

# Certificate of Property Use - DRAFT

Environmental Protection Act, R.S.O. 1990, c.E.19, section s.168.6 (CPU) and 197 (Order)

Certificate of property use number: 0064-BECNM9  
Risk assessment number: 3072-9HKL3A

Owner: (Owner)

The Corporation of the City of Brantford

100 Wellington Square  
Brantford, ON  
N3T 5R7

Site: (Property)

347 Greenwich Street, City of Brantford

**With a Legal Description of:**

**Part of Glebe Lot Brantford City; Part of Lot 2 Eagles Nest Tract Brantford City being designated as Parts 1, 2, 3 & 4 on Plan 2R2974; also designated as Part 3 on Plan 2R-8363; Brantford City**

**Being All of PIN: 32102-0013 (LT)**

**The conditions of this Certificate of Property Use (CPU) address the Risk Management Measures in the Risk Assessment noted above and described in detail in Part 1 below (Risk Assessment). In the event of a conflict between the CPU and the Risk Assessment, the conditions of the CPU take precedence.**

**Summary:**

*Refer to Part 1 of the CPU, Interpretation, for the meaning of all the defined capitalized terms that apply to the CPU.*

Risk Management Measures (RMMs) that are required to be implemented are found in Part 4 of the CPU, Director Requirements. Key RMMs specified in Part 4 include, but are not limited to:

- Installing, inspecting and maintaining hard cap and fill cap barriers on the Property as per Sections 4.2(a) and 4.2(e) of this CPU;
- Inspecting and maintaining the existing hard cap and fill cap barriers on the Property in the area identified as the Museum Area in Schedule 'A': Figure 5 Location of Guardhouse/Gate House and Museum Building Area (Figure 5) which is attached to and forms part of this CPU, as per Section 4.3 (ii) of this CPU;
- Prohibiting the construction of any Building(s) on the Property unless a soil vapour intrusion assessment is completed and or the new Building(s) is constructed with a vapour mitigation system as per Section 4.2 (f) of this CPU;

- Implementing a Groundwater Control and Management Plan in the event that any new Building(s) constructed on the Property are constructed where the basement and or building foundation intersects the water table as per Section 4.2 (q) of this CPU;
- Implementing a Groundwater Monitoring Program on the Property as per Section 4.2 (r) of this CPU;
- Implementing a soil and groundwater management plan during any intrusive activities undertaken on the Property potentially in contact with COCs in soil and groundwater that have been identified in the RA at concentrations that exceed either the Applicable Site Condition Standards for groundwater or the Target Capping Soil/Alternative Target Capping Soil Concentrations (as determined by a Qualified Person) specified in Table 2A or Table 3A and or residual Nonaqueous Phase Liquid (NAPL) has been observed as per Section 4.2 (s) of this CPU;
- Implementing a Health and Safety Plan during any intrusive activities undertaken on the Property potentially in contact with COCs in soil and groundwater that have been identified in the RA at concentrations that exceed either the Applicable Site Condition Standards for groundwater or the Target Capping Soil/Alternative Target Capping Soil Concentrations (as determined by a Qualified Person) specified in Table 2A or Table 3A or residual NAPL as per Section 4.2 (t) of this CPU;
- Appropriately construct and seal any new utility corridors installed on the Property as per Section 4.2 (u) of this CPU;
- Prohibiting the Residential or Institutional Use of the existing Buildings that house Canadian Military Heritage Museum as identified in Figure 5 as per Section 4.3 (i) of this CPU;
- Prohibiting the use of the remaining Guardhouse/Gatehouse as identified in Figure 5 as per Section 4.3 (iii) of this CPU;
- Prohibiting the construction of Building(s) that include a basement or occupied below-grade structures in areas in which Nonaqueous Phase Liquid (NAPL) has been identified on the Property as per Section 4.4 of this CPU;
- Maintaining the integrity of the *waterloo barrier* and the *concrete barrier wall* that have been installed on the Property as identified in Schedule ‘A’: Figure 6 –Property Restrictions (Figure 6), which is attached to and forms part of this CPU, as per Section 4.5 of this CPU;
- Prohibiting the planting of fruit and vegetables for consumption, other than those planted in above ground containers such that they are isolated from the subsurface conditions as per Section 4.6 of this CPU; and,
- Registering a certificate on the Property title in accordance with Section 197 of the Environmental Protection Act and that before dealing with the Property in any way a copy of the CPU is to be given to any person who will acquire an interest in the Property as per Sections 4.10 and 4.11 of this CPU.

## **Part 1: Interpretation**

In the CPU the following terms shall have the meanings described below:

“Adverse Effect” has the same meaning as in the Act; namely,

- (a) impairment of the quality of the natural environment for any use that can be made of it,
- (b) injury or damage to property or to plant or animal life,
- (c) harm or material discomfort to any person,
- (d) an adverse effect on the health of any person,
- (e) impairment of the safety of any person,
- (f) rendering any property or plant or animal life unfit for human use,
- (g) loss of enjoyment of normal use of property, and
- (h) interference with the normal conduct of business;

“Act” means the Environmental Protection Act, R.S.O. 1990, c. E. 19, as amended;

“Applicable Site Condition Standards” means soil or groundwater that meets the soil or groundwater criteria identified in:

- **Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Groundwater Condition for Residential/Parkland/Institutional Use (coarse textured soils)** of the Soil, Ground water and Sediment Standards for Use under Part XV.1 of the Act published by the Ministry and dated April 15, 2011 for the area of the Property that is located greater than 30 from the Mohawk Canal as identified in Figure 1B; and ,
- **Table 9: Generic Site Condition Standards for Use within 30m of a Water Body in a Non-Potable Groundwater Condition (coarse textures soils)** of the Soil, Ground water and Sediment Standards for Use under Part XV.1 of the Act published by the Ministry and dated April 15, 2011 for the area of the Property that is located within 30 m of the Mohawk Canal as identified in Figure 1B;

“Building (s)” means an enclosed structure(s) occupying an area greater than ten square metres consisting of a wall or walls, roof and floor;

“Building Code” means Ontario Regulation 332/12 (“Building Code”) as amended to January 1, 2015, made under the Building Code Act, 1992, S.O. 1992, c. 23.

“Capping Soil” mean:

- Unimpacted Soil;
- Soil that meets the Target Capping Soil or Alternative Target Capping Soil concentrations identified in Schedule ‘A’, Table 2A: Target Capping Soil Concentrations Residential/Parkland/Institutional (Table 2A) which is attached to and forms part of this CPU; or,
- Soil that meets the Target Capping Soil or Alternative Target Capping Soil Concentrations identified in Schedule ‘A’, Table 3A: Target Capping Soil Concentrations Commercial/Community/Industrial (Table 3A) which is attached to and forms part of this CPU.

“Competent Person” has the same meaning as set out in the Occupational Health and Safety Act R.S.O. 1990, c.O.1, as amended;

“Contaminant” has the same meaning as in the Act; namely any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of any of them, resulting directly or indirectly from human activities that may cause an Adverse Effect;

“Contaminant of Concern” and “COC” has the meaning as set out in Section 3.2 of the CPU;

“CPU” means this Certificate of Property Use Number No. **0064-BECNM9** as may be amended from time to time;

"Director" means the undersigned Director or any other person appointed as a Director for the purpose of issuing a certificate of property use;

“EBR” means the Environmental Bill of Rights, 1993, .S.O. 1993, c.28, as amended;

“Environmental Compliance Approval” has the same meaning as set out in the Act;

“Fill Material” means loose, granular material from an Ontario Ministry of Natural Resources (MNR)-licensed quarry or other non-soil material or commercial products such as compost bark chips, concrete, unshrinkable fill, crushed concrete, concrete-based materials or equivalent;

“Licensed Professional Engineer” means a person who holds a licence, limited licence or temporary licence under the Professional Engineers Act, R.R.O. 1990, c.P.28, as amended;

“Ministry” means the ministry of the government of Ontario responsible for the administration of the Act, currently named the Ministry of the Environment, Conservation and Parks;

“OHSA” means the Occupational Health and Safety Act, R.S.O. 1990, c.O.1, as amended from time to time;

“O.Reg. 153/04” means Ontario Regulation 153/04 (Record of Site Condition – Part XV.1 of the Act), as amended, made under the Act;

“Owner” and “Property Owner” means the **The Corporation of the City of Brantford**, the current Owner of the Property, and any subsequent Property Owner(s);

"OWRA" means the Ontario Water Resources Act, R.S.O. 1990, c.O.40, as amended;

“Property” means the property that is the subject of the CPU and described in the “Property” section on page 1, above, and illustrated in Figure 1 of Schedule ‘A’ which is attached to and form part of this CPU;

“Property Specific Standards” and “PSS” means the property specific standards established for the Contaminants of Concern set out in the Risk Assessment and in Section 3.2 of this CPU;

"Provincial Officer" means a person who is designated as a provincial officer for the purposes of the Act;

“Qualified Person” means a person who meets the qualifications prescribed in O. Reg. 153/04;

"Risk Assessment" and “RA” means the Risk Assessment No. **3072-9HKL3A** accepted by the Director on **May 24 2019**, and set out in the following final documents:

- **Risk Assessment: 347 Greenwich Street, Brantford, Ontario, Volume 1 and Volume 2. Prepared by CH2M Hill Canada Limited, dated September 29, 2017;**
- **Revised Risk Assessment: 347 Greenwich Street, Brantford, Ontario, Volume 1 & Volume 2. Prepared by CH2M Hill Canada Limited, dated March 28, 2018;**
- **Addendum Risk Assessment: 347 Greenwich Street, Brantford, Ontario, report prepared by CH2M Hill Canada Limited dated, September 27, 2018;**
- **Email Re: Addenda #2 to report entitled Revised Risk Assessment Report, 347 Greenwich Street, Brantford, Ontario, dated March 28, 2018 (RA: 3072-9HKL3A; TASDB file number: RA1380-14b), email from Krista Barfoot, Jacobs, received by TASDB on March 6, 2019, with the following document attached:**
  - *\_347Grn\_ErrataLtr\_06March2019; and,*
- **Risk Assessment Report: 347 Greenwich Street, Brantford, Ontario. Prepared by CH2M Hill Canada Ltd., dated March 6, 2019.**

“Risk Management Measures” and “RMMs” means the risk management measures specific to the Property described in the Risk Assessment and/or Part 4 of the CPU;

“Tribunal” has the same meaning as in the Act; namely, the Environmental Review Tribunal;

“Unimpacted Soil” means soil that meets the Applicable Site Condition Standards;

## **Part 2: Legal Authority**

- 2.1 Section 19 of the Act states that a certificate of property use is binding on the executor, administrator, administrator with the will annexed, guardian of property or attorney for property of the person to whom it was directed, and on any other successor or assignee of the person to whom it was directed.
- 2.2 Subsection 132(1.1) of the Act states that the Director may include in a certificate of property use a requirement that the person to whom the certificate is issued provide financial assurance to the Crown in right of Ontario for any one or more of,
- a. the performance of any action specified in the certificate of property use;
  - b. the provision of alternate water supplies to replace those that the Director has reasonable and probable grounds to believe are or are likely to be contaminated or otherwise interfered with by a contaminant on, in or under the property to which the certificate of property use relates; and
  - c. measures appropriate to prevent adverse effects in respect of the property to which the certificate of property use relates.
- 2.3 Subsection 168.6 (1) of the Act states that if the Director accepts a risk assessment relating to a property, he or she may, when giving notice under clause 168.5 (1)(a), issue a certificate of property use to the owner of the property, requiring the owner to do any of the following things:
1. Take any action specified in the certificate that, in the Director's opinion, is necessary to prevent, eliminate or ameliorate any adverse effect on the property, including installing any equipment, monitoring any contaminant or recording or reporting information for that purpose.
  2. Refrain from using the property for any use specified in the certificate or from constructing any building specified in the certificate on the property.
- 2.4 Subsection 168.6(2) of the Act states that a certificate of property use shall not require an owner of the property to take any action that would have the effect of reducing the concentration of a contaminant on, in or under the property to a level below the level that is required to meet the standards specified for the contaminant in the risk assessment.
- 2.5 Subsection 168.6(3) of the Act states that the Director may, on his or her own initiative or on application by the owner of the property in respect of which a certificate has been issued under subsection 168.6(1),
- a. alter any terms and conditions in the certificate or impose new terms and conditions; or
  - b. revoke the certificate.
- 2.6 Subsection 168.6(4) of the Act states that if a certificate of property use contains a provision requiring the owner of the property to refrain from using the property for a specified use or from constructing a specified building on the property,
- a. the owner of the property shall ensure that a copy of the provision is given to every occupant of the property;
  - b. the provision applies, with necessary modifications, to every occupant of the property who receives a copy of the provision; and
  - c. the owner of the property shall ensure that every occupant of the property complies with the provision.
- 2.7 Subsection 196(1) of the Act states that the authority to make an order under the Act includes the authority to require the person or body to whom the order is directed to take such intermediate action or such procedural steps or both as are related to the action required or prohibited by the order and as are specified in the order.
- 2.8 Subsection 197(1) of the Act states that a person who has authority under the Act to make an order or decision affecting real property also has authority to make an order requiring any person with an interest in the property, before dealing with the property in any way, to give a copy of the order or decision affecting the property to every person who will acquire an interest in the property as a result of the dealing.

- 2.9 Subsection 197(2) of the Act states that a certificate setting out a requirement imposed under subsection 197(1) may be registered in the proper land registry office on the title of the real property to which the requirement relates, if the certificate is in a form approved by the Minister, is signed or authorized by a person who has authority to make orders imposing requirements under subsection 197(1) and is accompanied by a registrable description of the property.
- 2.10 Subsection 197(3) of the Act states that a requirement, imposed under subsection 197(1) that is set out in a certificate registered under subsection 197(2) is, from the time of registration, deemed to be directed to each person who subsequently acquires an interest in the real property.
- 2.11 Subsection 197(4) of the Act states that a dealing with real property by a person who is subject to a requirement imposed under subsection 197(1) or 197(3) is voidable at the instance of a person who was not given the copy of the order or decision in accordance with the requirement.

### **Part 3: Background**

- 3.1 The Risk Assessment (RA) was undertaken for the Property to establish the risks that the Contaminants identified in the Risk Assessment may pose to future users and to identify appropriate Risk Management Measures to be implemented to ensure that the Property is suitable for the following intended uses: **residential, parkland, institutional, commercial, industrial or community use** as defined in O. Reg. 153/04..
- 3.2 The Contaminants on, in, or under the Property that are present either above **the Applicable Site Condition Standards** or for which there are no such standards, are set out in the Risk Assessment (Contaminants of Concern). The Property Specific Standards for these Contaminants of Concern are set out in **Table 1A and Table 1B of Schedule 'A'** which is attached to and forms part of the CPU.
- 3.3 I am of the opinion, for the reasons set out in the Risk Assessment, that the Risk Management Measures described therein and outlined in Part 4 of the CPU are necessary to prevent, eliminate, or ameliorate an Adverse Effect on the Property that has been identified in the RA.
- 3.4 The Risk Assessment indicates the presence of Contaminants of Concern in soil and groundwater which requires on-going restriction of land use and pathway elimination. As such, it is necessary to restrict the use of the Property and impose building restrictions and implement Risk Management Measures as set out in the Risk Assessment and in Part 4 of the CPU.
- 3.5 I believe for the reasons set out in the RA that it is also advisable to require the disclosure of this CPU and the registration of notice of the CPU on title to the Property as set out in Section 4.9 and 4.10 of this CPU.

### **Part 4: Director Requirements**

Pursuant to the authority vested in me under subsection 168.6(1) of the Act, I hereby require the Owner to do or cause to be done the following:

#### **Risk Management Measures**

- 4.1 Implement, and thereafter maintain or cause to be maintained, the Risk Management Measures.
- 4.2 Without restricting the generality of the foregoing in Section 4.1, carry out or cause to be carried out the following key elements of the Risk Management Measures:

#### **Hard cap and fill cap barriers:**

- a) Hard cap and or fill cap barriers are required to be installed over the entire Property so as to prevent exposure

to the Contaminants of Concern (COCs) identified on the Property and shall be maintained for as long as the COCs are present on the Property at concentrations that exceed the Target Capping Soil/Alternative Target Capping Soil concentrations identified in Table 2A or Table 3A as determined by a Qualified Person or that residual NAPL is present. Any new hard cap and fill cap barriers shall be installed in accordance with Section 7.2.2 and Appendix J, Section J.1 and Figures J-1, J-2 and J-3 of the RA. The existing hard cap and fill cap barriers within the area identified as the Museum Area in Figure 5 shall be inspected and maintained as specified in Section 4.3 (ii) of this CPU.

New hard cap barrier and the fill cap barriers shall consist of the following, at minimum:

- i. The hard cap barrier (s) shall consist of a cover of asphalt, concrete, compacted granular aggregate, cobbles, paving stones, armour stones, rubberized surfaces or equivalent, a building slab (or building foundation and floor slab) consisting of at least 150 millimeters (mm) of Granular "A" or equivalent material overlain by at least 75 mm of hot mix asphalt, concrete, compacted granular aggregate, cobbles, paving stones, armour stones, rubberized surfaces or equivalent or a combination thereof with a minimum combined thickness of 225 mm as detailed in Figure 2 of Schedule 'A' (Figure 2), which is attached to and forms part of this CPU.
- ii. The fill cap barrier (s) shall consist of either:
  - a minimum of 500 mm thick cover of Capping Soil, Fill Material, or a combination thereof immediately on top of a geotextile material for *landscaped areas of lawn/ grass cover for parkland, community, or condominium type residential properties* as detailed in Figure 3 of Schedule 'A' (Figure 3), which is attached to and forms part of this CPU;
  - a minimum of 1500 mm thick cover of Capping Soil, Fill Material, or a combination thereof for *landscaped areas for free-hold type residential properties* as detailed in Figure 3;
  - a minimum of 1000 mm thick cover of Capping Soil, Fill Material, or a combination thereof for *landscaped areas that include shrubs and perennials for parkland, community, or condominium type residential properties* as detailed in Figure 3;
  - a minimum of 1000mm to 1500 mm thick cover of Capping Soil, Fill Material, or a combination thereof for *landscaped areas that include the planting of new trees for parkland, community, or condominium type residential properties*. Thickness may be adjusted by landscape architect to reflect specific tree/vegetation type as detailed in Figure 4 of Schedule 'A' (Figure 4) which is attached to and forms part of this CPU; and, or
  - a minimum of 225mm to 1500 mm thick cover of Capping Soil, Fill Material, or a combination thereof for *landscaped areas for existing treed areas* as detailed in Figure 4.
- b) Within 90 days of completion of the installation of any new hard cap and or fill cap barriers on the Property or portion of the Property, the Owner shall submit to the Director written confirmation signed by a qualified Licensed Professional Engineer that the barriers have been installed in accordance with the requirements of Section 7.2.2 and Appendix J, Section J.1 and Figures J-1, J-2 and J-3 of the RA and Section 4.2(a)(i) and 4.2 (a)(ii) of this CPU along with final design specifications/drawings and or as built drawings.
- c) Within 90 days of completion of the installation of any new hard cap and or fill cap barriers on the Property or portion(s) of the Property, the Owner shall submit to the Director a site plan that clearly identifies the final location of each of the different barriers.
- d) In relation to Section 4.2 (a) of this CPU, areas of the Property that are *not in use or not under development*, hard cap and fill cap barriers are not required as long as exposure to the COCs at concentrations that exceed the Target Capping Soil or Alternative Target Capping Soil concentrations (as determined by a Qualified Person)

as specified in Table 2A or Table 3A is prevented by a fence barrier that restricts access to those areas of the Property and a dust control plan is implemented as may be necessary.

- e) An inspection and maintenance program shall be implemented to ensure the continuing integrity of the *existing barriers* and any new hard cap and fill cap barriers as long as the COCs are present on the Property at concentrations that exceed the Target Capping Soil or Alternative Target Capping Soil concentrations (as determined by a Qualified Person) specified in Table 2A or Table 3A. The inspection program shall include semi-annual (spring and fall) inspections of the barrier's integrity in accordance with the inspection and maintenance program as detailed in Section 7.4.2 of the RA. Any barrier deficiencies shall be repaired within a reasonable period of time in accordance with Section 7.4.2 of the RA. If cracks, breeches or any loss of integrity in the barriers cannot be repaired or addressed in a timely manner, contingency measures shall be implemented to ensure that no exposure to the COCs that have been observed on the Property at concentrations that exceed the Target Capping Soil or Alternative Target Capping Soil concentrations (as determined by a Qualified Person) specified in Table 2A or Table 3A occurs. For the restoration of any damaged portions of the *existing barriers*, restoration shall meet the original design specifications, at minimum, for *newly installed barriers*, restoration shall meet the design specifications as detailed in Section 7.2.2 and Appendix J, Section J.1 and Figures J-1, J-2 and J-3 of the RA along with Section 4.2 (a)(i) and (a)(ii) of this CPU. For significant breeches that are identified to potentially expose the COCs that are present on the Property at concentrations that exceed the Target Capping Soil or Alternative Target Capping Soil concentrations (as determined by a Qualified Person) specified in Table 2A or Table 3A, the Owner shall submit to the Director written confirmation prepared and signed by a qualified Licensed Professional Engineer, in consultation with a Qualified Person, that the barriers have been repaired in accordance with the applicable requirements of this CPU. The written confirmation shall also include a description of any contingency measures put in place and shall be submitted to the Director within 30 days of the completion of any barrier repairs and/or restorations. The Owner shall keep records of the inspections and maintenance and make them available for review by the Ministry upon request.

**New Enclosed Building (s) (new building):**

- f) The construction of any new Building (s) on, in or under the Property is prohibited with the following exceptions:
- i. a soil vapour intrusion assessment is completed in accordance with Section 7.2.1 of the RA and Section 4.2 (g) and (h) of this CPU, in which the Owner has received written approval of the final report from the Director, that documents soil vapour concentrations are below the Target Soil Vapour concentrations identified in Table 1D of Schedule 'A' (**Table 1D**) which is attached to and forms part of this CPU; or
  - ii. any new Building (s) is constructed with a vapour mitigation system in accordance with Section 7.2.1 and Appendix J, Section J.2 of the RA and Section 4.2(i) of this CPU.
- g) Prior to the implementation of a soil vapour intrusion assessment identified in Section 4.2 (f)(i) above, the Owner shall submit to the Director, for review and approval, a DRAFT soil vapour intrusion assessment plan prepared by a Qualified Person in accordance Section 7.2.1 of the RA. Specifically, the soil vapour intrusion assessment shall include, but not be limited to, the following key components:
- i. be overseen by a Qualified Person;
  - ii. include the area of the proposed building footprint (s) plus the area within 30 m of the proposed building foot print (s);
  - iii. the completion of a minimum of two rounds of consecutive soil vapour sampling separated by a minimum of a 3 month time period with one round being required to be completed under winter-like conditions (i.e. under frozen ground conditions);
  - iv. the number, location and installation depths of the soil vapour probes to be installed. A detailed rationale must be provided that clearly indicates that sufficient data will be collected to support the future building scenario (i.e. design/type of Building to be constructed must be known and taken into consideration in preparing the plan); and,
  - v. any other work as deemed necessary by the Qualified Person.



- h) Upon receiving written approval from the Director, the Owner shall implement the soil vapour intrusion assessment prepared in accordance with Section 4.2 (g) of this CPU. Within 90 calendar days of the completion of the soil vapour intrusion assessment, the Owner shall submit a final report for approval of the Director, prepared by a Qualified Person, documenting the completion of the soil vapour intrusion assessment. The final report shall include, but not be limited to, the following key components:
- (a) Soil vapour probe installation details, locations and logs;
  - (b) Laboratory results and laboratory certificates of analysis;
  - (c) All field logs, leak testing results and documentation of QA/QC;
  - (d) Discussion and interpretation of the results in comparison to the respective Target Soil Vapour Concentration as listed in **Table 1D**; and,
  - (e) Conclusions and recommendations with respect to the need for additional and/or continued monitoring as may be warranted.
- i) As specified in Section 4.2 (f) (ii), any new Building (s) constructed on the Property that requires a vapour mitigation system shall be constructed in accordance with Section 7.2.1 and Appendix J, Section J.2 of the RA. The vapour mitigation system shall be designed by an appropriately qualified Licensed Professional Engineer in consultation with a Qualified Person in accordance with the *applicable conceptual design* as detailed in Section 7.2.1, Table 7-2 and Appendix J, Section J.2 of the RA, as determined by the building-type and location, and shall also include the following components:
- i. The design of the vapour mitigation system shall be specific to the type of Building to be constructed and consistent with the approaches as detailed in Schedule 'A': Figure 8 - Vapour Intrusion RMM – Design, Construction and Monitoring & Maintenance Process (**Figure 8**) and Schedule 'A': Table 1F - Building Types and Applicable Mitigation Approaches (**Table 1F**), which are attached to and forms part of this CPU;
  - ii. The Owner shall obtain an Environmental Compliance Approval, as necessary, and any other permits or approvals as may be required;
  - iii. The installation of the vapour mitigation system shall be completed under the supervision of a qualified Licensed Professional Engineer and a Qualified Person;
  - iv. In the event that a passive vapour mitigation system design has been selected, the passive system shall be designed and installed such that it can easily be converted to an active system; and,
  - v. A quality assurance/quality control (QA/QC) program shall be undertaken during the installation of the vapour mitigation system and shall be completed by, and clearly documented in a report prepared by, a qualified contractor and overseen by a qualified Licensed Professional Engineer and Qualified Person.
- j) Within 90 calendar days of the installation of the vapour mitigation system as detailed in Section 7.2.1 and Appendix J, Section J.2 of the RA and Section 4.2 (i) of this CPU, in any new Building (s) on the Property, the Owner shall submit to the Director as-built drawings and detailed design specifications of the vapour mitigation system, including any verification and QA/QC reports, prepared by the qualified Licensed Professional Engineer along with a statement from the qualified Licensed Professional Engineer that the vapour mitigation system has been installed in accordance with the original design specifications and that it has been designed to meet the requirements and objectives of Section 7.2.1 and Appendix J, Section J.2 of the RA and Section 4.2 (i) of this CPU.
- k) The vapour mitigation system detailed in Section 7.2.1 and Appendix J, Section J.2 of the RA and Section 4.2 (i) shall be operated, monitored and maintained by the Owner for as long as the COCs are present on the Property. As detailed in Section 7.4.1 the RA, the qualified Licensed Professional Engineer that designed the vapour mitigation system shall prepare an operation, monitoring, and maintenance program, including a contingency plan, that is to be implemented by the Owner, prior to first occupancy, and shall be made available by the Owner to the Ministry upon request.

- l) An inspection, monitoring and maintenance program specified in Section 7.4.1 of the RA and Section 4.2 (k) of this CPU shall be implemented to ensure the continued integrity of the building floor slab and vapour mitigation system for as long as the COCs are present on the Property. The inspection program will be conducted semi-annually for the first year and annually thereafter. The inspection program shall include, at minimum, inspections of the integrity of the building floor slab and monitoring of the vapour mitigation system in accordance with the monitoring and maintenance program specified in Section 4.2 (k) of this CPU. Any cracks, breaches or loss of integrity observed in the building floor slab or any observed deficiencies or necessary maintenance requirements with the vapour mitigation system shall be repaired forthwith to the original design specification, at minimum. Repairs or maintenance shall be made by an appropriately qualified contractor, under the supervision of a qualified Licensed Professional Engineer as necessary. If repairs to the building floor slab or the vapour mitigation system cannot be completed in a timely manner, the Owner shall ensure that the contingency measures prepared by a qualified Professional Engineer, as specified in Section 4.2 (k) of this CPU, are implemented. All repairs are to be inspected by a qualified Licensed Professional Engineer and signed documentation shall be provided to the Owner that states that the repairs meet the original design specifications, at minimum. The Owner shall submit to the Director the written confirmation, prepared and signed by a qualified Licensed Professional Engineer, that the vapour mitigation system has been repaired to meet the original design specifications, at minimum. The written confirmation shall also include a description of any contingency measures that were put in place and shall be submitted to the Director within 30 calendar days of the completion of any repairs to the vapour mitigation system. The Owner shall keep records of the inspections, monitoring and maintenance program, along with documentation of all repairs that were required to be undertaken and these records shall be made available by the Owner to the Ministry for review upon request.
- m) The Owner shall ensure that all individuals/contractors intending to undertake work which could potentially come into contact with or interfere with the vapour mitigation system specified in Section 7.2.1 and Appendix J, Section J.2 of the RA and Section 4.2 (i) of this CPU are made aware of the presence of the vapour mitigation system and the need to take appropriate precautions to ensure the integrity of the vapour mitigation system at all times. If the vapour mitigation system is damaged at any time, the Owner shall ensure that it is repaired forthwith by a qualified contractor, under the supervision of a qualified Licensed Professional Engineer as necessary, to the original design specifications, at minimum. If repairs to the vapour mitigation system cannot be completed in a timely manner, the Owner shall ensure that the contingency measures prepared by a qualified Professional Engineer, as specified in Section 4.2 (k) of this CPU are implemented. All repairs to the vapour mitigation system are to be inspected by a qualified Licensed Professional Engineer and signed documentation shall be provided to the Owner that states that the repairs meet the original design specifications, at minimum. The Owner shall submit to the Director the written confirmation, prepared and signed by a qualified Licensed Professional Engineer, that the vapour mitigation system has been repaired to meet the original design specifications, at minimum. The written confirmation shall also include a description of any contingency measures that were put in place and shall be submitted to the Director within 30 calendar days of the completion of any repairs to the vapour mitigation system. The Owner shall maintain records of all activities and repairs in relation to the vapour mitigation system and these records shall be made available by the Owner to the Ministry for review upon request.
- n) Once the final design of the vapour mitigation system is completed as specified in Section 7.2.1 and Appendix J, Section J.2 of the RA and Section 4.2 (i), the Owner shall submit to the Director, for review and approval, an indoor air performance monitoring program. The indoor air performance monitoring program shall be prepared by a qualified Licensed Professional Engineer in consultation with an appropriately Qualified Person in accordance with Section 7.4.1.1 and Table 7-8 of the RA. Specifically, the indoor air performance monitoring program shall include the following key components:
- i. Be overseen by a qualified Licensed Professional Engineer;
  - ii. Monitoring approach shall be consistent with Table 7-8 of the RA, which has been attached as Table 1G, Schedule 'A' (**Table 1G**), which is attached to and forms part of this CPU;
  - iii. The indoor air and sub-slab vapour samples, as required, shall be sent to an accredited laboratory and analyzed for the Indoor Air Target Analytes listed in **Table 1C** of Schedule 'A' (**Table 1C**), which are attached to and form part of this CPU;
  - iv. An annual report documenting the indoor air performance monitoring program shall be prepared by a

qualified Licensed Professional Engineer and submitted to the Director on or before **March 31st** following each year of monitoring until written approval to discontinue the program is received by the Owner from the Director. The annual report shall include, but not be limited to:

- (a) Laboratory results and laboratory certificates of analysis;
  - (b) Field logs, leak testing (as necessary) and documentation of QA/QC;
  - (c) Discussion and interpretation of the results in comparison to the respective Target Indoor Air Concentration as listed in **Table 1C**; and,
  - (d) Conclusions and recommendations with respect to the need for additional and/or continued monitoring as may be warranted.
- o) Upon completion of the installation of the vapour mitigation system as specified in Section 4.2 (i) of this CPU, and prior to first occupancy, the Owner shall implement the indoor air performance monitoring program, that has been approved in writing by the Director, as required by Section 4.2 (n) of this CPU for a minimum of two years and until the Owner receives written approval from the Director to discontinue the program. Any changes to the indoor air performance monitoring program as required by Section 4.2 (n) of this CPU, (i.e. sampling frequency, locations, methodology etc.) must be requested in writing by a qualified Licensed Professional Engineer and these changes shall only be implemented upon the Owner receiving written approval from the Director.
- p) In the event that the indoor air performance monitoring program detailed in Section 4.2 (n) of this CPU identifies one or more of the Target Analytes at concentrations above the Target Indoor Air in **Table 1C**, respectively, *and where the concentrations of the observed Target Analytes are determined by the qualified Licensed Professional Engineer to be a result of soil vapour intrusion*, the Owner shall implement the contingency measures detailed in Section 7.4.1.3 of the RA and as follows:
- i. Written notice shall be submitted to the Director by the Owner within 14 calendar days of the Owner's receipt of the laboratory analysis. This written notice shall include the indoor air and sub-slab vapour sampling results (as necessary), the laboratory certificates of analysis and the anticipated timeline for the implementation of the confirmatory sampling program along with any additional work as may be deemed necessary by a qualified Licensed Professional Engineer. Confirmatory sampling shall occur within 14 calendar days from the date of the Owner's receipt of the laboratory analysis and be completed by a qualified Licensed Professional Engineer.
  - ii. In the event that the confirmatory indoor air sampling verifies the exceedances of one or more of the Target Analytes concentrations above the Target Indoor Air Concentration in **Table 1C**, the Owner shall:
    - (a) Submit written notice to the Director within 14 calendar days of the Owner's receipt of the laboratory analysis. This written notice shall include the confirmatory indoor air results, the laboratory certificates of analysis and the details of, and the anticipated timeline to implement contingency measures consistent with Section 7.4.1.3 of the RA along with the implementation of further evaluation/assessment of the vapour mitigation system as may be deemed necessary by a qualified Licensed Professional Engineer. The implementation of contingency measures, along with the implementation of a confirmatory indoor air sampling program shall occur within 14 calendar days of the Owner's submission of the written notice of the exceedance to the Director;
    - (b) Within 30 calendar days of the implementation of the contingency plan, the Owner shall submit to the Director an update report prepared by a qualified Licensed Professional Engineer documenting the implementation of contingency measures, results of the implementation of the confirmatory indoor air sampling program along with the details and timelines for the implementation of performance indoor air and or sub-slab vapour monitoring program. The update report shall include, but not be limited to:
      - i. Laboratory results and laboratory certificates of analysis;
      - ii. Field logs, leak testing (as necessary) and documentation of QA/QC;
      - iii. Discussion and interpretation of the results in comparison to the respective Target Indoor Air Concentrations as listed in **Table 1C**; and,
      - iv. Conclusions and recommendations with respect to the performance of the vapour mitigation system along with the need for additional work and/or continued

monitoring as may be deemed warranted.

**Groundwater Control and Management:**

- q) In the event that any new Building(s) is constructed on the Property where the Building's foundation is constructed at or below the groundwater table, in accordance with the Building Code, a Groundwater Control and Management Plan shall be developed by a qualified Licensed Professional Engineer and implemented by the Owner in accordance with Section 7.2.3.3 of the RA.

**Groundwater Monitoring Program:**

- r) Within 90 calendar days of the issuance of this CPU, the groundwater monitoring program specified in Section 7.4.3 of the RA shall be implemented by the Owner in order to monitor the groundwater quality at the downgradient property. The groundwater monitoring program shall include, but not be limited to, the following components:
- i. Be overseen by a Qualified Person;
  - ii. Consist of the measurement of groundwater levels, the monitoring for residual nonaqueous phase liquid (NAPL) and sampling from the proposed groundwater monitoring network i.e. 347-MWRA01 through to 347-MWRA14 as detailed in Section 7.4.3.1 of the RA, as identified in Figure 7 of Schedule 'A' (Figure 7), which is attached to and forms part of this CPU, and as specified in Schedule 'A': Table 3E: Proposed Groundwater Monitoring Program Summary (**Table 3E**) or suitable replacement (s) as deemed appropriate by a Qualified Person and approved by the Director;
  - iii. The measurement of groundwater levels, the monitoring for NAPL and the collection of groundwater samples shall occur quarterly (every three months) for the first year and semi-annually (i.e. spring and fall) thereafter;
  - iv. Groundwater samples shall be sent to an accredited laboratory and analyzed for the Target Analytes specified in **Table 3E** of Schedule 'A' (**Table 3E**);
  - v. The groundwater monitoring program shall occur for a minimum of two years and until written approval to reduce or discontinue the groundwater sampling program from the Director is received by the Owner;
  - vi. An annual report detailing the sample results, sample locations, borehole logs/monitoring well construction details along with an evaluation of the temporal trends in groundwater quality and an assessment of the potential for off-property migration of impacted groundwater shall be submitted to the Director on or before **March 31<sup>st</sup>** following each year of monitoring until written approval to discontinue the program from the Director is received by the Owner;
  - vii. Any changes to the groundwater monitoring program as specified in Section 7.4.3 of the RA must be requested in writing by the Qualified Person and these changes shall only be implemented by the Owner upon receiving approval from the Director; and,
  - viii. In accordance with the contingency plan detailed in Section 7.4.3 of the RA, and summarized as follows:
    - (a) In the event that the groundwater monitoring program identifies one or more of the Target Analytes at concentrations above the Target Groundwater Quality Concentration in **Table 1E**, the presence of NAPL is observed or one or more of the Target Analytes are observed at a concentration above the applicable PSS for groundwater in **Table 1B**, the Owner shall notify the Director in writing within

7 calendar days of the Owner receiving the laboratory analysis. Written notification shall be prepared by a Qualified Person and include the groundwater data, laboratory certificates of analysis and timeline for the implementation of the confirmatory groundwater sampling program.

- (b) Within 30 days of the Owner receiving the laboratory analysis, the confirmatory groundwater sampling program shall be implemented by a Qualified Person.
- (c) In the event that the groundwater concentrations continue to be observed to exceed their respective Target Groundwater Quality Concentration in **Table 1E**, NAPL continues to be present or the groundwater concentrations continue to be observed to exceed the applicable PSS in **Table 1B**, the Owner shall notify the Director in writing within 14 calendar days of the Owner receiving the laboratory analysis. Written notification shall be prepared by a Qualified Person and include the groundwater data, laboratory certificates of analysis and timeline for the submission of a proposed groundwater action plan.
- (d) Within 30 days of the Owner receiving the laboratory analysis, the Owner shall submit to the Director a proposed groundwater action plan for review and approval. The proposed groundwater action plan shall be prepared by a Qualified Person and include, but not be limited to, a detailed interpretation of the available data collected to date along with recommendations for any additional investigation/ monitoring as may be required and or recommendations for the completion of a groundwater remedial option feasibility study and or the implementation of a groundwater remedial action plan which may include the implementation of additional remedial/mitigation measures as may be necessary.
- (e) Upon the Owner receiving written approval from the Director, the Owner shall implement the approved groundwater action plan.
- (f) Within 30 calendar days of implementation of the groundwater action plan, the Owner shall submit written confirmation, along with supporting documentation, prepared by a Qualified Person that the groundwater action plan has been implemented.

**Soil and Groundwater Management Plan:**

- s) The property specific soil and groundwater management Plan (Plan) shall be developed for the Property and implemented during all intrusive activities potentially in contact with or exposing COCs in soil that exceed the Target Capping Soil/Alternative Target Capping Soil Concentrations (as determined by a Qualified Person) specified in Table 2A or Table 3A, COCs in groundwater that exceed the Applicable Site Condition Standards or residual NAPL on the Property as detailed in Section 7.2.3.2 of the RA. A copy of the Plan shall be maintained on the Property for the duration of all planned intrusive activities. Any short-term intrusive activities required for the purposes of emergency repairs (i.e. for repairs to underground utilities etc.) will not require the submission of the Plan prior to undertaking the short term emergency repairs. In the event that NAPL is encountered during any short-term intrusive work, the Owner shall notify the Director in writing within 24 hours of the residual NAPL being encountered. The written notice shall also include an action plan for dealing with residual NAPL that is encountered. For planned intrusive activities, this Plan shall be submitted to the Director by the Owner at least 14 calendar days prior to any such intrusive activities being undertaken and shall be consistent with the measures specified in Section 7.2.3.2 of the RA. The Plan shall include, but not be limited to, the following key components as deemed necessary by a Qualified Person:
  - i. oversight by a Qualified Person;
  - ii. include dust control measures and prevention of soils tracking by vehicles and personnel from the Property;

- iii. odour control measures including, weather monitoring (temperature, humidity, wind), monitoring with a photoionization detector (PID), ambient air quality sampling (depending on the extent and duration of the excavation activities), specifications regarding the size of open excavations, wetting of soil with potable water, implementation of atomization equipment or foam suppression, tarping odorous soil, or ceasing work to reassess the source of odour and to evaluate the appropriate control measure;
- iv. management of excavated soils including cleaning equipment, placement of materials for stockpiling on designated areas lined and covered with polyethylene sheeting, bermed and fenced to prevent access, runoff control to minimize contact and provisions for discharge to sanitary sewers or other approved treatment;
- v. management measures and an action plan (including appropriate disposal options) for NAPL if encountered. If NAPL is encountered, the Owner shall notify the Director in writing within 24 hours of the NAPL being encountered;
- vi. storm water management measures to control the potential transport of COCs off-site during on-site construction/redevelopment activities. This shall include, but not be limited to, silt fences and filter socks on catch-basins and utility covers as necessary;
- vii. characterization of excavated excess soils and groundwater, to determine if the excavated excess soils or groundwater exceed the Property Specific Standards listed in Table 1A and Table 1B of Schedule "A" attached to this CPU and/or the applicable generic site condition standards for parameters other than those identified in Table 1A and Table 1B of Schedule "A" attached to this CPU and require off-site disposal in accordance with the provisions of Ontario Regulation 347, as amended, made under the Act;
- viii. characterization and management of groundwater as a result of dewatering activities. Characterization of groundwater as a result of dewatering shall include, but not be limited to, adequate groundwater sampling prior to dewatering activities along with appropriate sampling of the groundwater collected during dewatering activities. Where dewatering is required, dewatering activities will be conducted in accordance with Section 7.2.3.3 of the RA;
- ix. include record keeping. Record keeping is to include, but not to be limited to, dates and duration of work, weather and site conditions, location and depth of excavation activities/dewatering activities, dust control measures, odour control measures, stockpile management and drainage, NAPL management and disposal, all soil and groundwater characterization results obtained as part of the soil and groundwater management plan, names of the Qualified Persons, contractors, haulers and receiving sites for any excavated excess soils, groundwater, as a result of dewatering activities, and NAPL removed from the property and any complaints received relating to site activities; and,
- x. copy of the plan and any amendments and the records kept thereunder shall be made available for review by the Ministry upon request.

**Health and Safety Plan:**

- t) A property specific Health and Safety Plan shall be developed for the Property and implemented during all planned intrusive activities undertaken potentially in contact with COCs in soil and groundwater along with potential residual NAPL that have been identified in the RA at concentrations that exceed either the Applicable Site Condition Standards for groundwater or the Target Capping Soil/Alternative Target Capping Soil concentrations (as determined by a Qualified Person) specified in Table 2A and Table 3A as detailed in Section 7.2.3.1 of the RA and a copy shall be maintained on the Property for the duration of all intrusive activities. The Owner shall ensure that the Health and Safety Plan takes into account the presence of the COCs along with potential residual NAPL and is implemented prior to any intrusive activities being undertaken on the Property or portion (s) of the Property in order to protect workers from exposure to the COCs. The Health and Safety plan shall be prepared in accordance with applicable Ministry of Labour health and safety regulations, along with all potential risks identified in the RA and include, but not limited to, occupational hygiene requirements, personal protective equipment, contingency plans and contact information. Prior to initiation of any Project (on the Property or portion (s) of the Property), the local Ministry of Labour office shall be notified, where so prescribed under the OHSA, of the proposed activities and that COCs have been identified in soils and or groundwater along with potential residual NAPL on the Property. The Health and Safety Plan shall be overseen by a Competent Person to review the provisions of the plan with respect to the proposed site work and conduct daily inspections. The Owner shall retain a copy of the plan to be available for review by the Ministry upon request.

**Utility Corridors:**

- u) The Owner shall ensure that any new utilities/ utility corridors or subsurface infrastructure (utilities) that are excavated for installation or maintenance are excavated and backfilled with the Capping Soil or Fill Material that is appropriate material for structural purposes as detailed in Appendix J, Section J.1.4 of the RA. Where new utilities are to be installed, or existing utilities repaired on the Property in areas where COCs are found in soil that exceed the Target Capping Soil/Alternative Capping Soil concentrations (as determined by a Qualified Person) in Table 2A and Table 3A, in groundwater above the Applicable Site Condition Standard, or in areas where residual NAPL has been observed, one or more of the following mitigation measures as may be applicable and, as determined by a qualified Licensed Professional Engineer, shall be implemented:
- i. Trench Plugs: consisting of low-permeability materials such as compacted clay or bentonite, or other low permeable material such as concrete or unshrinkable fill, shall be installed across the trench cross-section so as to prevent migration of COCs into the permeable backfill material along any buried piping, cable or duct banks. Clay seals (plugs) are required to be installed where utilities are to be installed near or below the groundwater table and shall consist of clay compacted at appropriate moisture contents that is extended for a minimum of 750 mm along the utility trench, across the full width and extend to the base of the overlying cap barrier;
  - ii. Anti-seep Collars: barriers made of any ridged impermeable material (e.g. concrete, steel or geomembranes);
  - iii. Trench Liners: impermeable liner placed at the bottom and sides of the utility trench
  - iv. Watertight Shoring: shoring at the trench walls be supplemented by lining the bottom of the trench with impermeable liner or low-permeability materials;
  - v. Slurry or Controlled, Low-Strength Material (Flowable Fill) Trench Backfill: The entire trench to be filled with slurry consisting of fine aggregates, water and cementitious material; and or,
  - vi. Concrete Structure of a Box Culvert as a Utility Corridor: Entry to the Concrete Structure or Box Culvert will require confined space entry equipment however would provide a corridor for utility installation and maintenance free of COCs.

**PROPERTY RESTRICTIONS:**

**Existing Buildings:**

4.3

- i. The Owner shall refrain from using the two existing Buildings that house the Canadian Military Heritage Museum as identified with the Museum Area in (Figure 5) for residential and or institutional use. The residential and or institutional use of the existing Buildings that house the Canadian Military Museum as identified on Figure 5 is prohibited as specified in Section 7.2.1 and 7.2.3.6 of the RA.
- ii. The existing hard cap and fill cap barriers of the Museum Area as identified in Figure 5 shall be inspected and maintained by the Owner for as long as the COCs are present on the Property at concentrations that exceed the Target Capping Soil/Alternative Target Capping Soil concentrations identified in Table 2A or Table 3A as determined by a Qualified Person in accordance with Section 4.2 (e) of this CPU. In the event that new hard cap or fill cap barriers are required to be installed in the Museum Area, the new hard cap and fill cap barriers shall be installed and maintained in accordance with Section 4.2 (a), (b), (c), (d) and (e) of this CPU.
- iii. The Owner shall refrain from occupying or using the existing Guardhouse/Gate House as identified in Figure 5. The use of the existing Guardhouse/Gate House is prohibited.

**Prohibiting the construction of building(s) in areas where NAPL has been observed:**

- 4.4 The Owner shall refrain from constructing any Building(s) that include basements or other occupied below grade structures (not including subsurface utility corridors or similar structures) in areas where NAPL is observed to have a consistent and measurable presence on the Property (i.e. the area located within the Waterloo Barrier as identified on Figure 6). For any subsurface utility corridor or similar structure that may be constructed on the Property in these areas, air quality monitoring will be required to be included in any health and safety plan. The construction of any Building(s) that include basements or other occupied below grade structures in areas where NAPL is observed to have a consistent and measurable presence on the Property is prohibited as specified in Section 7.2.3.4 of the RA for as long as NAPL remains present.

**Maintaining the integrity of the waterloo barrier and the concrete barrier wall:**

- 4.5 The Owner shall maintain the integrity of the waterloo barrier and the concrete barrier wall that have been installed on the Property as identified in Figure 6 for as long as residual NAPL, COCs in soil and COCs in groundwater are present. Construction activities within 6.0 meters of the waterloo barrier and the concrete barrier wall as identified in Figure 6 are prohibited unless a geotechnical investigation is completed by, or overseen by, a qualified Licensed Professional Engineer who documents the planned construction activities within a 6.0 m buffer zone for either the waterloo barrier or the concrete barrier wall will not compromise the structural integrity of these barriers. Within 30 days of the completion of any geotechnical investigation, and prior to undertaking any construction activities in these areas, the Owner shall submit to the Director the geotechnical investigation report prepared by the qualified Licensed Professional Engineer who completed, or had oversight of, the geotechnical investigation that was undertaken.

**Prohibition of planting of fruit and vegetables for consumption:**

- 4.6 The Owner shall refrain from planting fruit and vegetables for consumption on the Property unless planted in above ground containers such that the plants are isolated from the subsurface conditions. The planting of fruit and vegetables for consumption on the Property is prohibited for as long as the COCs in soil and groundwater remain present unless the plants are isolated from the subsurface conditions.

Site Changes

- 4.7 In the event of a change in the physical site conditions or receptor characteristics at the Property that may affect the Risk Management Measures and/or any underlying basis for the Risk Management Measures, the Owner shall forthwith notify the Director of such changes and the steps taken, to implement, maintain and operate any further Risk Management Measures as are necessary to prevent, eliminate or ameliorate any Adverse Effect that will result from the presence on, in or under the Property or the discharge of any Contaminant of Concern into the natural environment from the Property. An amendment to the CPU will be issued to address the changes set out in the notice received and any further changes that the Director considers necessary in the circumstances.

Reports

- 4.8 Retain a copy of any reports required under the CPU, the Risk Assessment and any reports referred to in the Risk Assessment (until otherwise notified by the Director) and within ten (10) days of the Director or a Provincial Officer making a request for a report, provide a copy to the Director or Provincial Officer.

Property Requirement

- 4.9 For the reasons set out in the CPU, and pursuant to the authority vested in me under subsection 197(1) of the Act, I hereby order you and any other person with an interest in the Property, before dealing with the Property in any way, to give a copy of the CPU, including any amendments thereto, to every person who will acquire an interest in the Property, as a result of the dealing.

Certificate of Requirement



4.10 Within fifteen (15) days from the date of receipt of a certificate of requirement, issued under subsection 197(2) of the Act, completed as outlined in Schedule 'B' which is attached to and forms part of this CPU, register the certificate of requirement on title to the Property in the appropriate Land Registry Office.

4.11 Within five (5) days after registering the certificate of requirement, provide to the Director a copy of the registered certificate and of the parcel register(s) for the Property confirming that registration has been completed.

#### Owner / Occupant Change

4.12 While the CPU is in effect, forthwith report in writing to the Director any changes of ownership of the Property, except that while the Property is registered under the Condominium Act, 1998, S.O. 1998, c.19, as amended, no notice shall be given of changes in the ownership of individual condominium units or any related common elements on the Property.

#### Financial Assurance

4.13 Subject to Sections 4.14, 4.15 and 4.16 of this CPU, the Director has not included in the CPU a requirement that the current Owner, *The Corporation of the City of Brantford*, provide financial assurance to the Crown in right of Ontario.

4.14 Within 30 calendar days of the Property, or any portion of the Property, being sold, the new Owner shall provide financial assurance to the Crown in the right of Ontario in the amount of **Four Hundred Twenty Two Thousand Seven Hundred and Twenty Six Canadian Dollars (\$422,726.00)**. The financial assurance shall be in the form of a certified cheque payable to the Ontario Minister of Finance or an irrevocable letter of credit issued by a Canadian Chartered Bank as outlined in the Ministry's F-15 *Financial Assurance Guideline*, as amended from time to time. This amount is to cover the costs associated with the inspection and maintenance requirements for the hard and fill cap barriers, the inspection and maintenance of the vapour mitigation system as may be required in any new Building (s) along with the implementation of an indoor air performance monitoring program of the vapour migration system and groundwater monitoring program for a **two year period** as required by Sections 4.2 (e), 4.2 (l), 4.2 (o) and 4.2 (r) of this CPU.

4.15 The amount of financial assurance required in Section 4.14 of this CPU shall be reviewed every **two years** by a Qualified Person for the Owner, and the updated cost estimate shall be submitted to the Director starting two years after the date financial assurance was submitted to the Crown in right of Ontario and every two years thereafter.

4.16 Prior to the submission of financial assurance as required by Section 4.14 of this CPU, the new Property Owner may submit a request to the Director, which includes appropriate supporting documentation, to reevaluate the need for or to modify the amount of financial assurance that is required to be provided. Upon receipt of written approval of the Director, the submission of financial assurance as stipulated in Section 4.14 may be modified or deleted as specified in the approval of the Director.

#### **Part 5: General**

5.1 The requirements of the CPU are severable. If any requirement of the CPU or the application of any requirement to any circumstance is held invalid, the application of such requirement to other circumstances and the remainder of the CPU shall not be affected thereby.

5.2 An application under subsection 168.6(3) of the Act to,  
a) alter any terms and conditions in the CPU or impose new terms and conditions; or  
b) revoke the CPU;  
shall be made in writing to the Director, with reasons for the request.

- 5.3 The Director may amend the CPU under subsections 132(2) or (3) of the Act to change a requirement as to financial assurance, including that the financial assurance may be increased or provided, reduced or released in stages. The total financial assurance required may be reduced from time to time or released by an order issued by the Director under section 134 of the Act upon request and submission of such supporting documentation as required by the Director.
- 5.4 Subsection 186(3) of the Act provides that non-compliance with the requirements of the CPU constitutes an offence.
- 5.5 The requirements of the CPU are minimum requirements only and do not relieve you from,
- a) complying with any other applicable order, statute, regulation, municipal, provincial or federal law; or
  - b) obtaining any approvals or consents not specified in the CPU.
- 5.6 Notwithstanding the issuance of the CPU, further requirements may be imposed in accordance with legislation as circumstances require.
- 5.7 In the event that any person is, in the opinion of the Director, rendered unable to comply with any requirements in the CPU because of:
- a) natural phenomena of an inevitable or irresistible nature, or insurrections,
  - b) strikes, lockouts or other labour disturbances,
  - c) inability to obtain materials or equipment for reasons beyond your control, or
  - d) any other cause whether similar to or different from the foregoing beyond your control,
- the requirements shall be adjusted in a manner defined by the Director. To obtain such an adjustment, the Director must be notified immediately of any of the above occurrences, providing details that demonstrate that no practical alternatives are feasible in order to meet the requirements in question.
- 5.8 Failure to comply with a requirement of the CPU by the date specified does not absolve you from compliance with the requirement. The obligation to complete the requirement shall continue each day thereafter.
- 5.9 In the event that the Owner complies with provisions of Sections 4.10 and 4.11 of the CPU regarding the registration of the certificate of requirement on title to the Property, and then creates a condominium corporation by the registration of a declaration and description with respect to the Property pursuant to the *Condominium Act*, 1998, S.O. 1998, c.19, as amended, and then transfers ownership of the Property to various condominium unit owners, the ongoing obligations of the Owner under this CPU may be carried out and satisfied by the condominium corporation by and on behalf of the new Owners of the Property.

## **Part 6: Hearing before the Environmental Review Tribunal**

- 6.1 Pursuant to section 139 of the Act, you may require a hearing before the Environmental Review Tribunal (the "Tribunal") if, within fifteen (15) days after service on you of a copy of the CPU, you serve written notice upon the Director and the Tribunal.
- 6.2 Pursuant to section 142 of the Act, the notice requiring the hearing must include a statement of the portions of the CPU and the grounds on which you intend to rely at the hearing. Except by leave of the Tribunal, you are not entitled to appeal a portion of the CPU or to rely on a ground that is not stated in the notice requiring the hearing.
- 6.3 Service of a notice requiring a hearing must be carried out in a manner set out in section 182 of the Act and Ontario Regulation 227/07: Service of Documents, made under the Act as they may be amended from time to time. The address, email address and fax numbers of the Director and the Tribunal are:

The Secretary

Environmental Review Tribunal  
655 Bay Street, Suite 1500  
Toronto, ON, M5G 1E5  
Fax: (416) 326-5370  
Fax Toll Free: 1(844) 213-3474  
Email: ERTTribunalSecretary@ontario.ca

and

Amy Shaw, Director  
Ministry of the Environment, Conservation and Parks  
1 Stone Rd. West, 4th Floor  
Guelph, ON  
N1G 4Y2  
Fax: 519-826-4286  
Email: amy.shaw@ontario.ca

- 6.4 Unless stayed by application to the Tribunal under section 143 of the Act, the CPU is effective from the date of issue.
- 6.5 If you commence an appeal before the Tribunal, under section 47 of the Environmental Bill of Rights, 1993 (the “EBR”), you must give notice to the public in the Environmental Registry of Ontario (ERO). The notice must include a brief description of the CPU (sufficient to identify it) and a brief description of the grounds of appeal.

The notice must be delivered to the Minister of the Environment, Conservation and Parks who will place it on the ERO. The notice must be delivered to the Minister of the Environment, Conservation and Parks at 777 Bay Street, 5<sup>th</sup> Floor, Toronto, Ontario M7A 2J3 by the earlier of:

- 6.5.1 two (2) days after the day on which the appeal before the Tribunal was commenced; and
- 6.5.2 fifteen (15) days after service on you of a copy of the CPU.
- 6.6 Pursuant to subsection 47(7) of the EBR, the Tribunal may permit any person to participate in the appeal, as a party or otherwise, in order to provide fair and adequate representation of the private and public interests, including governmental interests, involved in the appeal.
- 6.7 For your information, under section 38 of the EBR, any person resident in Ontario with an interest in the CPU may seek leave to appeal the CPU. Under section 40 of the EBR, the application for leave to appeal must be made to the Tribunal by the earlier of:

- 6.7.1 fifteen (15) days after the day on which notice of the issuance of the CPU is given in the ERO  
and
- 6.7.2 if you appeal, fifteen (15) days after the day on which your notice of appeal is given in the ERO

Further information on the requirements of the Tribunal regarding an appeal can be obtained directly from the Tribunal at:

Tel: (416) 212-6349, Fax: (416) 326-5370, [www.elto.gov.on.ca](http://www.elto.gov.on.ca)

Issued at Guelph this <<<<<< day of <<<<<<, 2020.

DRAFT

Amy Shaw,  
Director, section 168.6 of the Act

**Schedule 'A': Figure 1A- Site Plan  
(not to scale)**



**Figure 1A**  
**Site Location**  
 Risk Assessment  
 347 Greenwich Street  
 Brantford, Ontario

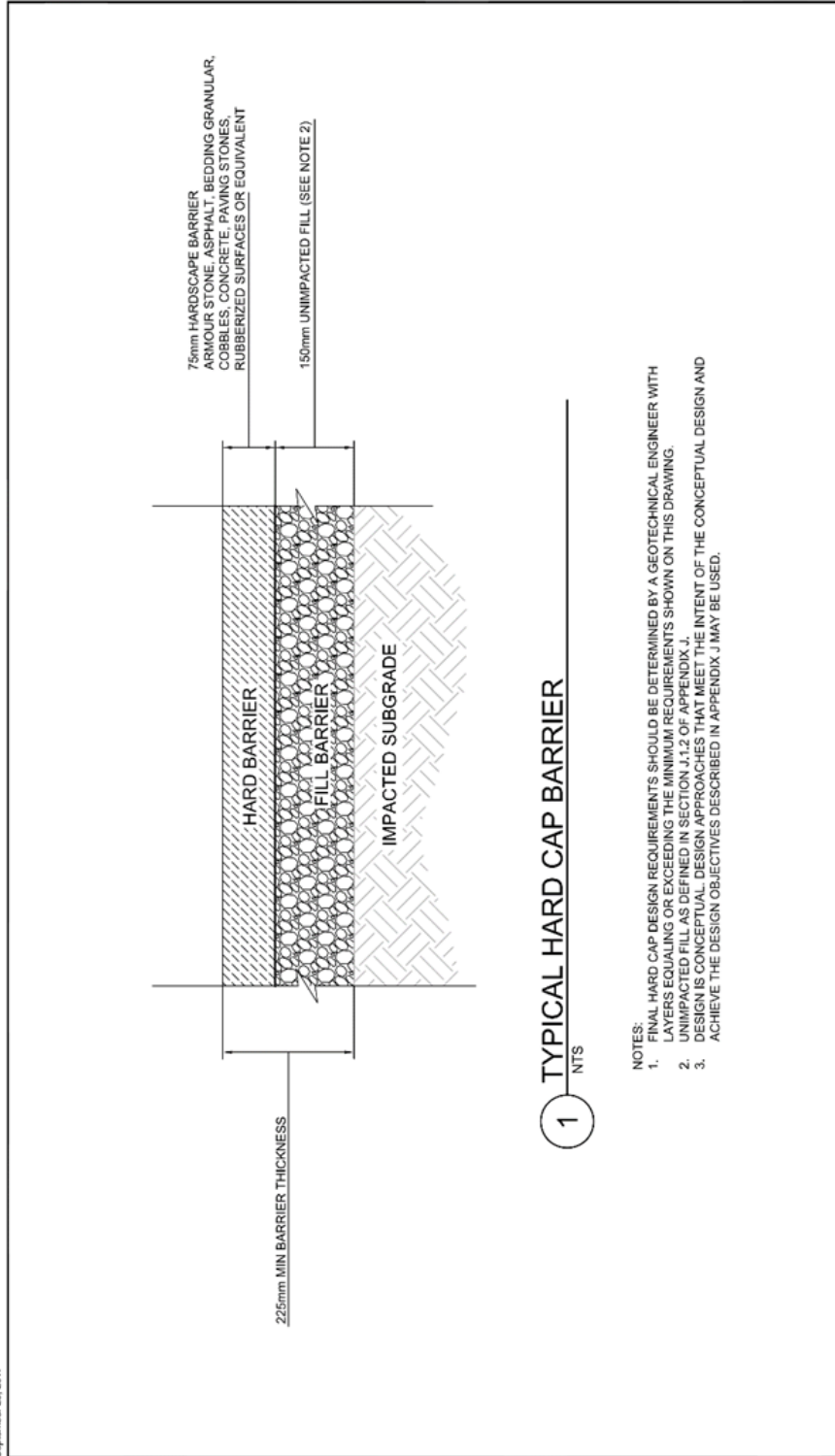
**Notes:**  
 1. Aerial Photograph - December 2010 Data  
 2. Not to Scale  
 3. Location is approximate.

City of Brantford  
 1500 Dundas Street West  
 Brantford, Ontario N6A 1K6  
 519.751.1000

# Schedule 'A': Figure 1B- Applicable Site Condition Standards (not to scale)



Schedule 'A': Figure 2- Conceptual Design of Typical Hard Cap Barrier  
(not to scale)



**FIGURE J-1**  
Conceptual Design of Typical Hard Cap Barrier

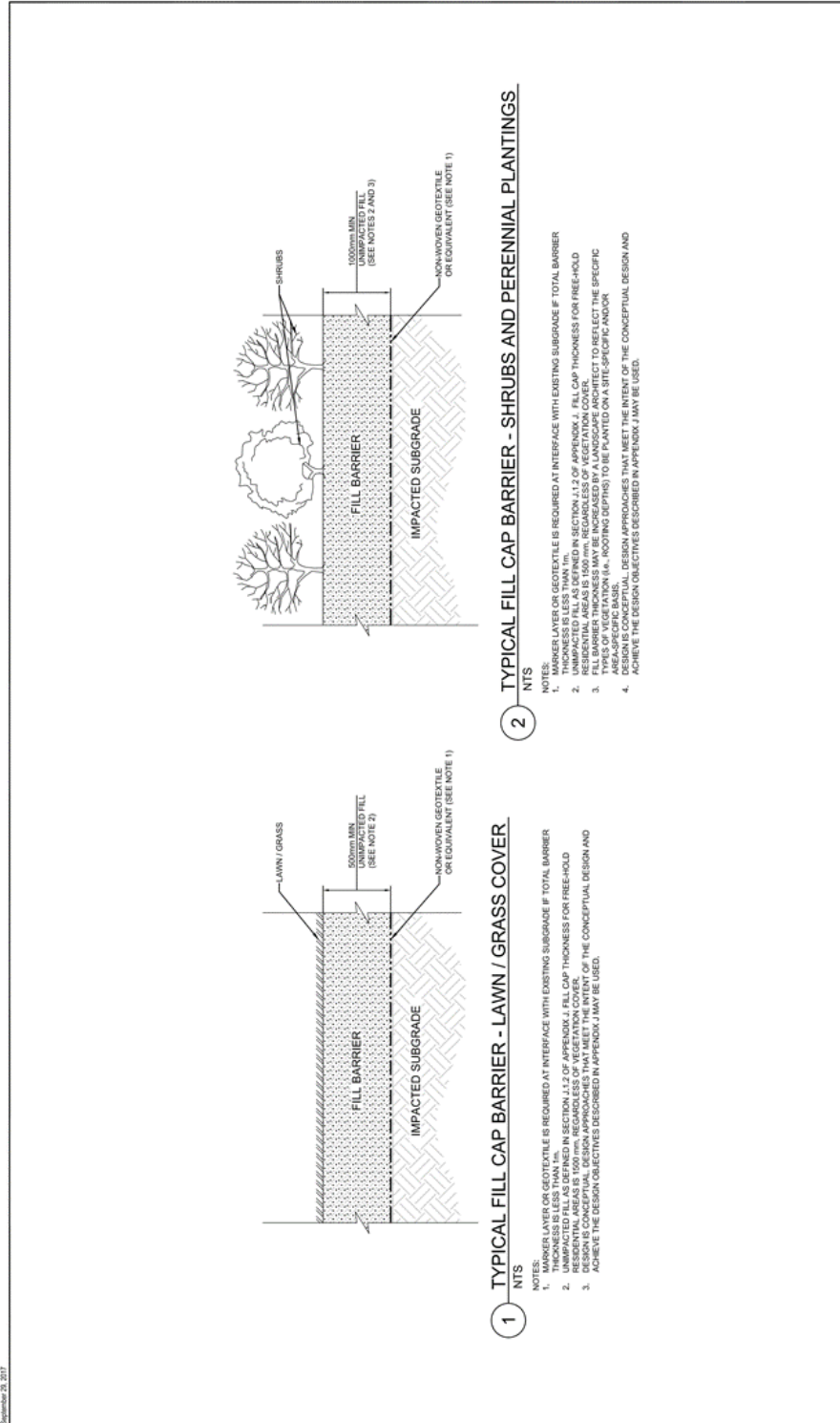
Greenwich-Mohawk Brownfield  
347 Greenwich Street, Brantford, Ontario



NOT TO SCALE  
481756\_347\_F.01.dwg

September 29, 2017

# Schedule 'A': Figure 3 – Conceptual Design of Typical Fill Cap Barrier (Vegetation Protective Cover) (not to scale)

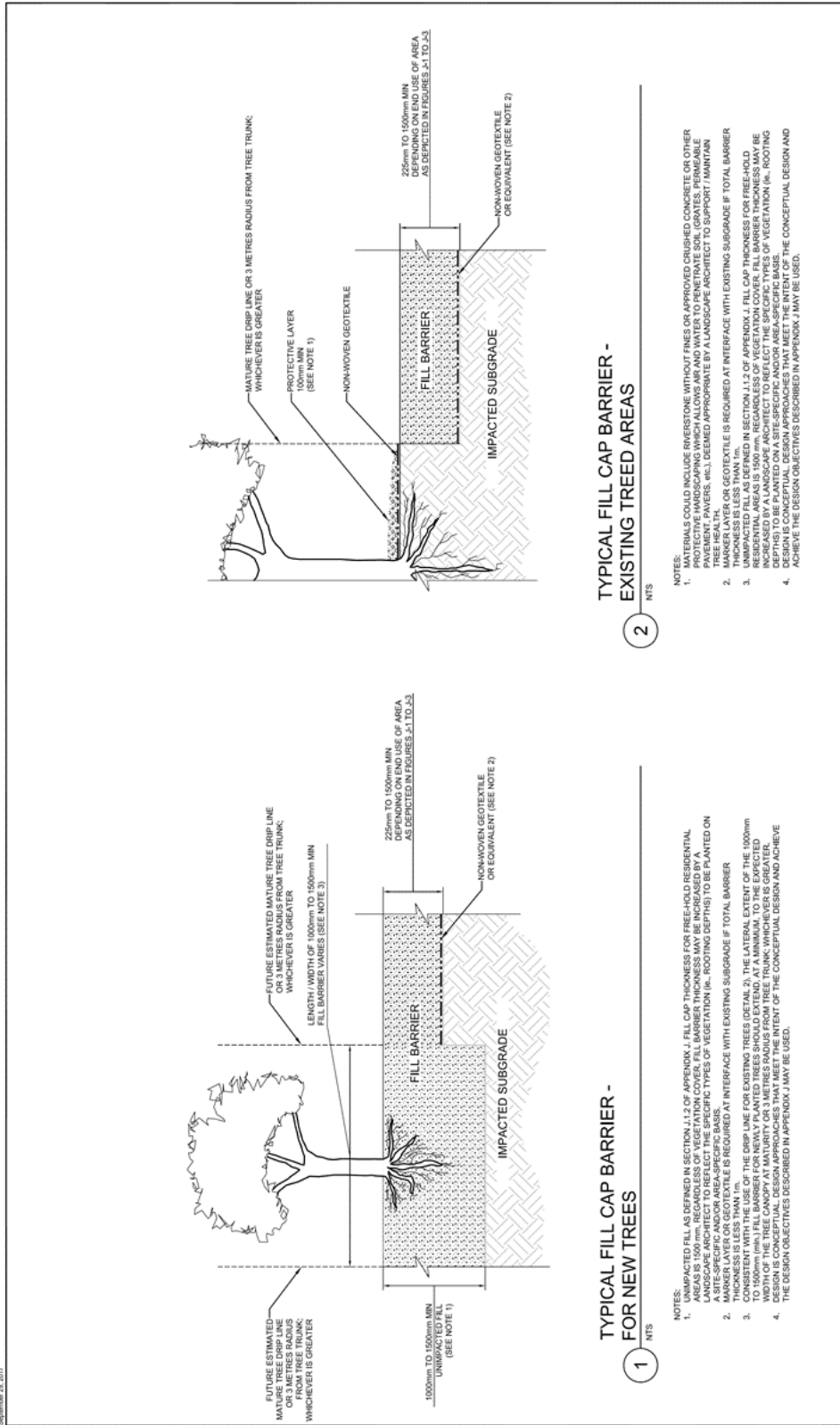


**FIGURE J-2**  
 Conceptual Design of Typical Fill Cap Barrier  
 Vegetation Protective Cover  
 Greenwich-Mohawk Brownfield  
 347 Greenwich Street, Bramford, Ontario





Schedule 'A': Figure 4 – Conceptual Design of Typical Fill Cap Barrier (New and Existing Treed Areas) (not to scale)



**FIGURE J-3**  
Conceptual Design of Typical Fill Cap Barrier  
New and Existing Treed Areas  
Greenwich-Mohawk Brownfield  
347 Greenwich Street, Bramford, Ontario

NOT TO SCALE  
48179\_347\_2020.dwg

cm2m

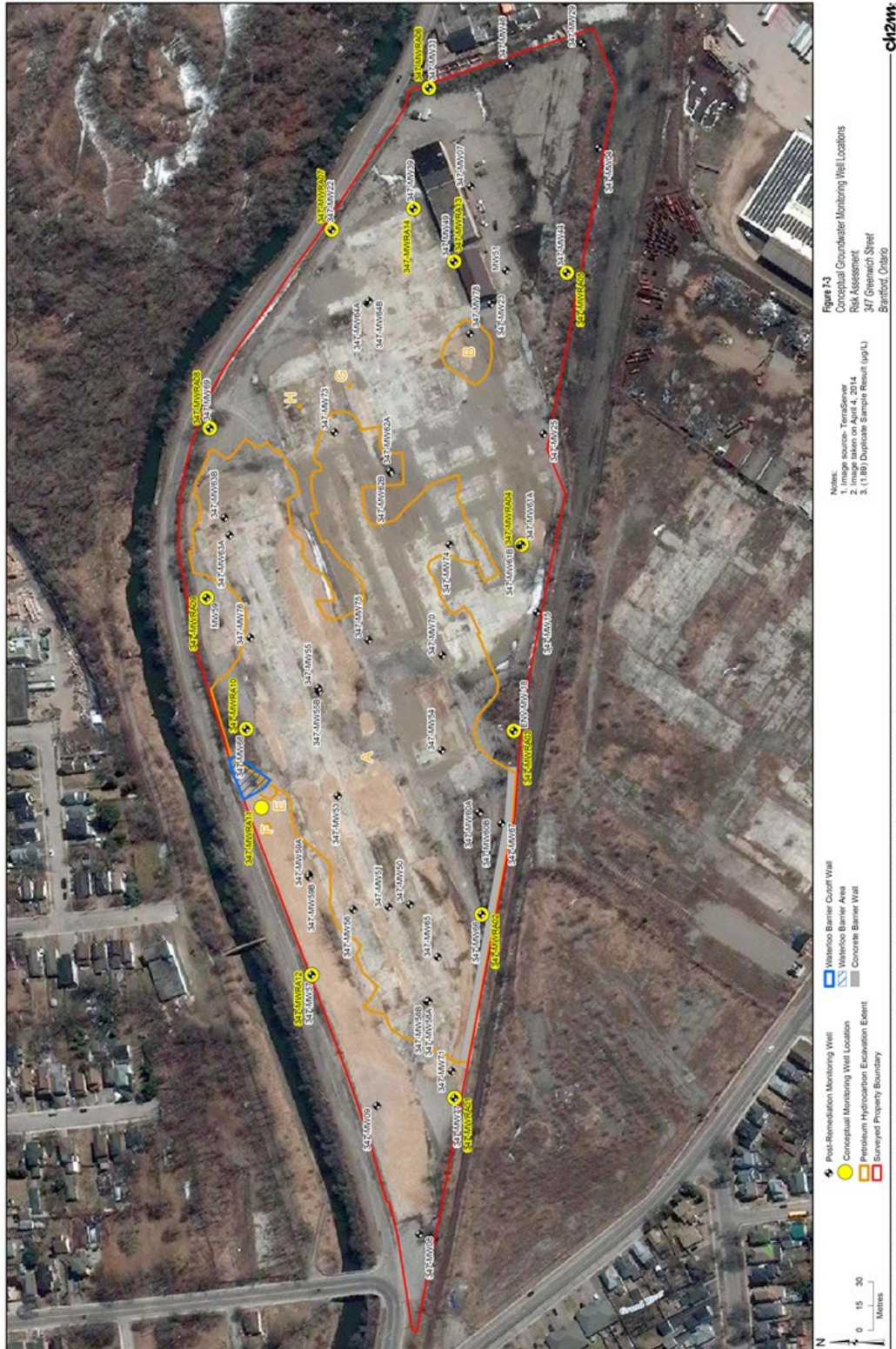
**Schedule 'A': Figure- 5 Location of Guardhouse/Gate House and Museum Building Area**



Schedule 'A': Figure 6 –Property Restrictions (not to scale)

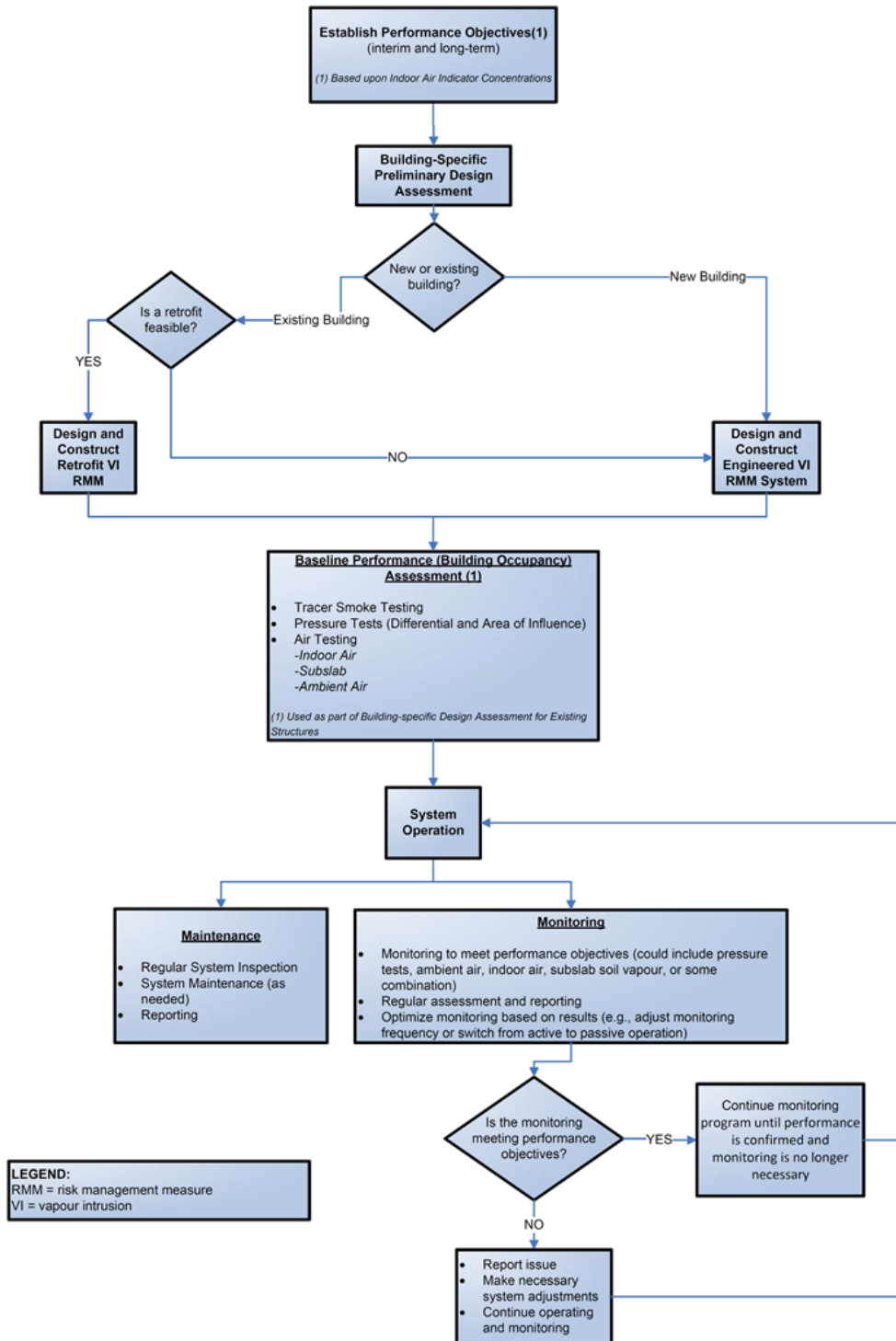


Schedule 'A': Figure 7 – Groundwater Monitoring Network (not to scale)



# Schedule 'A': Figure 8 – Vapour Intrusion RMM – Design, Construction and Monitoring & Maintenance Process

Figure 7-1 Vapor Intrusion RMM – Design, Construction, and Monitoring and Maintenance Process



**Schedule ‘A’: Table 1A: Property Specific Standards (PSS) – Soil**

<i>Soil Contaminant of Concern (COC)</i>	<i>PSS (µg/g)</i>
Acenaphthene	13
Acenaphthylene	2.6
Acetone (2-Propanone)	1.5
Anthracene	11
Antimony	33
Arsenic	440
Barium	2600
Benzene	0.53
Benzo(a)anthracene	16
Benzo(a)pyrene	16
Benzo(b)fluoranthene	18
Benzo(g,h,i)perylene	10
Benzo(k)fluoranthene	9.7
Biphenyl, 1,1’-	4.1
Bis(2-ethylhexyl)phthalate	7.3
Boron	640
Boron, HWS	31
Cadmium	16
Carbon Tetrachloride	0.57
Chromium	210
Chromium (VI)	2.9
Chrysene	16
Cobalt	440
Conductivity (units are mS/cm)	2.3
Copper	7400
Dibenz(a,h)anthracene	2.1
Dichlorobenzene, 1,2-	0.14
Dichloroethane, 1,1-	0.35
Dichloroethylene, 1,2-cis-	18
Dichloroethylene, 1,2-trans-	0.91
Dimethyl phthalate	3.7
Ethylbenzene	260
Fluoranthene	41
Fluorene	10
Hexachlorocyclohexane Gamma	0.013
Indeno(1,2,3-cd)pyrene	10
Iron	66000
Lead	4200
Mercury	2.2

<i>Soil Contaminant of Concern (COC)</i>	<i>PSS (µg/g)</i>
Methylene Chloride (Dichloromethane)	0.061
Methylnaphthalene 1,2-	230
Molybdenum	100
Naphthalene	59
n-Hexane	0.67
Nickel	220
Petroleum Hydrocarbon Fraction (PHC F1)	960
PHC F2 <sup>a</sup>	17000
PHC F3 <sup>a</sup>	13000
PHC F4	4700
Phenathrene	56
Pyrene	55
Selenium	10
Silver	4.3
Sodium Adsorption Ration (unitless)	11
Styrene	0.073
Tetrachloroethylene	1.5
Toluene	45
Trichloroethane, 1,1,1-	1.7
Trichloroethane, 1,1,2-	0.067
Trichloroethylene	49
Vinyl Chloride	0.39
Xylenes, total	1200
Zinc	26000

**NOTE: a – PHC concentrations are the maximum concentrations measured in the area located within the Waterloo Barrier, as identified on Figure 6**

**Schedule 'A': Table 2A: Target Capping Soil Concentrations – Residential/Parkland Land/Institutional Use – Soil**

<i>Soil Contaminant of Concern (COC)</i>	<i>Target Capping Soil Concentrations (µg/g)<sup>1</sup></i>	<i>Alternate Target Capping Soil Concentrations (µg/g)<sup>2</sup></i>
Acenaphthene	13	13
Acenaphthylene	2.6	2.6
Acetone (2-Propanone)	1.5	1.5
Anthracene	2.5	2.5
Antimony	7.5	7.5
Arsenic	18	18
Barium	390	390
Benzene	0.53	0.21
Benzo(a)anthracene	0.5	0.5
Benzo(a)pyrene	0.57	0.57
Benzo(b)fluoranthene	1	1
Benzo(g,h,i)perylene	6.6	6.6
Benzo(k)fluoranthene	1	1
Biphenyl, 1,1'-	4.1	4.1
Bis(2-ethylhexyl)phthalate	5	5
Boron	120	120
Boron, HWS	1.5	1.5
Cadmium	1.9	1.9
Carbon Tetrachloride	0.57	0.05
Chromium	160	160
Chromium (VI)	2.9	2.9
Chrysene	7	7
Cobalt	22	22
Conductivity (units are mS/cm)	0.7	0.7
Copper	140	140
Dibenz(a,h)anthracene	0.57	0.57
Dichlorobenzene, 1,2-	0.14	0.14
Dichloroethane, 1,1-	0.35	0.35
Dichloroethylene, 1,2-cis-	18	3.4
Dichloroethylene, 1,2-trans-	0.91	0.084
Dimethyl phthalate	3.7	3.7
Ethylbenzene	55	4
Fluoranthene	0.69	0.69
Fluorene	10	10
Hexachlorocyclohexane Gamma	0.013	0.013
Indeno(1,2,3-cd)pyrene	0.38	0.38
Iron	38000	38000
Lead	120	120



<b>Soil Contaminant of Concern (COC)</b>	<b>Target Capping Soil Concentrations (µg/g)<sup>1</sup></b>	<b>Alternate Target Capping Soil Concentrations (µg/g)<sup>2</sup></b>
Mercury	2.2	2.2
Methylene Chloride (Dichloromethane)	0.061	0.061
Methylnaphthalene 1,2-	3.2	3.2
Molybdenum	6.9	6.9
Naphthalene	0.6	0.6
n-Hexane	0.67	0.67
Nickel	100	100
Petroleum Hydrocarbon Fraction (PHC F1)	210	55
PHC F2	150	98
PHC F3	300	300
PHC F4	2800	2800
Phenathrene	6.2	6.2
Pyrene	55	55
Selenium	2.4	2.4
Silver	4.3	4.3
Sodium Adsorption Ration (unitless)	5	5
Styrene	0.073	0.073
Tetrachloroethylene	1.5	0.28
Toluene	45	6.1
Trichloroethane, 1,1,1-	1.7	0.49
Trichloroethane, 1,1,2-	0.067	0.05
Trichloroethylene	2.3	0.061
Vinyl Chloride	0.39	0.02
Xylenes, total	95	3.1
Zinc	340	340

**NOTE:**

1 – Target Capping Soil Concentrations are applicable to areas of the Property located greater than 30 m from an enclosed structure or within 30 m of an enclosed structure if the structure has a Vapour Intrusion Risk Management Measure in place; and

2 – Alternative Target Capping Soil Concentrations are applicable to areas of the Property located less than 30 m from an enclosed structure that does not have a Vapour Intrusion Risk Management Measure in place.

**Schedule 'A': Table 3A: Target Capping Soil Concentrations –  
Commercial/Community/Industrial Land Use– Soil**

<i>Soil Contaminant of Concern (COC)</i>	<i>Target Capping Soil Concentrations (µg/g)<sup>1</sup></i>	<i>Alternative Target Capping Soil Concentrations (µg/g)<sup>2</sup></i>
Acenaphthene	13	13
Acenaphthylene	2.6	2.6
Acetone (2-Propanone)	1.5	1.5
Anthracene	2.5	2.5
Antimony	20	20
Arsenic	18	18
Barium	390	390
Benzene	0.53	0.21
Benzo(a)anthracene	0.5	0.5
Benzo(a)pyrene	0.57	0.57
Benzo(b)fluoranthene	1	1
Benzo(g,h,i)perylene	6.6	6.6
Benzo(k)fluoranthene	1	1
Biphenyl, 1,1'-	4.1	4.1
Bis(2-ethylhexyl)phthalate	5	5
Boron	120	120
Boron, HWS	1.5	1.5
Cadmium	1.9	1.9
Carbon Tetrachloride	0.57	0.05
Chromium	160	160
Chromium (VI)	2.9	2.9
Chrysene	7	7
Cobalt	40	40
Conductivity (units are mS/cm)	0.7	0.7
Copper	140	140
Dibenz(a,h)anthracene	0.57	0.57
Dichlorobenzene, 1,2-	0.14	0.14
Dichloroethane, 1,1-	0.35	0.35
Dichloroethylene, 1,2-cis-	18	3.4
Dichloroethylene, 1,2-trans-	0.91	0.14
Dimethyl phthalate	3.7	3.7
Ethylbenzene	55	55
Fluoranthene	0.69	0.69
Fluorene	10	10
Hexachlorocyclohexane Gamma	0.013	0.013
Indeno(1,2,3-cd)pyrene	0.38	0.38
Iron	38000	38000
Lead	120	120

<b>Soil Contaminant of Concern (COC)</b>	<b>Target Capping Soil Concentrations (µg/g)<sup>1</sup></b>	<b>Alternative Target Capping Soil Concentrations (µg/g)<sup>2</sup></b>
Mercury	2.2	2.2
Methylene Chloride (Dichloromethane)	0.061	0.061
Methylnaphthalene 1,2-	3.2	3.2
Molybdenum	6.9	6.9
Naphthalene	0.6	0.6
n-Hexane	0.67	0.67
Nickel	100	100
Petroleum Hydrocarbon Fraction (PHC F1)	210	55
PHC F2	150	150
PHC F3	300	300
PHC F4	2800	2800
Phenathrene	6.2	6.2
Pyrene	55	55
Selenium	2.4	2.4
Silver	4.3	4.3
Sodium Adsorption Ration (unitless)	5	5
Styrene	0.073	0.073
Tetrachloroethylene	1.5	0.28
Toluene	45	45
Trichloroethane, 1,1,1-	1.7	1.7
Trichloroethane, 1,1,2-	0.067	0.05
Trichloroethylene	2.3	0.061
Vinyl Chloride	0.39	0.02
Xylenes, total	95	24
Zinc	340	340

**NOTE:**

1 – Target Capping Soil Concentrations are applicable to areas of the Property located greater than 30 m from an enclosed structure or within 30 m of an enclosed structure if the structure has a Vapour Intrusion Risk Management Measure in place; and

2 – Alternative Target Capping Soil Concentrations are applicable to areas of the Property located less than 30 m from an enclosed structure that does not have a Vapour Intrusion Risk Management Measure in place.

**Schedule 'A': Table 1B: Property Specific Standards (PSS) - Groundwater**

<i>Groundwater Contaminant of Concern (COC)</i>	<i>PSS (µg/L)</i>
Acenaphthylene	1.9
Benzene	140
Dichloroethylene, 1,2-cis-	22
Dichloroethane, 1,2-	0.69
Ethylbenzene	1600
Iron, dissolved	35000
Methyl t-butyl ether (MTBE)	56
PHC F1	7300
PHC F2 <sup>a</sup>	36000
PHC F3	10000
PHC F4	2500
Naphthalene	480
Tetrachloroethylene	1.6
Trichloroethylene	52
Vinyl Chloride	11
Xylenes, total	25000

**NOTE: a – PHC concentrations are the maximum concentrations measured in the area located within the Waterloo Barrier, as identified on Figure 6**

**Schedule 'A': Table 1C: Target Indoor Air Concentrations**

<i>Indoor Air Target Analytes</i>	<i>Target Indoor Air Concentration (µg/m<sup>3</sup>)</i>	
	<i>Residential/Parkland/Institutional</i>	<i>Commercial/Community/Industrial</i>
Benzene	0.51	1.6
Carbon Tetrachloride	0.19*	0.6
Dichloroethylene, 1,2-Cis	13	43
Dichloroethane, 1,2-	0.043*	0.14*
Dichloroethylene, 1,2-Trans	13	43
Ethylbenzene	400	1400
Methyl t-butyl ether	4.3	14
Methylnaphthalene 1,2-	10	36
Naphthalene	0.033*	0.11*
Tetrachloroethylene	4.3	14
Toluene	1000	3600
Trichloroethane, 1,1,1	1000	3600
Trichloroethane, 1,1,2	0.042*	0.14*
Trichloroethylene	0.27*	0.4*
Xylenes, Total	150	500
Vinyl Chloride	0.13*	0.81
PHC F1	2500	8500
PHC F2	470	1600

**Note: \*** - Target concentration may not be achievable; TO-15 Method Reporting Limit (6-L canister) is reported to be 0.5 µg/m<sup>3</sup>. Discussion with MECP prior to the development and initiation of sampling program is recommended in order to confirm approach for COCs for which the target concentration cannot be achieved by commercial laboratories.

**Schedule 'A': Table 1D: Target Soil Vapour Concentrations**

<i>Soil Vapour Target Analytes</i>	<i>Target Soil Vapour Concentration (µg/m<sup>3</sup>)</i>	
	<i>Residential/Parkland/Institutional</i>	<i>Commercial/Community/Industrial</i>
Benzene	26	2600
Carbon Tetrachloride	67	990
Dichloroethylene, 1,2-Cis	650	71000
Dichloroethane, 1,2-	2.2	600
Dichloroethylene, 1,2-Trans	4700	72000
Ethylbenzene	20000	2300000
Methyl t-butyl ether	220	59000
Methylnaphthalene 1,2-	3700	62000
Naphthalene	1.7	190
Tetrachloroethylene	220	23000
Toluene	350000	5900000
Trichloroethane, 1,1,1	360000	6000000
Trichloroethane, 1,1,2	15	230
Trichloroethylene	14	660
Xylenes, Total	7500	830000
Vinyl Chloride	6.5	1300
PHC F1	130000	15000000
PHC F2	24000	2800000

**Schedule 'A': Table 1E: Target Groundwater Monitoring Concentrations – Groundwater Control**

<i>Groundwater Target Analytes</i>	<i>Target Groundwater Concentrations (µg/L)</i>
Benzene	44
Dichloroethylene, 1,2-Cis	1.6
Dichlorethane, 1,2	0.69
Ethylbenzene	1600
Methyl t-butyl ether	56
Naphthalene	480
Tetrachloroethylene	1.6
Trichloroethylene	1.6
Xylenes, total	3300
Vinyl Chloride	0.5
PHC F1	750
PHC F2	150

**Schedule 'A': Table 2E: Target Groundwater Monitoring Concentrations – Existing Museum Buildings**

<i>Groundwater Target Analytes</i>	<i>Target Groundwater Concentrations (µg/L)</i>
Benzene	44
Dichloroethylene, 1,2-Cis	1.6
Dichlorethane, 1,2	0.69
Ethylbenzene	1600
Methyl t-butyl ether	56
Naphthalene	480
Tetrachloroethylene	1.6
Trichloroethylene	1.6
Xylenes, total	7800
Vinyl Chloride	0.5
PHC F1	1400
PHC F2	2300

**Schedule 'A': Table 3E: Proposed Groundwater Monitoring Program Summary**

<i>Groundwater Monitoring Well ID</i>	<i>Location</i>	<i>Monitoring Requirements</i>	<i>Groundwater Monitoring Analytes and Target Concentrations</i>
347-MWRA01 to 347-MWRA05	Downgradient (South Property Boundary, with three wells near the concrete barrier wall)	<ul style="list-style-type: none"> <li>• Waterlevel measurements,</li> <li>• NAPL Monitoring, and</li> <li>• Groundwater Sampling</li> </ul>	Table 1E
347-MWRA06 to 347-MWRA12	Downgradient (North and Eastern Property Boundary, with two wells near the Waterloo Barrier)	Same as above	Table 1E
347-MWRA13 to 347-MWRA14	Upgradient of Existing Museum Buildings	Same as above	Table 2E

**Schedule ‘A’: Table 1F: Building Types and Applicable Mitigation Approaches<sup>c</sup>**

<i>Building Type – New Construction</i>	<i>Is Building Foundation in Contact with Groundwater?</i>	<i>Vapour Mitigation Approach (es)<sup>a,b</sup></i>
Building with Slab-on-grade construction - Occupied and or constructed with vertical, belowgrade foundation walls, or both	Not Applicable	Passive subslab venting system, passive suction pit (plenum box) or vapour cut-off trench; and sealing of penetrations
Building with Slab-on-grade construction – unoccupied and without vertical belowgrade foundation walls (eg. storage shed)	Not Applicable	Vapour-proof barrier and sealing of foundation penetrations
Temporary Structures (e.g. tents and pedestal-mounted trailers)	Not Applicable	Vapour-proof barrier/impermeable membrane or sealed hard cap surface, and passive ventilation through an air space below a raised temporary flooring or through well-ventilated tent spaces
Parking garages under Building	Yes	Vapour-proof barrier and sealing of foundation penetrations and moisture protection
Parking garages under Building	No	Vapour-proof barrier and sealing of foundation penetrations and moisture protection
Other subsurface structures (basement) under Building	Yes	Passive submembrane venting layer, passive suction pit (plenum box), or vapour cut-off trench, and venting at the periphery of the foundation; vapour and waterproof barrier; and sealing of foundation penetrations
Other Basement - other belowgrade structures other than parking garages	No	Passive subslab venting system, passive suction pit (plenum box), or vapour cut-off trench, and venting at periphery of the foundation; vapour-proof barrier; and sealing of foundation penetrations
Any Building/Structure constructed with a sump	Yes	Sealing, secured access, appropriate venting to exterior of structure

**NOTES:**

- a. Detailed design will be based on actual building type/configuration and will be required to be designed and sized appropriately by a qualified Licensed Professional Engineer.
- b. Standard construction practices (that is, waterproofing versus sealing) may address vapour intrusion management requirements. It will be the responsibility of the qualified Licensed Professional Engineer to determine the acceptance of this approach.
- c. To be used in conjunction with Schedule ‘A’: Figure 8 - Vapour Intrusion RMM – Design, Construction and Monitoring & Maintenance Process



**Schedule ‘A’: Table 1G: Vapour Intrusion Risk Management Monitoring Requirements<sup>e</sup>**

<i>Monitoring Approach</i>	<i>Applicability</i>	<i>Performance Monitoring</i>	<i>Frequency</i>	<i>Target Conc.</i>	<i>Measure of VI RMM effectiveness</i>	<i>Contingency Activities (monitoring and Risk Management)</i>
Baseline (Year 1)						
	Parking garages and unoccupied buildings with slab-on-grade construction and no vertical, below-grade foundation walls (such as storage sheds)	Indoor air  Ambient air	One event before use to demonstrate effectiveness	Table 1C	Effective if Indoor Air Target Concentrations are met or other secondary sources (for example building interior sources) are determined to be the cause of exceedances of Indoor Air Targets	If Table 1C targets are exceeded: <ol style="list-style-type: none"> <li>1. Evaluate data and determine if the concentrations of the observed Target Analytes are a result of soil vapour intrusion</li> <li>2. If observed concentrations are determined to be a result of soil vapour intrusion, resample to confirm within 10 business days (if negative, continue monitoring on regular schedule)</li> <li>3. If confirmation samples test positive, evaluate potential sources, modify the system, or implement contingency RMMs (for example make passive venting active) to address issue<sup>c</sup></li> <li>4. Retest, as appropriate to demonstrate that Indoor Air Target concentrations are met and the system is effective</li> <li>5. Continue monitoring on regular schedule</li> </ol>
	Buildings with foundations that intersect the watertable	Indoor air  Soil Vapour (near slab above water table)  Ambient air	One event before use and three subsequent quarterly events over 1 year <sup>b</sup>	Table 1C	Same as above	Same as above

<i>Monitoring Approach</i>	<i>Applicability</i>	<i>Performance Monitoring</i>	<i>Frequency</i>	<i>Target Conc.</i>	<i>Measure of VI RMM effectiveness</i>	<i>Contingency Activities (monitoring and Risk Management)</i>
	All other new construction except temporary structures <sup>a</sup> (such as tents and pedestal-mounted trailers)	Indoor Air Soil Vapour (sub-slab) Ambient Air	One event before use and three subsequent quarterly events over 1 year <sup>b</sup>	Table 1C	Same as above	Same as above
Confirmatory <sup>d</sup>						
	Buildings with foundations that intersect the watertable	Indoor air Soil Vapour (near slab above water table) Ambient air	Three events per year	Table 1C	Same as above	If Table 1C targets are exceeded: <ul style="list-style-type: none"> <li>1. Retest within 10 business days to confirm results;</li> <li>2. If confirmation samples test positive, evaluate potential sources, modify the system, or implement contingency RMMs (for example make passive venting active) to address issue<sup>c</sup></li> <li>3. Retest, as appropriate to demonstrate that Indoor Air Target concentrations are met and the system is effective</li> <li>4. Continue monitoring on regular schedule</li> </ul>

<i>Monitoring Approach</i>	<i>Applicability</i>	<i>Performance Monitoring</i>	<i>Frequency</i>	<i>Target Conc.</i>	<i>Measure of VI RMM effectiveness</i>	<i>Contingency Activities (monitoring and Risk Management)</i>
	All other new Building construction not containing a parking garage below the occupied space or meeting the definition of an unoccupied slab-on-grade building with no vertical, belowgrade foundation walls (such as a storage shed), except temporary structures <sup>a</sup>	Indoor Air Soil Vapour (sub-slab) Ambient Air	Three events per year	Table 1C	Same as above	Same as above

**Notes:**

**RMM – risk management measure**

**VI - vapour intrusion**

- a. **No monitoring is required for temporary structures placed at the RA property for a period of not more than 12 months**
- b. **Buildings, other than those containing a parking garage below the occupied space must be monitoring for a minimum of 2 years (inclusive of baseline and confirmation periods)**
- c. **If VI RMM contingencies are required, then indoor air sampling must be performed for a minimum of two events following implementation or systems with sub-slab depressurization (SSD)/sub-membrane depressurization (SMD) systems and one event following implementation for underground parking garage VI RMMs**
- d. **At the end of two years, inclusive of baseline performance assessment, the decision may be made in consultation with a Qualified Person, to cease monitoring, if supported by data**
- e. **To be used in conjunction with Schedule ‘A’: Figure 8 - Vapour Intrusion RMM – Design, Construction and Monitoring & Maintenance Process**

**SCHEDULE 'B'**

**CERTIFICATE OF REQUIREMENT**

**s.197(2)**

***Environmental Protection Act***

This is to certify that pursuant to Section 4.9 of Certificate of Property Use number 0064-BECNM9 issued by Amy Shaw, Director of the Ministry of Environment, Conservation and Parks under subsections 168.6(1) and 197(1) of the Environmental Protection Act, dated <<<<INSERT DATE>>>>, being a Certificate of Property Use and order under subsection 197(1) of the Environmental Protection Act relating to the property municipally known as **347 Greenwich Street, Brantford, Ontario being all of Property Identifier Number (PIN) 32102-0013 (LT) (the "Property")** with respect to a Risk Assessment and Risk Management Measures and other preventive measure requirements

**THE CORPORATION OF THE CITY OF BRANTFORD**

and any other persons having an interest in the Property, are required before dealing with the Property in any way, to give a copy of the Certificate of Property Use, including any amendments thereto, to every person who will acquire an interest in the Property.

Under subsection 197(3) of the Environmental Protection Act, the requirement applies to each person who, subsequent to the registration of this certificate, acquires an interest in the Property.