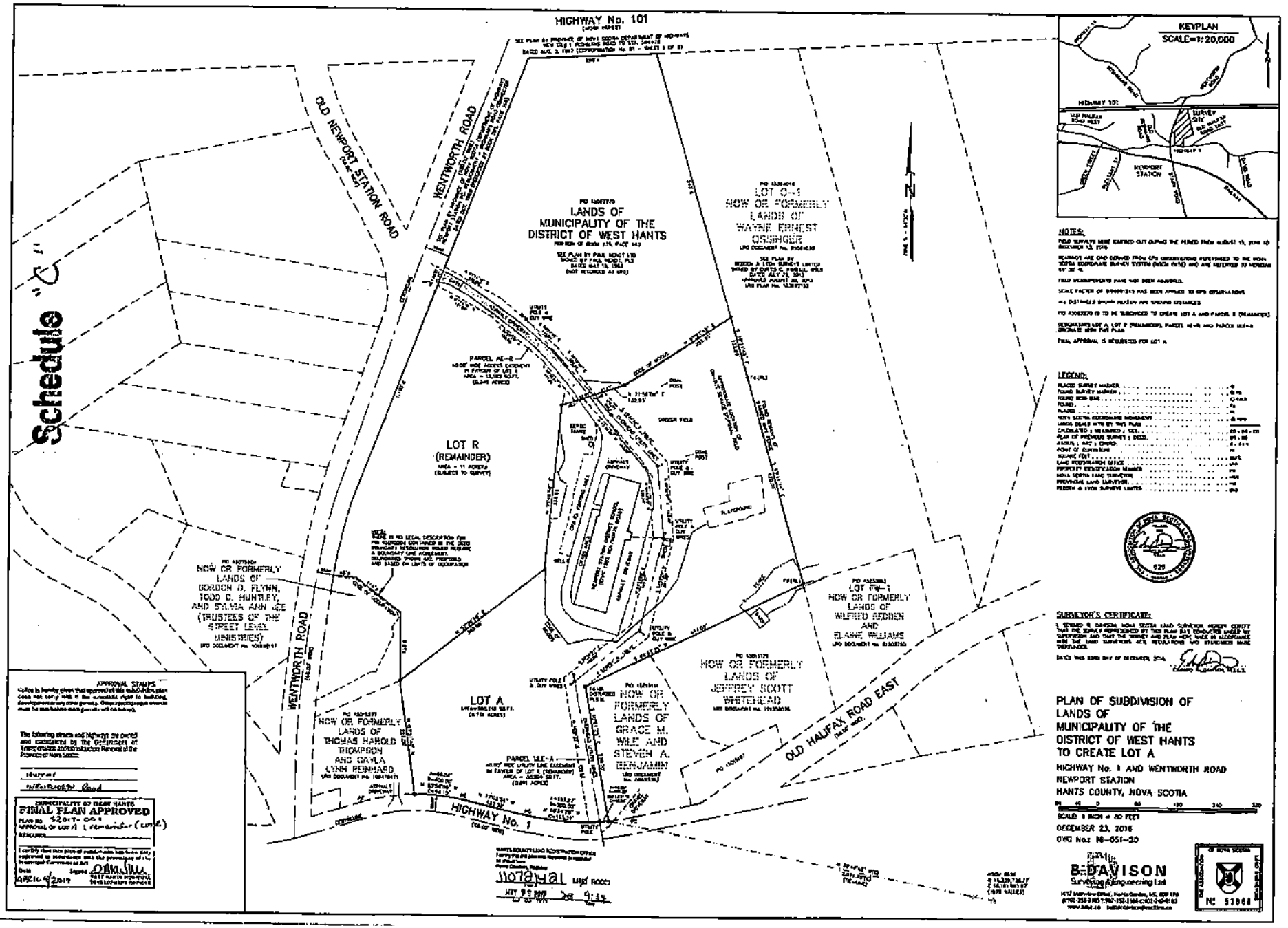
Description Change Details:

Reason:
Author of New or
Changed Description:

Name:

Registered Instruments:

Comments:



KEYPLAN
SCALE=1: 20,000

NOTES:

FIELD SURVEYS WERE CARRIED OUT DURING THE PERIOD FROM AUGUST 15, 2016 TO DECEMBER 12, 2016.

BEARINGS ARE GRID DERIVED FROM GPS OBSERVATIONS REFERENCED TO THE NOVA SCOTIA COORDINATE SURVEY SYSTEM (NSCS 1976) AND ARE REFERRED TO MERIDIAN 64° 30' W.

FIELD MEASUREMENTS HAVE NOT BEEN ADJUSTED.

SCALE FACTOR OF 0.99991243 HAS BEEN APPLIED TO GPS OBSERVATIONS.

ALL DISTANCES SHOWN HEREON ARE GROUND DISTANCES.

PID 45063270 IS TO BE SUBDIVIDED TO CREATE LOT A AND PARCEL R (REMAINDER).

CONSOLIDATION OF LOT R (REMAINDER), PARCEL AE-R AND PARCEL LUE-A ORIGINATE VIEW PID PLAN.

FINAL APPROVAL IS REQUESTED FOR LOT A.

LEGEND:

PLACED SURVEY MARKER	●
FOUND SURVEY MARKER	● PE
FOUND IRON BAR	○ I.B.
FOUND	○ F
PLACED	● P
NOVA SCOTIA COORDINATE MONUMENT	▲ MON
LANDS DEALT WITH BY THIS PLAN	
CALCULATED (MEASURED) 123...	(C) (M) 123
PLAN OF PREVIOUS SURVEY (DEED)	(P) (D)
BEARING (ARC) CHORD	(B) (A) (CH)
POINT OF COMMENCE	POC
SQUARE FEET	SQ.FT.
LAND REGISTRATION OFFICE	LRO
PROPERTY IDENTIFICATION NUMBER	PID
NOVA SCOTIA LAND SURVEYOR	NSLS
PROVINCIAL LAND SURVEYOR	PLS
FIELDEW & RYAN SURVEYS LIMITED	(FR)

SURVEYOR'S CERTIFICATE:

I, EDWARD A. DAVISON, NOVA SCOTIA LAND SURVEYOR HEREBY CERTIFY THAT THE SURVEY REPRESENTED BY THIS PLAN WAS CONDUCTED UNDER MY SUPERVISION AND THAT THE SURVEY AND PLAN WERE MADE IN ACCORDANCE WITH THE LAND SURVEYORS ACT, REGULATIONS AND STANDARDS MADE THEREUNDER.

DATED THIS 23RD DAY OF DECEMBER, 2016.

PLAN OF SUBDIVISION OF LANDS OF MUNICIPALITY OF THE DISTRICT OF WEST HANTS TO CREATE LOT A

HIGHWAY No. 1 AND WENTWORTH ROAD
NEWPORT STATION
HANTS COUNTY, NOVA SCOTIA

SCALE: 1 INCH = 80 FEET
DECEMBER 23, 2016
DWG No.: 16-051-20

E.A. DAVISON
Surveying & Engineering Ltd
1412 Innovation Drive, Hants Garden, NS, B2H 5T9
(902) 252-3451 (902) 252-3466 (902) 240-0180
www.davison.ca

NS 51864

APPROVAL STAMPS

Notice is hereby given that approval of this subdivision plan does not carry with it the automatic right to building, development or any other permits. Other jurisdictional requirements must be met before such permits will be issued.

The following roads and highways are owned and maintained by the Department of Transportation and Infrastructure Renewal of the Province of Nova Scotia:

Highway 1
Wentworth Road

MUNICIPALITY OF HANTS
FINAL PLAN APPROVED
PLAN ID: 52017-004
APPROVAL OF LOT A (remainder (LOT E))
REMARKS:
I certify that this plan of subdivision has been duly approved by resolution and the provisions of the Municipal Planning Strategy and Land Use By-law.
Date: April 4/2017
Signed: [signature]
WEST HANTS REGIONAL DEVELOPMENT SERVICES

Registered
MAY 23 2017
at 9:54

WINDSOR / WEST HANTS TOGETHER

WEST HANTS REGIONAL MUNICIPALITY REPORT

Information ☐	Recommendation ☐	Decision Request ☐	Councillor Activity ☐

To: **Committee of the Whole Members of West Hants Regional Municipality**

Submitted by: **Abraham Zebian, Mayor**

Date: May 11, 2021

Subject: **Avon River Causeway**

LEGISLATIVE AUTHORITY

N/A

RECOMMENDATION or DECISION REQUEST

…that Council send a letter to The Minister of Fisheries, Oceans and the Canadian Coast Guard, The Honourable Bernadette Jordan, speaking on behalf of the impacted residents of the West Hants Regional Municipality, requesting that the Ministerial Order issued this spring set to expire on May 18, 2021 not be renewed.

Further

Noting that the discontinuation of the Ministerial Order will permit the operation of the Avon River Causeway gates in Windsor to resume in the same manner it has since its construction in 1970, aimed to protect the community of Windsor and other areas of the West Hants Regional Municipality from the negative impacts of the loss of a reliable back up water supply for fire fighting purposes, social/economic impacts, environmental/health impacts, potential loss of business, and the potential loss of tax revenue from decreased assessments.

Further

This request is in keeping with the authority the Minister may exercise as stated in the Federal Fisheries Act, specifically referenced in section 2.5 articles (e) and (g) and section 34.1(1) article (h);

> **2.5** Except as otherwise provided in this Act, when making a decision under this Act, the Minister may consider, among other things,
>
> **(e)** community knowledge;

(g) social, economic and cultural factors in the management of fisheries;

34.1 (1) Before recommending to the Governor in Council that a regulation be made in respect of section 34.4, 35 or 35.1 or under subsection 35.2(10), 36(5) or (5.1), paragraph 43(1)(b.2) or subsection 43(5) or before exercising any power under subsection 34.3(2), (3) or (7), paragraph 34.4(2)(b) or (c), subsection 34.4(4), paragraph 35(2)(b) or (c) or subsection 35(4), 35.1(3), 35.2(7) or 36(5.2), or under subsection 37(2) with regard to an offence under subsection 40(1), the Minister, prescribed person or prescribed entity, as the case may be, shall consider the following factors:

(h) any other factor that the Minister considers relevant.

BACKGROUND

Property☐	Public Opinion☐	Environment☐	Social☐	Economic☐	Councillor Activity ☐

The operation of the existing gate system and causeway issue is well documented, and the background is known to the whole of Council. The operation of the gate has been consistent over its life span providing many benefits to our community that have been adopted and relied upon. Its shaped our recreation, culture, economy, agricultural community, ecosystems, development, and way of life. To be clear, this report is specific to the current operations of the current gate system and not a form of advocacy towards the scheduled causeway construction project.

DISCUSSION

There are valid concerns from many areas and sectors within our community as it relates the abrupt Ministerial Order issued by Minister Jordan this spring which adversely impacted the water levels within Lake Pisiquid and the Avon River System. The water is essentially gone. Many of these impacts have been raised in the past and are being brought forward by impacted residents and the business community members in unprecedented numbers through correspondence to Council and community feedback.

There are many variables associated with the operation of the gate system. The outcomes from its operation are felt within our community. This Council to-date, through its actions, has requested compromise and sought solutions that satisfied as many residents and points of view as possible. I believe we still seek that same outcome with the current gate operation as well as the larger causeway construction project.

However, the Minister's order lacks compromise and has created a significant imbalance towards the impacted environment and the community. It is my opinion that the following concerns have not been considered by the Minister.

1. Environmental: accelerated erosion, vegetation loss similar to what occurred in Hantsport, NS, ecosystem damage, fish kills, and siltation build up.
2. Social Impacts: Recreation, mental health, sandstorms due to exposed lake and river bottoms.
3. Business/Development loss: Ski Martock, impacts to downtown business and the agriculture community.
4. Safety: loss of predictable, reliable secondary water source for fire fighting activities and the exposure of abandoned concrete and steel road and rail infrastructure due to lowered or no lake water.
5. Financial: Unpredictable affects to the residential tax assessment and collection, and loss of business potential.

These concerns were not considered before issuing the order and remain outstanding despite the Community's efforts, as well as the efforts of this Council, to understand the Minister's decision-making process. In-turn there appears to be a lack of consideration by the Minister to exercise the authority granted to her as per the articles of the Fisheries Act as noted above, providing her with the opportunity to find a compromising solution to the issue she has caused and the division in the community her order has caused.

NEXT STEPS

Should this recommendation move forward, I will call a special Council meeting proceeding the May 11th Committee of the Whole (COTW) to address this motion and to have the letter sent immediately.

FINANCIAL IMPLICATIONS

There are no financial implications with the proposed recommendation.

ALTERNATIVES

Council could choose to not support the recommendation.

Council may make another recommendation.

ATTACHMENTS

None.

CHIEF ADMINISTRATIVE OFFICER REVIEW

The issues raised in this report can be observed in the community firsthand as well as through the media and communications to Council. It is important to recognize the report is highlighting the operation of the current gate system and not the large pending causeway construction project. Council's inherent position has been to find a compromising solution to this matter as with many matters facing Council. DFO legislation allows the Minister to weigh many factors when making a decision that impacts a community; the Mayor has highlighted what he feels are issues that have not been considered. Pending Council's decision, I will support and carry out their direction.

Report Prepared by: Abraham Zebian, Mayor

Report Reviewed by: 

Mark Phillips, Chief Administrative Officer