

PROJECT NO. 23116  
HOSSACK ARCHITECTS

**ADDENDUM NO. 1****Issued by email Friday September 13, 2024**

The following additions, deletions, modifications and clarifications issued herein are hereby an integral part of the Tender and Contract Documents. Minor Typographic or spelling mistakes in the Contract Documents which do not significantly affect the meaning of the sentence or phrase in which they occur may not necessarily be corrected by Addenda.

**GENERAL**

1. Ensure that all parties submitting bids are aware of this **Addendum No.1** and its contents.
2. **Contents:** Addendum No. 1 - in its entirety consists of the following:
  - .1 Three (3) typed page of instructions, dated: September 13, 2024 by Hossack Architects.
  - .2 Specification section '01 35 43 Environmental Procedures – Soil Management' (42 pages) which includes Figure 1 by GHD (1 page), Table 1 (1 page), Table 2 (10 pages), ESMC.Form.01A (1 page), ESMC.SOP.01 (7 pages) & ESMC.SOP.02 (2 pages).
  - .3 Drawings A02, A03, A07, A10, A12, A14 & A15, 30x42" dated: September 12, 2024 by Hossack Architects.
  - .4 Civil Addendum 1 – one (1) full size drawing (CV-1) 30" x 42" issued by MGM Consulting Inc.
  - .5 Landscape Addendum 1, dated September 12, 2024 – two (2) typed pages of instructions and four (4) full size drawings 30" x 42" issued by FRP Inc.
  - .6 Mechanical Addendum 1 – one (1) full size drawing 30" x 42" issued by exp Services.

**AMENDMENTS TO SPECIFICATIONS – BINDER A****Item 1: Section 00 00 10 Table of Contents:**

- .1 ADD entry "01 34 43....Environmental Procedures – Soil Management"
- .2 DELETE entry "08 35 00...Four-Fold Doors, Side Actuating...5" in its entirety.
- .3 DELETE entry "09 24 23...Portland Cement Stucco...3" in its entirety.
- .4 DELETE entry "32 13 19...Seeding...3" in its entirety.
- .5 DELETE entry "32 13 10...Detectable Warning Panels...1" in its entirety.
- .6 REVISE entry "32 13 13...Precast Concrete Unit Paving...5" to read as follows: "32 14 13...Precast Concrete Unit Paving...5"

**Item 2: Section 00 11 00 General Instructions & Summary of Work:**

- .1 ADD item 1.5.11 to read as follows:
  - .11 Refer to drawing CV-1 Erosion & Sediment Control and Removal Plan for information on soil to be removed in addition to the material required to be excavated to meet building and site design grades. All soil excavated is required to be removed from the site and disposed of per specification section '01 34 43 Environmental Procedures – Soil Management'. Excavated soil may not be re-used on the site.

**Item 3: Section 01 35 43 Environmental Procedures – Soil Management:**

- .1 ADD entire specification section (42 pages) included in this addendum, which includes the following:
  - 01 35 43 Environmental Procedures – Soil Management (20 pages)
  - Figure 1 by GHD – Site Plan Investigative Locations (1 page)
  - Table 1 – Summary of Sampling Locations(1 page)

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- Table 2 – Soil Analytical Results (10 pages)
- ESMC.Form.01A – Environmental Site Management and Compliance Hauling Record (1 page)
- ESMC.SOP.01 – Due-Diligence Soil Characterization (7 pages)
- ESMC.SOP.02 – Excavation Procedure of Impacted Soils (2 pages)

**Item 4: Section 08 35 00 Four-Fold Doors Side Actuating:**

- .1 DELETE specification section 08 35 00 in its entirety.

**Item 5: Section 31 23 10 Excavating, Trenching and Backfilling:**

- .1 REVISE item 2.1.2, 2.1.3 and 2.1.4 to read as follows:
- “.2 **Fill "B": Imported** Granular material meeting OPSS Material Specification for Aggregates, Form 1010, Granular "B"-Type 2 **or 50mm crusher run limestone type 2.** Minimum compaction density **100%** Standard Proctor. For use primarily as fill under building slab on grade areas, **asphalt sub-base and for general site fill.**
  - .3 ~~Fill "C": Site (native) material, containing no organic or foreign matter, and which the Contractor can demonstrate is compactable to a density of 98% to 100% Standard Proctor.~~ **Imported earth fill meeting MOE Table 3.2.** Minimum compaction density: 95% Standard Proctor under landscaped areas, 100% under paved areas. For use primarily as fill **in landscaped areas to receive sod, shrubs and trees** under paved areas up to underside of sub-base elevation.
  - .4 **Fill "D":** Refer to Section 32 12 17 –‘Asphalt and Concrete Paving’ for fill and sub-base material description.
- .2 REVISE item 3.7.1 to read as follows:
- “.1 **All excavated and excess soil must be removed from the site and disposed of off-site** in compliance with the Ontario Regulation 406/19 and any other applicable legislation, standards and by-laws. **Refer to specification Section 01 35 43 Environmental Procedures – Soil Management.**”
- .3 REVISE item 3.11.7 to read as follows:
- “.7 Where undisturbed soil surface is low below areas of slab-on-grade, bring level up to within 200 mm of underside of slab fill with Fill "B". Do not use fill "C" within building or **parking/driveway** areas. **Imported earth Fill 'C' is only to be used in landscaped areas to receive sod, shrubs or trees.**
- .4 REVISE item 3.13.2 to read as follows:
- “.2 Use **imported** Fill "C" ~~native site~~ material for fill under the landscaped areas **to receive sod, shrubs or trees. South-west portion of site to be imported granular Fill 'B'.**

**Item 6: Section 31 23 13 Rough Grading:**

- .1 REVISE specification section number in header to read “31 23 13”
- .2 REVISE item 3.1.5 to read as follows:
- “.5 Contractor is responsible to quantify all on-site material to achieve **required removals of existing material in south-west portion of site, and the** design grades and is responsible for the importation or exportation of material from the site as required.

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Existing topsoil may be re-used for general sodded areas as described in Section 32 91-24 Topsoil Placement and Grading. **All required topsoil must be imported.**

**Item 7: Section 32 13 10 Detectable Warning Panels:**

- .1 DELETE specification section 32 13 10 in its entirety.  
*Reason: Specification section 32 33 00 contains the required information for detectable warning panels. These items are required for this project.*

**AMENDMENTS TO DRAWINGS**

**Item 8: Drawing SP1 Proposed Site Plan:**

- .1 REVISE note on south-west portion of site “EX. GRAVEL TO REMAIN” to read "FILL WITH IMPORTED GRANULAR B Type 2 ('Fill B') or 50mm crusher run limestone Type 2 meeting Table 3.2 to minimum compaction density 100% Standard Proctor to proposed grade elevations noted on the Grading Plan”.

**Item 9: Drawing CV-1 Grading Plan & CV-2 Servicing Plan:**

- .1 DELETE note on drawings ‘CV-2 Grading Plan’ & ‘CV-3 Servicing Plan’ in south-west portion of site “EX. GRAVEL TO REMAIN”.

**Item 10: Drawings A02, A03, A07, A10, A12, A14, A15:**

- .1 REPLACE drawings A02, A03, A07, A10, A12, A14 & A15 with drawings of the same names and numbers, dated September 12, 2024 (Addendum #1).  
*Reason: The four-fold side actuating doors (131D & 131E) in Apparatus Bay 131 have been revised in the project and this has been reflected on the reissued drawings.*

**CIVIL**

- .1 Civil Addendum 1 - REPLACE drawing ‘CV-1 Erosion & Sediment Control and Removal Plan’ with the enclosed drawing ‘CV-1 Erosion & Sediment Control and Removal Plan’ dated Sep. 13/2024 - one (1) full size drawing 30” x 42” issued by MGM Consulting Inc.
- .2 DELETE note on drawings ‘CV-2 Grading Plan’ & ‘CV-3 Servicing Plan’ in south-west portion of site “EX. GRAVEL TO REMAIN”.

**LANDSCAPE**

- .1 Landscape Addendum 1, dated September 12, 2024 – Two (2) typed pages of instructions and four (4) full size drawings 30” x 42” issued by FRP Inc.

**MECHANICAL**

- .1 Mechanical Addendum 01, dated September 13, 2024 – REPLACE drawing ‘MD100 Demolition Mechanical Site Plan’ with the enclosed drawing ‘MD100 Demolition Mechanical Site Plan’ dated 09/13/24 - one (1) full size drawing 30” x 42” issued by exp Services.

## **1 GENERAL**

### **1.1 General**

1.1.1 This section contains the Work for soil handling and management activities including:

- .1 Sourcing and placing fill, including topsoil, and backfill material
- .2 Where fill requirements are not met by soil from the Project Area, sourcing, placing, grading, and compacting imported fill
- .3 Where soil is generated that cannot be reused at the Project Area, managing the removal of excess soil

1.1.2 The Contractor shall furnish all labour, materials, tools and equipment, and perform all operations necessary to furnish, deploy, install, and test soil and aggregate materials in the areas indicated on the Contract Documents and as specified herein.

1.1.3 The Contractor is responsible for managing all soil handling activities, including but not limited to: testing, tracking and documenting stockpiling; movement and transportation of soil within the Project Area; and importing and exporting excess soil to and from the Project Area. All soil handling activities shall be conducted in accordance with Ontario Regulation 406/19 and the City's guidance documents including SOPs.

1.1.4 In the event of any conflicts between this Section and the General Conditions, more stringent requirements shall govern.

### **1.2 References**

Comply with the latest edition of the following applicable statutes, codes, and standards, and all amendments thereto, including but not limited to the following:

1.2.1 Canadian Standards Association (CSA):

- .1 CSA A23.2-2A – Test Methods on Sieve Analysis of Fine and Coarse Aggregate.
- .2 CSA A23.5-5A – Test Methods for the Amount of Material Finer than 80 micrometres ( $\mu\text{m}$ ) in Aggregate.

1.2.2 Canadian General Standards

- .1 CAN/CGSB-148.1 No. 10-94 – Filtration Opening Size

1.2.3 Ontario Provincial Standard Specification (OPSS):

- .1 OPSS Municipal (MUNI) 180 - Management of Excess Material
- .2 OPSS Municipal (MUNI) 206 – Construction Specification for Grading.

- .3 OPSS Municipal (PROV) 209 - Construction Specification for Embankment Over Swamp and Compressible Soils
  - .4 OPSS MUNI 212 – Construction Specification for Borrow.
  - .5 OPSS MUNI 501 – Construction Specification for Compacting.
  - .6 OPSS MUNI & PROV 539 - Construction Specification for Temporary Protection System
  - .7 OPSS MUNI 805 – Construction Specification for Temporary Erosion and Sediment Control Measures.
  - .8 OPSS PROV 902 - Construction Specification for Excavating and Backfilling Structure
  - .9 OPSS MUNI 1001- Material Specification for Aggregates- General
  - .10 OPSS MUNI 1004 – Material Specification for Aggregates – Miscellaneous.
  - .11 OPSS MUNI 1010 – Material Specification for Aggregates – Granular A, B, M, and Select Subgrade Material.
  - .12 Regulations for Construction Projects, Ontario Regulation 213/91, made under the Occupational and Health Safety Act, Revised Statutes of Ontario 1990 Chapter 0.1.
- 1.2.4 ASTM International (ASTM):
- .1 C136, Standard Method for Sieve Analysis of Fine and Coarse Aggregates.
  - .2 D75, Standard Practice for Sampling Aggregates.
  - .3 D1556, Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
  - .4 D2216, Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.
  - .5 D2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
  - .6 D2974, Standard Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils.
  - .7 D3017, Standard Test Methods for Water Content of Soil and Rock in place by Nuclear Methods (Shallow Depth).
  - .8 D4318, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
  - .9 D6913 / D6913M-17, Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis.

- .10 D6938, Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
- 1.2.5 Ontario Ministry of the Environment, Conservation and Parks (MECP)
  - .1 Records of Site Condition – Part XV.1 of the Act. Environmental Protection Act. Ontario Regulation (O. Reg.) 153/04, as amended, 2011
  - .2 On-Site and Excess Soil Management made under Environmental Protection Act. O. Reg. 406/19, as amended (herein referred to as Excess Soil Regulation).
  - .3 Rules for Soil Management and Excess Soil Quality Standards adopted by reference in O. Reg. 406/19 made under the Environmental Protection Act, R.S.O. 1990, c. E.19 (EPA), as applicable, (herein referred to as Excess Soil Rules)
  - .4 General - Waste Management, RRO 1990, O. Reg 347
  - .5 Aggregate Resources Act, RSO. 19990, c A.8
  - .6 Fertilizer Act - Fertilizers Act, R.S.C., 1985, c. F-10 and Trade Memorandum T-4-93
  - .7 Nutrient Management Act, 2002 (NMA). The NMA protects Ontario's natural environment through the regulation and management of livestock manure and other nutrients that are stored on farm properties or applied to agricultural land; further details are found in the General Nutrient Management Regulation O. Reg. 267/03.
  - .8 Municipal Act, 2001, SO 2001, c 25
  - .9 Ontario Compost Quality Standards, Ministry of Environment, Conservation and Parks, July 25, 2012
- 1.2.6 City of Mississauga
  - .1 ESMC SOP 01 – Environmental Site Management and Compliance, Due-Diligence Soil Characterization, dated March 21, 2024
  - .2 ESMC SOP 02 – Environmental Site Management and Compliance, Excavation Procedure of Impacted Soils, dated April 5, 2024

### **1.3 Related Sections**

#### 1.3.1 Division 1 – General Requirements

#### 1.3.2 Division 31 - Earthwork

1.3.1 Section 31 09 15 – Geotechnical Information

1.3.2 Section 31 23 10 – Excavating, Trenching and Backfilling

1.3.3 Section 31 23 13 – Rough Grading

### 1.3.4 Section 31 25 00 – Erosion and Sedimentation Control

#### **1.4 Definitions**

- 1.4.1 Agricultural Source Material – means treated or untreated materials that meet the requirements for Category AA, A or B compost in Part II of the Compost Standards such as manure as outlined in the General Nutrient Management Regulation O. Reg. 267/03.
- 1.4.2 ARA Topsoil – means topsoil produced in accordance with a permit issued under the Aggregate Resources Act (ARA) that is the property of the Crown or that is on land the surface rights of which are the property of the Crown or on designated land under the Aggregate Resources Act.
- 1.4.3 Assessment of Past Uses Report – means the O. Reg 406/19 report similar to a Phase One Environmental Site Assessment that fulfills the requirements of the Excess Soil Regulation.
- 1.4.4 Blended Soil – means soil blended with other materials to satisfy horticultural requirements; the blended soil is considered to meet the generic or site specific Standards of the Excess Soil Regulation if the blended soil meets in the mixed state or the constituents meet the requisite quality requirements prior to mixing. Blending could involve mixing soil with agricultural source material, compost, peat, ARA topsoil, aggregate or non-soil products.
- 1.4.5 City Qualified Person - (QP) – QP retained by the Corporation of the City of Mississauga as defined by Section 5 of O. Reg. 153/04
- 1.4.6 Compost – means compost produced from a composting facility operating under an Environmental Compliance Approval for composting that meets the requirements for Category AA compost in PART II of the “Ontario Compost Quality Standards”, published by the MECP (and as may be amended in the future), and will not used as the principal constituent of blended soil (i.e. not more than 50% by volume).
- 1.4.7 Consultant – The Consultant is the professional service team hired by the Owner/Project Leader to provide consulting services with respect to the Project.
- 1.4.8 Contractor - Contractor(s) selected for all soil placement activities described in this Section.
- 1.4.9 Contractor QP – QP retained by the Contractor as defined by Section 5 of O. Reg. 153/04.
- 1.4.10 Excavation Grade - The bottom of the excavation, including removal of deleterious material below the subgrade.
- 1.4.11 Excess Soil – means soil, crushed rock, or soil mixed with rock or crushed rock, that has been excavated as part of a project and removed from the Project Area for the project.

- 1.4.12 Excess Soil Destination Report – means the O. Reg 406/19 report that identifies each waste transfer facility, landfill or dump at which the excess soil will be deposited, the location of each site, contingency measure to be implemented in the event that the excess oil cannot be deposited at a site and an estimate of the quality and quantity of excess soil that will be deposited at each location.
- 1.4.13 Excess Soil Registry or Registry – means the on-line Registry established by the MECP to register soil import or export by Owner, Operator or Project Leader. Exemptions and volume rules apply.
- 1.4.14 Excess Soil Quality Standard – means the Table 3.1 Full depth excess soil quality standards in a non-potable ground water condition for industrial, commercial, community property use in the Excess Soil Rules, Part II: Excess Soil Quality Standards, published by the Ministry of the Environment, Conservation and Parks (MECP) and dated February 2024.
- 1.4.15 Fill Cap: a barrier covering impacted soil consisting of soil meeting MECP Table 3.1 ICC Standards, topsoil and/or imported aggregate fill, to create a physical barrier over impacted soil. Where soil is excavated as part of the project, the subgrade material and excavation depths as stated on the design drawings shall be considered the Fill Cap and the required cap thickness.
- All soil excavated to place the fill cap shall be considered a waste and transported and disposed of at a Waste Disposal Site (as defined in the Excess Soil Regulation, local waste transfer facility, landfill site or dump).
- 1.4.16 Imported Aggregate Fill - means consolidated or unconsolidated aggregate or recycled aggregate from a licensed Ministry of Natural Resource pit or quarry with a valid license number under the Aggregate Resources Act.
- 1.4.17 Imported Soil – means Soil or Blended Soil imported to the Project Area that meets the Excess Soil Quality Standards, that has origin and tracking documentation and has pH levels within the acceptable pH range, from 5.0 to 9.0 for surface soil and from 5.0 to 11.0 for subsurface soil unless otherwise indicated in the Contractor Documents or confirmed by a QP not to cause an adverse effect. Presence of electrical conductivity and sodium adsorption ratio (salt related compounds) are also permitted if certain conditions apply.
- 1.4.18 Non-Soil Products – means manufactured products that are used to support plant growth and could include bark fines, mulch, vermicompost, commercial fertilizer (such as pelletized gypsum), engineered wood-fibre (including poured in place rubber), or terraseed.
- 1.4.19 Owner, Project Leader: City of Mississauga, ON. Owner will hold the contract with the Contractor. Project Leader - means, in respect of a project, the person or persons who are ultimately responsible for making decisions relating to the planning and implementation of the project (Project Leader or City; herein used interchangeably).
- 1.4.20 Peat – means peat generated from a peat extraction operation.

- 1.4.21 Project Area - means, in respect of a project, a single property or adjoining properties on which the project is carried out and can include properties with different owners providing the Project Area is under the care and control of the Project Leader.
- 1.4.22 Project Area Soil Reuse – means soil that is reused within the Project Area.
- 1.4.23 Qualified Person (QP) - As defined by Section 5 of O. Reg. 153/04
- 1.4.24 Site Specific Soil Planning Documents – refers to the following project specific reports:
- .1 Phase One Environmental Site Assessment, 2524 Cawthra Road, Mississauga, Ontario prepared by GHD Limited for the Corporation of the City of Mississauga and dated November 15, 2022.
  - .2 Phase Two Environmental Site Assessment, 2524 Cawthra Road, Mississauga, Ontario prepared by GHD Limited for the Corporation of the City of Mississauga and dated November 15, 2022.
  - .3 Geotechnical Investigation and Design Report, 2524 Cawthra Road, Mississauga, Ontario prepared by GHD Limited for the Corporation of the City of Mississauga and dated October 28, 2022.
  - .4 Supplementary Environmental Investigation, 2524 Cawthra Road, Mississauga, Ontario prepared by GHD Limited for the Corporation of the City of Mississauga and dated December 5, 2023. Risk Evaluation, 2524 Cawthra Road, Mississauga, Ontario prepared by GHD Limited for the Corporation of the City of Mississauga and dated March 5, 2024.
- 1.4.25 Soil - unconsolidated naturally occurring mineral particles and other naturally occurring materials resulting from the natural breakdown of rock or organic matter by physical, chemical or biological processes that are smaller than 2 millimetres in size or that pass the US #10 sieve.
- 1.4.26 Source Site – means a site at which Topsoil or Imported Soil is received from.
- 1.4.27 Topsoil - means the upper most horizons in a soil profile, commonly known as the “O” and the “A” horizons, typically containing higher organic content than lower horizons and includes deposits of partially decomposed organic matter such as peat. (see SubSection 142(1) of the Municipal Act).
- 1.4.28 Waste Disposal Site - means a Class 1 Soil Management Site, as defined in the Excess Soil Regulation, local waste transfer facility, landfill site or dump.
- 1.4.29 Waste Soil – means Excess Soil that is deposited at a Waste Disposal Site. This may include soil that is determined to be unsuitable for reuse or Excess Soil where an appropriate Reuse Site cannot be located.
- 1.4.30 Work – The construction related activities and work covered in this section.

## **1.5 Submittals**

- 1.5.1 Item shall be read in conjunction with the requirements of OPSS 180, as well as the requirements of the Excess Soil Regulation. The work under this item involves support services by a Qualified Person for the Contractor (Contractor QP), with a minimum of five years experience as a QP to undertake soil sampling and management activities and deliverables as required.
- 1.5.2 The Contractor is to provide a Health and Safety Plan. In addition to any requirements under the Occupational Health and Safety Act, R.S.O. 1990, c. O.1, preparing and implementing a written health and safety plan for the Property, prepared by a Competent Person in consultation with an appropriate Health and Safety Person, that includes information concerning the potential hazards and safe work measures and procedures with respect to the lead with soils at the Property and the communication of this information to all persons who may be involved in Intrusive Activities at the Property, including, at a minimum:
- i. The procedures and timing for implementing the plan, including the supervision of persons implementing the plan;
  - ii. All relevant information concerning the presence of human exposure to, and risk posed by, the lead in soil through dermal contact, soil and inhalation of soil particles that may be present at the Property including information in the Risk Evaluation,
  - iii. All relevant information, measures and procedures concerning protection of the persons from exposure to the lead in soil and the precautions to be taken when undertaking Intrusive Activities, including the supervision of workers, occupational hygiene requirements, use of personal protective equipment, provision of air flow augmentation in excavations or other areas or situations of minimal air ventilation, and other protective measures and procedures as appropriate;
  - iv. All relevant information concerning the presence and significance of the risk management measures and requirements which are being, or have been, implemented at the Property,
  - v. The procedures and timing for implementing emergency response and contingency measures and procedures, including contact information, in the event of a health and safety incident; and
  - vi. The recording, in writing, of the implementation of the plan and any health and safety incidents that occur;
- and which is,
- vii. Delivered to the Owner before any Intrusive Activities are undertaken at the Property; and
  - viii. Updated and delivered to the Owner within 30 days following making any alteration to the plan.
- 1.5.3 Contractor to provide a Soil and Aggregate Management Plan to be submitted to the Consultant and City for review and approval a minimum of thirty (30) days before the movement of soil or Aggregate. The documentation shall demonstrate compliance and understanding of the requirements of the Excess Soil Regulation,

the Risk Evaluation and the requirements in this Section, and in related Sections and Drawings. Soil exportation or importation cannot proceed without written approval from the Consultant. The Contractor shall prepare and implement the written soil management plan for the Property, reviewed by a Qualified Person, for managing excavated soil or soil brought to the Property, so as to prevent exposure to or uncontrolled movement or discharge of the Contaminants of Concern (COCs) in soil at the Property, including, at a minimum:

- i. Procedures and timing for implementing the plan, including the supervision of persons implementing the plan;
- ii. Measures to control dust and prevent tracking of soil by vehicles and persons from the Property, including the cleaning of equipment and vehicles;
- iii. Measures to manage storm water and any ground water from dewatering at the Property to prevent the movement of entrained soil and COCs within and away from the Property, including, in addition to any applicable measures specified pursuant to other applicable law or other instruments, measures such as silt fences, filter socks for catch-basins and utility covers, and provision for discharge to a sanitary sewer or to other approved treatment if needed; and
- iv. Recording, in writing, the soil, storm water and any ground water management measures undertaken, in addition to any applicable record keeping requirements specified in O. Reg. 153/04 or pursuant to other applicable law or other instruments, including:
  - (a) Dates and duration of the Intrusive Activities being undertaken;
  - (b) Weather and site conditions during the Intrusive Activities;
  - (c) The location and depth of excavation activities, and dewatering activities, if any;
  - (d) Dust control and soil tracking control measures;
  - (e) Characterization results for excavated soil and any soil brought to or removed from the Property, and for any ground water from dewatering;
  - (f) Soil management activities including soil quantities excavated and brought to and removed from the Property, and stockpile management and storm water runoff control;
  - (g) Management activities for any ground water from dewatering;
  - (h) Names and contact information for the Qualified Persons and on-site contractors involved in the Intrusive Activities;
  - (i) Names and contact information for any haulers and receiving sites for soil and any ground water removed from the Property, and for haulers and source sites of any soil brought to the Property; and
  - (j) Any complaints received relating to the Intrusive Activities, including the soil, storm water and any ground water management activities; and which is,
- v. Delivered to the Owner before any Intrusive Activities are undertaken at the Property; and

- vi. updated and delivered to the Owner within 30 days following making any alteration to the plan.

The Contractor shall include a detailed narrative description; proposed sequencing, details, means and methods of transportation; data, specification sheets, and all other supporting data for proposed effort including, but not limited to, the following:

- .1 Means and Methods for soil tracking, excavation, segregation and inspections, where applicable, including:
  - .1 Procedures to account for every load of excess soil to be deposited at the Waste Disposal Site for final placement (including visual and olfactory evidence inspection of each load). The Contractor shall use the City' hauling record template (ESMC.Form.01) or approved equivalent document.
  - .2 Locations, design and layout for temporary Project Area storage locations for imported material, to be coordinated with the Owner and including discussion on water management and dust and erosion control.
  - .3 Transportation routes for off-site haulage and list of carriers.
- .2 Proposed sources of fill material and the Ministry of Natural Resources and Forestry Pit and Quarry License Number for sourced aggregates.
- .3 Proposed location(s) of Waste Disposal Site (include Environmental Compliance Approval and confirm material acceptability) for Excess Soil.
- .4 Anticipated difficulties and proposed resolutions including:
  - .1 Procedures to address off-spec material or rejected loads and described contingency measures to segregate and manage the off-spec material or rejected loads including any necessary updates to documentation and Registry notices.
- .5 Environmental documentation, where required, including:
  - .1 For Imported Soil: Assessment of Past Uses, Sampling and Analysis Plan, Soil Characterization Report, and Excess Soil Destination Assessment Report, where required. For Source Site that is exempted from Section 8 of O. Reg. 406/19, the City's Due-Diligence Soil Characterization requirements must be met (see ESMC SOP 01).
  - .2 For Waste Soil: Any soil quality testing as required by Waste Disposal Site unless this data is available in the Specifications. Refer to the Site Specific Soil Planning Documents.
  - .3 For Imported Soil and Reused Soil scenarios: Identification of Qualified Person lead (and resume demonstrating five years of soil

experience) and accredited analytical laboratory who may be engaged if additional data and documentation is necessary.

.5 Upon completion of any required soil removal, and prior to placement of any backfill or construction of any hard caps and/or fill caps, document top of subgrade elevation through photographs and survey, to the satisfaction of Consultant and City's QP. Periodic inspections will be completed by the Consultant and/or City's QP to review construction of barriers. At a minimum, the Consultant and/or City's QP must be provided 48-hour advance notification and opportunity to inspect excavations prior to importation of backfill or construction of hard caps and fill caps. During and following construction of any fill caps or hard caps, the Contractor and the Contractor's QP shall document barrier construction and final conditions, including thickness of constructed barriers based on survey data, materials used for cap construction, and photographic logs to document placement of fill and hard caps.

.6 Quality Control (QC) Plan

.7 Forms referenced in the document should be included in an appendix to the plan.

1.5.4 Product data, manufacturers data, or certificates for demonstrating the origin and quality of the material:

.1 Imported fill materials such as aggregate

.2 Compost

.3 ARA Topsoil

.4 Topsoil

.5 Peat

1.5.5 Final Project Area Soil Records

.1 A post-construction summary of material disposition will be prepared right after construction.

.1 Summarize any deviations from the Soil and Aggregate Plan.

.2 Provide summary of any additional soil testing results and rationale for testing.

.3 Summary of the cumulative quantities, quality, rejected loads, off-spec material, exceptions, contingency implementation, and any relevant Project Area fill placement information.

.4 Attach daily logs as evidence of the visual inspections.

- .5 Prepare and submit a Barrier Installation Report prepared by the Contractor's QP that will describe the Site, placement and quality of all barriers to the existing Site soils. The Barrier Installation Report will include pre-barrier installation and post-barrier installation survey elevation data to demonstrate that the minimum barrier thickness has been achieved.
- .6 Submit the Final Project Area Soil Records prior to Substantial Performance.

#### 1.5.6 Daily Logs

- .1 To be prepared by the Contractor and provided to the Consultant with 48 hours of the completed workday.
- .2 Brief description of materials placed, including location, lifts, and material type.
- .3 Documentation on visual contaminant assessment during excavation and importation of material.
- .4 Details of any off-spec material, segregation and stockpiling and management processes (off-site disposal or otherwise).
- .5 Details of any delays that may impact the project schedule, areas that need improvement, and proposed solutions.

### 1.6 **Owner Responsibilities**

- 1.6.1 As Project Leader, the Owner is the person or persons ultimately responsible for making decisions relating to the planning and implementation of the project.
- 1.6.2 Provide written consent to receive imported soil in a timely manner once approved by the Consultant.
- 1.6.3 Assist the Consultant for directing the Contractor on action if potential contamination is observed during excavation.
- 1.6.4 Develop operating protocols to manage imported soil that is placed in controlled areas, either due to salt related impacts or proximity to water body.
- 1.6.5 Retain Excess Soil Regulation documentation for seven years including the Soil and Aggregate Management Plan, Daily Logs, Summary Report, Excess Soil Planning Documents (including related Assessment of Past Uses, Sampling and Analysis Plan, Soil Characterization Report, Excess Soil Destination Assessment Report and Source Site Assessment), if required, and any contracts relating to the management of excess soil to and from the Project Area, including the transporting of excess soil to and from the Project Area

### 1.7 **Contractor Responsibilities**

- 1.7.1 The Contractor shall excavate the existing soils as per the design drawings to place the fill cap. The excavated soils from the fill cap placement shall be considered a waste and transported and disposed of as non-hazardous solid waste, as defined by Ontario Regulation 347, at a Waste Disposal Site (Class 1 Soil Management Site, as defined in the Excess Soil Regulation, local waste transfer facility, landfill site or dump). Soil excavated for the fill cap placement shall not be utilized as backfill on Site. The soil sample key and the analytical data for the soil that will be excavated for cap placement are presented in **Attachment 1**. A figure with the relevant investigative locations is presented in **Attachment 2**. The Contractor shall not sample or analyze (for environmental purposes) any material below the depth of the excavated soils without the prior consent of the Owner, the Consultant and the City's QP.
- 1.7.2 Following the fill cap excavation, the Contractor shall excavate the existing soils at the location of each stormwater retention tank as identified on the design drawings. The stormwater retention tanks are detailed on the design drawings. The excavated soils from the water retention tanks shall be temporally stockpiled at the rear of the Site in a manner consistent with the soil management plan, O. Reg. 406/19 and the Excess Soil Rules. The Contractor's QP shall sample the material consistent with the stockpile sampling frequency outlined in Ontario Regulation 406/19 for all of the contaminants of potential concern identified in the Phase One ESA. The analytical data from the soil stockpile samples shall be compared to the Excess Soil Quality Standard. Provided that the analytical results meet the Excess Soil Quality Standard, the soil will be identified for reuse at the Site (pending geotechnical approval).
- 1.7.3 The Contractor and the Contractor's QP is responsible for completing the Excess Soil Destination Assessment Report and the initial MECP Registry notification a minimum of 10 days in advance of any excess soil removal. The Contractor shall notify the Consultant within 10 days of any change in conditions to the initial MECP Registry notice and assist the Consultant in updating the MECP Registry notification. Within 30 days of removing the final load of excess soil, the Contractor shall notify and assist the Consultant in finalizing the MECP Registry notification.
- 1.7.4 The Contractor is responsible for providing the necessary documentation on excess soil and completing the MECP Registry notification for importation of soil, or exportation, if required; updating the MECP Registry notification of change conditions; and finalizing the MECP Registry notification within 30 days or receiving the final load of imported soil.
- 1.7.5 The Contractor is responsible for completing the necessary additional soil testing for soil importation and exportation even if the soil is disposed of at a Waste Disposal Site unless sufficient data is already included in Specifications.
- 1.7.6 The Contractor is responsible for engaging a Qualified Person to make any necessary amendments to Excess Soil documents or on-site reuse soil practices if during the work, the Contractor or Consultant becomes aware that the imported, exported or reuse soil is not adequately characterized. The amendments to the

- documents must be made within 30 days and the Consultant and City advised of the change and consequences in writing.
- 1.7.7 The Contractor shall ensure that their Qualified Person, if engaged, extends reliance to the City of Mississauga for any reporting, testing, or sampling under O. Reg. 406/19 or O. Reg. 153/09.
- 1.7.8 The Contractor will ensure completion of the final Project Area soil records report prior to substantial performance.
- 1.7.9 Retain Excess Soil Regulation documentation for seven years including the Soil and Aggregate Management Plan, Daily Logs, Summary Report, Excess Soil Planning Documents (including related Assessment of Past Uses, Sampling and Analysis Plan, Soil Characterization Report, Excess Soil Destination Assessment Report and Source Site Assessment), if required, and any contracts relating to the management of excess soil to and from the Project Area, including the transporting of excess soil to and from the Project Area

## **1.8 Consultant Responsibilities**

- 1.8.1 The Consultant and City shall review the soil quality data prior to importation and if satisfactory, provide documented approval of acceptability to the Contractor.
- 1.8.2 The Consultant must review and document approval of any deviations from this Specification.
- 1.8.3 Review daily, weekly and final soil records and if satisfactory, provide documented approval of acceptability.

## **1.9 Protection of Existing Features**

- 1.9.1 The protection of the existing features, underground utilities are the responsibility of the Contractor.

## **1.10 Quality Assurance**

- 1.10.1 Notify Consultant and City in the following cases:
- .1 If fill material appears to be deviating from the specifications
- 1.10.2 Complete quality assurance/quality control (QA/QC) testing of soil prior to reuse for environmental parameters specified in the Soil and Aggregate Management Plan:
- .1 Environmental quality parameters and sampling frequency applicable for exported reused soil or imported soil sources are specified in O Reg 406/19; due diligence sampling frequencies may be appropriate.
  - .2 QA/QC in accordance with practices outlined in O. Reg 153/04

## **1.11 Weather Limitations**

- 1.11.1 The Contractor is responsible to have proper plans and measures in place to carry out work during all seasons. Project schedule delays that negatively impact the overall Project schedule or other works will not be accepted.
- 1.11.2 Contractor to mitigate schedule risk by anticipating weather delays based on seasonal conditions and account for such delays in the detailed schedule

## **2 PRODUCTS**

### **2.1 General**

- 2.1.1 Soil and Aggregate Fill shall be free of materials containing hazardous or toxic constituents, hydrocarbons, and/or other contaminants. If the Consultant has a suspicion that contaminants may be present in the soils or aggregate, the Contractor shall be required to provide analytical testing data verifying that the materials do not have contaminants. Any Soil and Imported Aggregate Fill determined through analytical testing to contain contaminants shall be immediately removed from the site by the Contractor at the Contractor's expense and disposed of off-site in accordance with all relevant regulations in Section 1.3 of this Specification.

### **2.2 Imported Soil or Imported Blended Soil**

- 2.2.1 Imported Soil or Blended Soil must meet the Excess Soil Quality Standards. Geotechnical and horticultural requirements may also apply.
- 2.2.2 At the excavation, each load must be inspected by the Contractor (or the Contractor's designate at the Imported Soil source site) for visual and olfactory evidence of contamination and documented on the truck tracking weigh bills.
- 2.2.3 If the Source Site of the Imported Soil or Blended Soil proves through the completion of Assessment of Past Uses Report to be a benign site (no potentially contaminating activities; agricultural, or park land uses) then the Contractor must complete a due diligence soil testing program in accordance with City's Due-Diligence Soil Characterization requirements (see ESMC SOP 01) for comparison to the Excess Soil Quality Standards. The Assessment of Past Uses Report must include a Qualified Person declaration that the Source Site meets the criteria in the Excess Soil Regulation, is suitable for use at the Project area and no further testing is required. The Consultant may determine through review of this report and data that the sampling is insufficient and additional sampling will be required at the cost of the Contractor.
- 2.2.4 If the Source Site of the Imported Soil or Blended Soil requires a Sampling and Analysis Plan and Soil Characterization Report, then the soil sampling frequency must follow the frequency described in the Excess Soil Rules and analyzed for the parameters listed in the Excess Soil Rules plus any additional contaminants of potential concern identified in the Assessment of Past Uses Report.
- 2.2.5 Soil tests, if deemed necessary by the Consultant, shall include the QA/QC

- procedures in accordance with the requirements of O. Reg. 153/04 and O. Reg. 406/19.
- 2.2.6 The Contractor is responsible for obtaining the documents described in this section which depending on the soil supplier, may necessitate that the Contractor engage a Qualified Person to complete the documentation on their behalf.
- 2.2.7 The City of Mississauga must provide written consent to receive the imported material prior to the shipment.

### **2.3 On-Site Reuse of Soil**

- 2.3.1 The Contractor shall perform testing or otherwise confirm that soil is suitable for reuse within the Project Area.
- .1 Substandard materials shall be identified and rejected before reuse. O. Reg 406/19 also requires that all loads be inspected for visual and olfactory evidence of contamination. The results are to be included in daily logs. Substandard materials shall be segregated at the source and will not be used for reuse. Materials found to be substandard shall be removed from the Project Area by the Contractor and the rejected material and its disposition is to be documented in Daily Logs.
- .2 Soil tests, if deemed necessary by the Consultant, shall include the QA/QC procedures in accordance with the requirements of O. Reg. 153/04 and O. Reg. 406/19.

### **2.4 Waste Soil**

- 2.4.1 The Contractor shall perform testing or otherwise to confirm that excess soil is suitable for the Waste Disposal Site, unless sufficient testing data is provided in the Specifications.
- 2.4.2 The Waste Disposal Site Operator may determine that the sampling data provide is insufficient and additional sampling will be required at the cost of the Contractor.

## **3 EXECUTION**

### **3.1 General**

- 3.1.1 Coordinate loading, hauling, and stockpiling supplied materials with the Consultant and City.
- 3.1.2 Keep prepared ground surfaces free of water, debris, and foreign material during the placement and compaction of fill and backfill materials.
- 3.1.3 Do not place fill if the work requirements cannot be satisfied due to severe weather condition, such as flooding conditions, where fill surfaces are submerged under water; during frozen conditions; or when fill surfaces are covered in snow.

### **3.2 Environmental Requirements for Fill**

- 3.2.1 Fill quality must be confirmed by the Consultant and City prior to reuse. Only place fill and backfill following written authorization from the Consultant. Materials found to be substandard shall be removed from the Work Area by the Contractor at their expense and placed in a location acceptable to the Consultant and the rejected material is to be documented in Daily Logs.
- 3.2.2 Contractor shall handle contaminated and substandard material per O. Reg 406/19.

### **3.3 Protection**

- 3.3.1 The Contractor shall provide all protection required to safeguard existing structures.
- 3.3.2 Protect fill areas against erosion by tarps or other suitable means.
- 3.3.3 Protect benchmarks, layout markers, survey markers, instrumentation, and geodetic monuments.
- 3.3.4 Do not damage existing facilities and equipment situated on-site.

### **3.4 Excavation**

- 3.4.1 The following procedure must be implemented for excavations within the Project Area. The results are to be documented in the Daily Records.
  - .1 During soil excavation, observations for any visual or olfactory signs of contamination must be undertaken and documented. These include observations such as oil staining, residue or sheen, construction material (rebar), waste drums, municipal waste, garbage, painted wood, shingles, cinder, ash, or discoloured earth.
  - .2 If a positive observation is made, then excavation operations must immediately cease and the Project Leader notified of the occurrence.
  - .3 Excavation operations may resume under the direction of a Qualified Person who will direct the segregation of the affected soil and identification of the extent of the affected soil. If the segregated soil is to be stockpiled first prior to off-site disposal, then the stockpile will be placed on a liner. If the segregated soil can be disposed of directly to a Waste Disposal Site, then the Section 2.5 applies.
  - .4 If impacted soil will be stockpiled prior to loading in transport vehicles, place soil on a tarpaulin to demarcate the separation between impacted soil and soil acceptable to remain onsite. If a tarpaulin is not used, the Contractor will be required to remove a 5-cm thickness underlying the stockpile for off-site disposal at no cost to the Owner.
  - .5 Excess Soil Planning Documents, where applicable, may need to be updated by a Qualified Person before soil is transported off-site if

observations of unexpected contamination are made.

### **3.5 Stockpiling and Processing**

- 3.5.1 The Contractor must stockpile or temporarily store soil 30 m away from sensitive receptors including water bodies and flood limits; soil must also be stored more than 10 m away from the property line of the Project Area unless provisions as described in the Soil Rules are in place and approved by the Consultant. For Project Areas that are fully within 30 m of sensitive receptors, soil storage within the Project Area should be avoided; if unavoidable and providing it is approved by the Consultant, the soil storage should be limited to 500 m<sup>3</sup> for less than five business days behind a physical barrier (i.e. concrete jersey barriers) and erosion control measures should be placed between the soil storage and sensitive receptor.
- 3.5.2 The Contractor must stockpile or temporarily store soil in a manner that does not cause an adverse effect.
- 3.5.3 Water runoff from soil storage must be contained and managed.
- 3.5.4 Contaminated or potentially contaminated soil must be stored in such a manner as to prevent contaminants from leaching into the ground. This soil may be temporarily stockpiled on ground if the underlying soil is of similar disposition in terms of contamination (i.e. like-to-like) as approved by the Consultant. In other cases, contaminant leaching prevention can include an impermeable surface, liner or other engineered control as approved by the Consultant.
- 3.5.5 Stockpiles must be no more than 5 metres high, 70 degree slopes and contain no more than 2,500 m<sup>3</sup>. Height and slope restrictions are primarily to avoid bird nesting and can be modified by the Contractor if approved by the Consultant.
- 3.5.6 Soil of different quality or unknown quality must be stored in separate stockpiles.
- 3.5.7 No enhanced soil processing to reduce the contaminant levels in the soil is permitted in the Project Area unless approved by the Consultant and the system has the appropriate MECP operation permit. Soil processing such as passive aeration, passive dewatering, mixing (not diluting), soil turning, size- based sorting, debris removal sorting is permitted as outlined in O. Regulation 406/19.

### **3.6 Transportation**

- 3.6.1 The Contractor must engage an experienced Hauler for the transport of soil.
- 3.6.2 The Contractor must ensure that the Hauler completes the mandatory Soil Tracking for each hauled load (during pick-up, transportation and delivery) and provides hauling records to the Contractor in accordance with the Excess Soil Regulation.
- 3.6.3 Loads are to be covered or tarped to prevent the emission of offensive odours, the release of dust or other airborne materials that may cause air pollution.

- 3.6.4 Trucks are to be free of soil, mud and debris so that material is not tracked onto public roadways. Trucks are to be leakproof when necessary.
- 3.6.5 Disposal and hauling shall conform to all Provincial, Federal regulations, and Municipal legislation.
- 3.6.6 All vehicles used for haulage of disposal materials must have their current registration available for inspection by the Consultant.
- 3.6.7 The Contractor will provide copies of weigh bills for each truck at the end of each week to the Consultant.
- 3.6.8 The Contractor must inform the Hauler of the appropriate deposit site for the Excess Soil and provided required information to the Hauler.

### **3.7 Backfilling**

- 3.7.1 Start backfilling only after inspection and receipt of written approval of fill material and spaces to be filled from Consultant.
- 3.7.2 Fill excavated areas with soil in accordance with specifications from source site approved by Consultant and supported with chemical analyses.
- 3.7.3 Place soil backfill in accordance with *Section 31 23 10 Excavating, Trenching and Backfilling*.
- 3.7.4 Imported backfill must comply with both Table 3.1 Soil Quality Standards (Rules for Soil Management and Excess Soil Quality Standards, 2022) and the requirements in *Section 32 91 00 Topsoil Placement and Grading*.

### **3.8 Cleaning and Restoration**

- 3.8.1 Install fill cap and hard cap barriers, as defined in this Section, in accordance with geotechnical and environmental requirements for compaction, thickness, and materials.
- 3.8.2 Upon completion of work, remove surplus materials, rubbish, tools and equipment.
- 3.8.3 Restore other damaged surfaces to conditions that were present prior to the start of site work or better.

### **3.9 Soil Tracking**

- 3.9.1 Perform soil tracking as required in Excess Soil Regulation, Excess Soil Rules and the approved Soil and Aggregate Plan Submittal.
- 3.9.2 Prior to soil being removed from or brought to the Project Area, the Consultant must approve the proposed Waste Disposal Site and Source Site, as applicable.
- 3.9.3 The Contractor shall implement a digital tracking system to track each all soil movement to and from the Project Area including soil transportation to a Waste Disposal Site and from a Source Site. The tracking system will be reviewed and agreed upon between the Contractor, Owner and the Consultant.

- 3.9.4 The Tracking system shall provide:
- .1 The location at which the soils were loaded for transportation.
  - .2 The date and time the soils were loaded for transportation.
  - .3 The quantity of soils in the load.
  - .4 The name of an individual who may be contacted to respond to inquiries regarding the load, including inquiries regarding the soil quality.
  - .5 The name of the corporation, partnership or firm transporting the soils, the name of the driver of the vehicle and the number plates issued for the vehicle under the Highway Traffic Act.
  - .6 The name and location of the Waste Disposal or Source Site.
  - .7 The date and time of the arrival of the load at the Waste Disposal Site. If soil is being imported to the Project Area, the date and time of arrival of the load at the Project Area.
  - .8 The volume (and/or tonnage) of soils received.
  - .9 Documentation from the project area signed by the Contractor's QP including soil analytical results.
  - .10 Written consent from the Disposal site accepting and acknowledging that the incoming excess soils are acceptable for receipt at the site including the contact information of the person who acknowledged receipt of the load(s).
  - .11 Rejections of any loads of excess soils due to visual inspection or review of analytical results.
- 3.9.5 The Contractor shall prepare, implement, and ensure completeness and accuracy of the hauling records. The Contractor shall use the City' hauling record template (ESMC.Form.01) or approved equivalent document if included as part of a digital tracking system's features.
- 3.9.6 Weekly reports on soil tracking are to be provided to the Consultant or upon request. Additional procedures to verify the accuracy of the information are to be completed and documented, including:
- .1 Automated check of truck travel times to verify appropriateness and documented review of outliers.
  - .2 Automated check of load volume and number of loads shipped and received and license plates outgoing and incoming and documented review of outliers.
  - .3 Documented review of any rejected loads or any complaints, traffic violations incurred by the transport company in the transport of the Project

Area's excess soil.

- .4 Final summary report (as part of the Final Project Area Soil Records submittal) on soil tracking to be provided to the Consultant prior to Substantial Performance to summarize the cumulative quantities, quality, rejected loads and any relevant Project Area fill placement information.
- .5 Coordinate chain-of-custody and tracking with the Consultant to generate complete records of soil movement, if required.

### **3.10 Placement**

- 3.10.1 The Contractor is to place soil in a manner that does not cause an environmental adverse affect in accordance with their procedures in the Soil and Aggregate Plan.

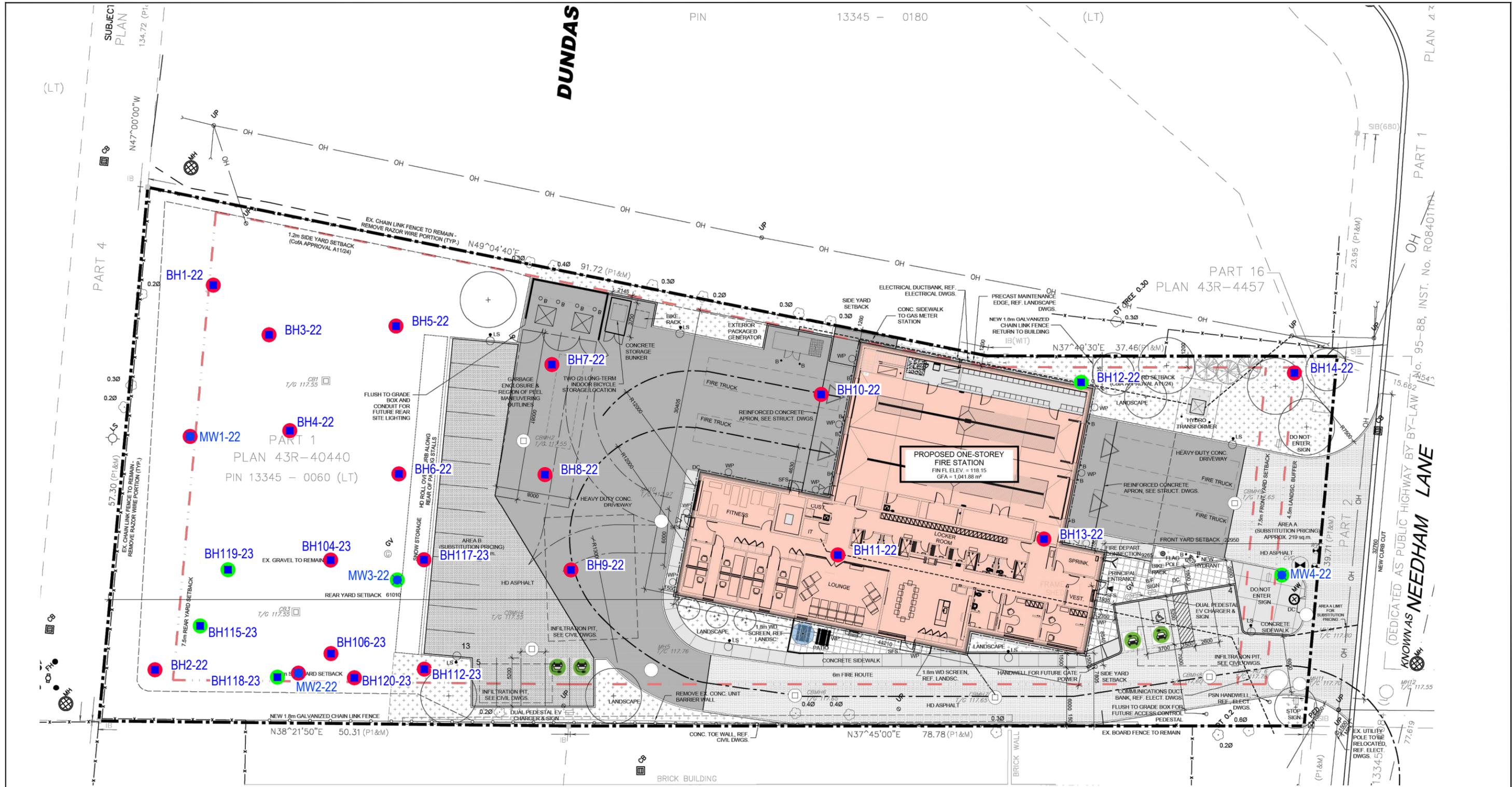
### **3.11 Dust Control**

- 3.11.1 Throughout construction period, provide adequate dust control on the site by watering or use of other accepted dust control materials.
- 3.11.2 Provide continuous control of dust from drifting or blowing.

### **3.12 Quality Assurance**

- 3.12.1 The placement of fill will be monitored by the Consultant. The Contractor shall assist the Consultant in every manner necessary for the proper performance of Construction Quality Assurance (CQA) activities.
- 3.12.2 Inspection and Testing
  - .1 QA/QC testing must be incorporated per O. Reg 406/09 into the original testing program. However, the Consultant may direct additional testing based on field observations that the Contractor must undertake under a testing allowance.

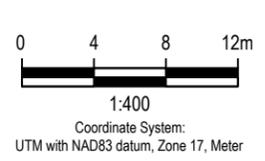
**END OF SECTION**



**LEGEND**

- BOREHOLE LOCATION (GHD, 2022)
- DECOMMISSIONED MONITORING WELL LOCATION (GHD, 2022)
- SOIL SAMPLE FROM WITHIN PROPOSED BARRIER WHERE ANALYTICAL RESULT MEETS TABLE 3.1 ICC
- SOIL SAMPLE FROM WITHIN PROPOSED BARRIER WHERE ANALYTICAL RESULT EXCEEDS TABLE 3.1 ICC

TABLE 3.1 ICC: Table 3.1 Full Depth Excess Soil Quality Standards in a non-potable groundwater condition for industrial, commercial and community property use in the Excess Soil Rules, Part II: Excess Soil Quality Standard, published by the Ministry of the Environment, Conservation and Parks (MECP) and dated February 2024.



THE CORPORATION OF THE CITY OF MISSISSAUGA  
2524 CAWTHRA ROAD, MISSISSAUGA, ONTARIO

Project No. 12581540  
Date August 2024

**SITE PLAN & INVESTIGATIVE LOCATIONS**

**FIGURE 1**

Table 1

**Summary of Sampling Locations and Chemical Analysis**  
**2524 Cawthra Road, Mississauga, Ontario**  
**The Corporation of the City of Mississauga**

Sample Location	Sample Identification	Sample Depth Interval (mBGS)	Sample Date	Laboratory Certificate of Analysis	Metals & Inorganics	PHCs/BTEX	VOCs	PAHs	PCBs	Barrier Thickness (metres)
MW1-22	S-12581540-220606-JB-MW1-22-0.0 TO 0.6	0.0 - 0.6	06/06/2022	WT2205302	X				X	1.00
MW1-22 (Field Duplicate)	S-12581540-220606-JB-MW1-22-0.0 TO 0.6X	0.0 - 0.6	06/06/2022	WT2205302	X					1.00
MW2-22	S-12581540-220606-JB-MW2-22-0.0 TO 0.6	0.0 - 0.6	06/06/2022	WT2205302	X	X	X	X		1.00
MW2-22	S-12581540-220606-JB-MW2-22-0.7 TO 1.3	0.7 - 1.3	06/06/2022	WT2205302					X	1.00
MW3-22	S-12581540-220606-JB-MW3-22-0.0 TO 0.6	0.0 - 0.6	06/06/2022	WT2205302	X				X	1.00
MW3-22 (Field Duplicate)	S-12581540-220606-JB-MW3-22-0.0 TO 0.6X	0.0 - 0.6	06/06/2022	WT2205302					X	1.00
MW3-22	S-12581540-220606-JB-MW3-22-0.7 TO 1.3	0.7 - 1.3	06/06/2022	WT2205302		X	X	X		1.00
MW4-22	S-12581540-220610-JB-MW4-22-0.05-0.6	0.05 - 0.6	06/10/2022	WT2205480	X	X	X	X	X	0.65
BH1-22	S-12581540-220613-JB-BH1-22-0.0-0.6	0.0 - 0.6	06/13/2022	WT2205639	X	X	X	X		1.00
BH2-22	S-12581540-220614-JB-BH2-22-0.0-0.3	0.0 - 0.3	06/14/2022	WT2205639	X	X	X			1.00
BH3-22	S-12581540-220614-JB-BH3-22-0.0-0.6	0.0 - 0.6	06/14/2022	WT2205639	X	X	X			1.00
BH3-22 (Field Duplicate)	S-12581540-220614-JB-BH3-22-0.0-0.6X	0.0 - 0.6	06/14/2022	WT2205639	X					1.00
BH4-22 <sup>(1)</sup>	S-12581540-220614-JB-BH4-22-0.0-0.6	0.0 - 0.6	06/14/2022	WT2205639	X	X	X	X		1.00
BH4-22 (Field Duplicate)	S-12581540-220614-JB-BH4-22-0.0-0.6X	0.0 - 0.6	06/14/2022	WT2205639				X		1.00
BH5-22 <sup>(1)</sup>	S-12581540-220614-JB-BH5-22-0.0-0.6	0.0 - 0.6	06/14/2022	WT2205639	X	X	X	X		1.00
BH6-22 <sup>(1)</sup>	S-12581540-220614-JB-BH6-22-0.0-0.6	0.0 - 0.6	06/14/2022	WT2205639	X	X	X			1.00
BH7-22	S-12581540-220613-JB-BH7-22-0.0-0.6	0.0 - 0.6	06/13/2022	WT2205639	X	X	X		X	0.65
BH8-22 <sup>(1)</sup>	S-12581540-220614-JB-BH8-22-0.0-0.6	0.0 - 0.6	06/14/2022	WT2205639	X	X	X	X		0.65
BH8-22 (Field Duplicate)	S-12581540-220614-JB-BH8-22-0.0-0.6X	0.0 - 0.6	06/14/2022	WT2205639				X		0.65
BH9-22 <sup>(1)</sup>	S-12581540-220614-JB-BH9-22-0.0-0.6	0.0 - 0.6	06/14/2022	WT2205639	X	X	X			0.65
BH9-22 (Field Duplicate)	S-12581540-220614-JB-BH9-22-0.0-0.6X	0.0 - 0.6	06/14/2022	WT2205639		X	X			0.65
BH10-22	S-12581540-220613-JB-BH10-22-0.0-0.6	0.0 - 0.6	06/13/2022	WT2205639	X	X	X	X		0.65
BH11-22 <sup>(1)</sup>	S-12581540-220613-JB-BH11-22-0.0-0.6	0.0 - 0.6	06/13/2022	WT2205639	X	X	X	X	X	1.00
BH12-22	S-12581540-220610-JB-BH12-22-0.05-0.6	0.05 - 0.6	06/10/2022	WT2205480	X					1.50
BH12-22	S-12581540-220610-JB-BH12-22-0.05-0.6	0.05 - 0.6	06/10/2022	WT2205639		X	X			1.50
BH13-22 <sup>(1)</sup>	S-12581540-220610-JB-BH13-22-0.0-0.6	0.0 - 0.6	06/10/2022	WT2205480	X	X	X	X	X	1.00
BH14-22	S-12581540-220610-JB-BH14-22-0.8-1.4	0.8 - 1.4	06/10/2022	WT2205480	X					1.00
BH14-22	S-12581540-220610-JB-BH14-22-0.8-1.4	0.8 - 1.4	06/10/2022	WT2205639		X	X			1.00
BH104-23	S-12581540-092023-CC-BH104-2-4	0.61-1.22	9/20/2023	C3T2887		X				1.00
BH106-23	S-12581540-092023-CC-BH106-2-4	0.61-1.22	9/20/2023	C3T2887		X				1.00
BH112-23	S-12581540-092023-CC-BH112-2-4	0.61-1.22	9/20/2023	C3T2887		X	X			1.00
BH115-23	S-12581540-092023-CC-BH115-2-4	0.61-1.22	9/20/2023	C3T2887		X				1.00
BH117-23	S-12581540-092023-CC-BH117-2-4	0.61-1.22	9/20/2023	C3T2887		X				1.00
BH118-23	S-12581540-092023-CC-BH118-2-4	0.61-1.22	9/20/2023	C3T2887		X				1.00
BH119-23	S-12581540-092023-CC-BH119-2-4	0.61-1.22	9/20/2023	C3T2887		X				1.00
BH119-23 (Field Duplicate)	S-12581540-092023-CC-DUP2	0.61-1.22	9/20/2023	C3T2887		X				1.00
BH120-23	S-12581540-092023-CC-BH120-2-4	0.61-1.22	9/20/2023	C3T2887		X				1.00

**Notes:**

mBGS	metres below ground surface
PHCs	Petroleum Hydrocarbons
BTEX	Benzene, toluene, ethylbenzene, and xylene
VOCs	Volatile Organic Compounds
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
<sup>(1)</sup>	Sample that has an exceedance of F4G greater than the RBC value (8000 ug/g)

Table 2  
Soil Analytical Results  
2524 Cawthra Road, Mississauga, Ontario  
The Corporation of the City of Mississauga

Parameters	Units	O. Reg. 406/19 <sup>(1)</sup> Table 3.1 ICC								
		Sample Location:	BH1-22	BH2-22	BH3-22	BH3-22	BH4-22	BH4-22	BH5-22	
		Sample ID:	S-12581540-220613-JB-BH1-22-0.0-0.6	S-12581540-220614-JB-BH2-22-0.0-0.3	S-12581540-220614-JB-BH3-22-0.0-0.6	S-12581540-220614-JB-BH3-22-0.0-0.6X	S-12581540-220614-JB-BH4-22-0.0-0.6	S-12581540-220614-JB-BH4-22-0.0-0.6X	S-12581540-220614-JB-BH5-22-0.0-0.6	
		Sample Date:	6/13/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022	6/14/2022
		Sample Depth (mBGS):	0.00-0.60	0.00-0.30	0.00-0.60	0.00-0.60	0.00-0.60	0.00-0.60	0.00-0.60	0.00-0.60
					Duplicate		Duplicate			
<b>Volatiles</b>										
1,1,1,2-Tetrachloroethane	mg/kg	0.05	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
1,1,1-Trichloroethane	mg/kg	0.4	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
1,1,2,2-Tetrachloroethane	mg/kg	0.05	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
1,1,2-Trichloroethane	mg/kg	0.05	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
1,1-Dichloroethane	mg/kg	0.57	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
1,1-Dichloroethene	mg/kg	0.05	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.05	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
1,2-Dichlorobenzene	mg/kg	6.8	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
1,2-Dichloroethane	mg/kg	0.05	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
1,2-Dichloropropane	mg/kg	0.05	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
1,3-Dichlorobenzene	mg/kg	6.8	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
1,4-Dichlorobenzene	mg/kg	0.05	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	26	ND(0.50)	ND(0.50)	ND(0.50)	-	ND(0.50)	-	ND(0.50)	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	17	ND(0.50)	ND(0.50)	ND(0.50)	-	ND(0.50)	-	ND(0.50)	
Acetone	mg/kg	1.8	ND(0.50)	ND(0.50)	ND(0.50)	-	ND(0.50)	-	ND(0.50)	
Benzene	mg/kg	0.034	ND(0.0050)	ND(0.0050)	ND(0.0050)	-	ND(0.0050)	-	ND(0.0050)	
Bromodichloromethane	mg/kg	5.8	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
Bromofom	mg/kg	2.5	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
Bromomethane (Methyl bromide)	mg/kg	0.05	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
Carbon tetrachloride	mg/kg	0.05	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
Chlorobenzene	mg/kg	0.28	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
Chloroform (Trichloromethane)	mg/kg	0.26	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
cis-1,2-Dichloroethene	mg/kg	0.05	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
cis-1,3-Dichloropropene	mg/kg	-	ND(0.030)	ND(0.030)	ND(0.030)	-	ND(0.030)	-	ND(0.030)	
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	mg/kg	0.05	ND(0.05)	ND(0.05)	ND(0.05)	-	ND(0.05)	-	ND(0.05)	
Dibromochloromethane	mg/kg	5.5	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
Dichlorodifluoromethane (CFC-12)	mg/kg	1.8	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
Ethylbenzene	mg/kg	1.9	ND(0.015)	ND(0.015)	ND(0.015)	-	ND(0.015)	-	ND(0.015)	
Hexane	mg/kg	2.5	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
m&p-Xylenes	mg/kg	-	ND(0.030)	ND(0.030)	ND(0.030)	-	ND(0.030)	-	ND(0.030)	
Methyl tert butyl ether (MTBE)	mg/kg	0.05	ND(0.040)	ND(0.040)	ND(0.040)	-	ND(0.040)	-	ND(0.040)	
Methylene chloride	mg/kg	0.2	ND(0.045)	ND(0.045)	ND(0.045)	-	ND(0.045)	-	ND(0.045)	
o-Xylene	mg/kg	-	ND(0.030)	ND(0.030)	ND(0.030)	-	ND(0.030)	-	ND(0.030)	
Styrene	mg/kg	6.8	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
Tetrachloroethene	mg/kg	0.05	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
Toluene	mg/kg	7.8	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
Total BTEX	mg/kg	-	ND(0.1)	ND(0.1)	ND(0.1)	-	ND(0.1)	-	ND(0.1)	
trans-1,2-Dichloroethene	mg/kg	0.05	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
trans-1,3-Dichloropropene	mg/kg	-	ND(0.030)	ND(0.030)	ND(0.030)	-	ND(0.030)	-	ND(0.030)	
Trichloroethene	mg/kg	0.05	ND(0.010)	ND(0.010)	ND(0.010)	-	ND(0.010)	-	ND(0.010)	
Trichlorofluoromethane (CFC-11)	mg/kg	0.46	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)	
Vinyl chloride	mg/kg	0.02	ND(0.020)	ND(0.020)	ND(0.020)	-	ND(0.020)	-	ND(0.020)	
Xylenes (total)	mg/kg	3	ND(0.05)	ND(0.05)	ND(0.05)	-	ND(0.05)	-	ND(0.05)	
<b>Semi-Volatiles</b>										
1+2-Methylnaphthalene	mg/kg	8.7	ND(0.05)	-	-	-	ND(0.05)	ND(0.05)	ND(0.05)	
1-Methylnaphthalene	mg/kg	8.7	ND(0.030)	-	-	-	ND(0.030)	ND(0.030)	ND(0.030)	
2-Methylnaphthalene	mg/kg	8.7	ND(0.030)	-	-	-	ND(0.030)	ND(0.030)	ND(0.030)	
Acenaphthene	mg/kg	15	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)	ND(0.050)	
Acenaphthylene	mg/kg	0.093	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)	ND(0.050)	
Anthracene	mg/kg	0.16	ND(0.050)	-	-	-	0.152	0.096	ND(0.050)	
Benzo(a)anthracene	mg/kg	1	0.059	-	-	-	0.740	0.482	0.065	
Benzo(a)pyrene	mg/kg	0.7	0.088	-	-	-	0.591	0.536	0.147	
Benzo(b)fluoranthene/Benzo(j)fluoranthene	mg/kg	7	0.109	-	-	-	0.971	0.592	0.158	
Benzo(g,h,i)perylene	mg/kg	13	0.120	-	-	-	0.591	0.471	0.212	
Benzo(k)fluoranthene	mg/kg	7	0.050	-	-	-	0.380	0.278	0.056	
Chrysene	mg/kg	14	0.077	-	-	-	0.913	0.651	0.203	
Dibenz(a,h)anthracene	mg/kg	0.7	ND(0.050)	-	-	-	0.146	0.121	ND(0.050)	
Fluoranthene	mg/kg	70	0.127	-	-	-	1.66	1.12	0.132	
Fluorene	mg/kg	6.8	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)	ND(0.050)	
Indeno(1,2,3-cd)pyrene	mg/kg	0.76	0.080	-	-	-	0.376	0.353	0.114	
Naphthalene	mg/kg	1.8	ND(0.010)	-	-	-	0.022	ND(0.020)	ND(0.020)	
Phenanthrene	mg/kg	12	0.053	-	-	-	0.574	0.362	0.100	
Pyrene	mg/kg	70	0.108	-	-	-	1.53	1.05	0.175	

**Table 2**  
**Soil Analytical Results**  
**2524 Cawthra Road, Mississauga, Ontario**  
**The Corporation of the City of Mississauga**

Parameters	Units	O. Reg. 406/19 <sup>(1)</sup>								
		Table 3.1			Table 3.1			Table 3.1		
		ICC	ICC	ICC	ICC	ICC	ICC	ICC	ICC	ICC
<b>Metals</b>										
Antimony	mg/kg	40	1.28	0.70	0.92	0.96	0.60	-	0.25	
Arsenic	mg/kg	18	37.0	4.35	406	170	4.79	-	97.4	
Barium	mg/kg	670	83.8	58.4	134	85.7	51.3	-	55.5	
Beryllium	mg/kg	8	0.42	0.24	0.29	0.29	0.26	-	0.19	
Boron	mg/kg	120	7.5	8.1	13.6	10.6	14.5	-	11.1	
Boron (hot water soluble)	mg/kg	2	0.25	0.29	0.82	0.88	0.93	-	0.33	
Cadmium	mg/kg	1.9	1.34	0.464	4.42	2.64	0.423	-	0.403	
Chromium	mg/kg	160	40.4	176	129	94.4	95.8	-	127	
Chromium VI (hexavalent)	mg/kg	8	ND(0.10)	4.70	0.76	ND(0.10)	2.98	-	2.46	
Cobalt	mg/kg	80	6.74	4.29	6.34	5.36	3.92	-	3.39	
Copper	mg/kg	230	48.3	24.9	48.4	64.3	28.6	-	21.8	
Lead	mg/kg	120	81.0	37.1	102	85.4	26.0	-	22.4	
Mercury	mg/kg	0.27	0.0972	0.0168	0.0360	0.0313	0.0098	-	0.0081	
Molybdenum	mg/kg	40	1.94	2.67	2.39	2.12	2.85	-	1.79	
Nickel	mg/kg	270	34.4	21.2	234	109	23.4	-	29.0	
Selenium	mg/kg	5.5	0.21	ND(0.20)	ND(0.20)	ND(0.20)	ND(0.20)	-	ND(0.20)	
Silver	mg/kg	40	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	-	ND(0.50)	
Thallium	mg/kg	3.3	0.094	0.066	0.214	0.145	0.190	-	0.052	
Uranium	mg/kg	33	0.431	0.415	0.694	0.559	0.456	-	0.548	
Vanadium	mg/kg	86	75.1	89.3	360	145	67.5	-	309	
Zinc	mg/kg	340	193	77.0	209	187	112	-	106	
<b>SAR Metals</b>										
Calcium (soluble)	mg/L	-	26.7	21.8	19.6	16.6	105	-	21.8	
Magnesium (soluble)	mg/L	-	2.38	1.11	13.7	5.00	ND(0.50)	-	12.0	
Sodium (soluble)	mg/L	-	2.91	13.6	51.1	53.9	13.3	-	26.4	
<b>PCBs</b>										
Aroclor-1016 (PCB-1016)	mg/kg	-	-	-	-	-	-	-	-	
Aroclor-1221 (PCB-1221)	mg/kg	-	-	-	-	-	-	-	-	
Aroclor-1232 (PCB-1232)	mg/kg	-	-	-	-	-	-	-	-	
Aroclor-1242 (PCB-1242)	mg/kg	-	-	-	-	-	-	-	-	
Aroclor-1248 (PCB-1248)	mg/kg	-	-	-	-	-	-	-	-	
Aroclor-1254 (PCB-1254)	mg/kg	-	-	-	-	-	-	-	-	
Aroclor-1260 (PCB-1260)	mg/kg	-	-	-	-	-	-	-	-	
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	-	-	
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	-	-	
Total PCBs	mg/kg	0.78	-	-	-	-	-	-	-	
<b>Petroleum Hydrocarbons</b>										
Petroleum hydrocarbons F1 (C6-C10)	mg/kg	25	ND(5.0)	ND(5.0)	ND(5.0)	-	ND(5.0)	-	ND(5.0)	
Petroleum hydrocarbons F1 minus BTEX	mg/kg	25	ND(5)	ND(5)	ND(5)	-	ND(5)	-	ND(5)	
Petroleum hydrocarbons F2 (C10-C16)	mg/kg	26	ND(10)	ND(59)	ND(33)	-	ND(57)	-	ND(57)	
Petroleum hydrocarbons F2 minus Naphthalene	mg/kg	26	ND(25)	-	-	-	ND(57)	-	ND(57)	
Petroleum hydrocarbons F3 (C16-C34)	mg/kg	1700	143	1440	714	-	2790	-	1720	
Petroleum hydrocarbons F3 minus PAH	mg/kg	1700	142	-	-	-	2780	-	1720	
Petroleum hydrocarbons F4 (C34-C50)	mg/kg	3300	316	4350	1830	-	5450	-	4920	
Petroleum hydrocarbons F4 gravimetric - silica gel (GHH)	mg/kg	3300	1290	-	-	-	15800	-	13700	
Total Petroleum Hydrocarbons (C6-C50)	mg/kg	-	459	5790	2540	-	8240	-	6640	
<b>General Chemistry</b>										
Conductivity	mS/cm	1.4	0.168	0.193	0.428	0.373	0.583	-	0.326	
Cyanide, weak acid dissociable	mg/kg	0.051	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	
Moisture	%	-	8.53	10.0	7.40	6.87	7.23	7.26	8.36	
pH, soluble (1:2)	s.u.	5-9	7.68	9.94	9.90	9.79	10.9	-	10.9	
Sodium adsorption ratio (SAR)	none	12	0.14	0.77	2.17	2.98	0.36	-	1.13	

**Notes:**  
<sup>(1)</sup> Ontario Ministry of the Environment, Conservation and Parks (MECP), "Excess Soil Quality Standards" (dated February 19, 2024) contained in Part II of the document entitled "Rules for Soil Management and Excess Soil Quality Standards", dated February 2024, adopted by reference in O. Reg. 406/19 (On-Site and Excess Soil Management) made under the Environmental Protection Act, R.S.O. 1990, c. E.19 (EPA).  
 Table 3 ICC Table 3.1: Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition Industrial/Commercial/Community (ICC) Property Use for medium to fine textured soil  
 - Not applicable.  
 mBGS metres Below Ground Surface  
 ug/g micrograms per gram  
 mS/cm milliSiemens per centimetre  
 % percent  
 s.u. standard units  
 NV No value  
 ND(0.050) Not detected at the associated reporting limit indicated in brackets  
 - Not analyzed  
 Exceeds Table 3.1 ICC standard.  
 Exceeds RBC Value for F4G (8000 ug/g)

Table 2  
Soil Analytical Results  
2524 Cawthra Road, Mississauga, Ontario  
The Corporation of the City of Mississauga

Parameters	Units	BH6-22	BH7-22	BH8-22	BH8-22	BH9-22	BH9-22	BH10-22
		S-12581540-220614-JB-BH6-22-0.0-0.6 6/14/2022 0.00-0.60	S-12581540-220613-JB-BH7-22-0.0-0.6 6/13/2022 0.00-0.60	S-12581540-220614-JB-BH8-22-0.0-0.6 6/14/2022 0.00-0.60	S-12581540-220614-JB-BH8-22-0.0-0.6X 6/14/2022 0.00-0.60 Duplicate	S-12581540-220614-JB-BH9-22-0.0-0.6 6/14/2022 0.00-0.60	S-12581540-220614-JB-BH9-22-0.0-0.6X 6/14/2022 0.00-0.60 Duplicate	S-12581540-220613-JB-BH10-22-0.0-0.6 6/13/2022 0.00-0.60
<b>Volatiles</b>								
1,1,1,2-Tetrachloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
1,1,1-Trichloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
1,1,2,2-Tetrachloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
1,1,2-Trichloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
1,1-Dichloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
1,1-Dichloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
1,2-Dichlorobenzene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
1,2-Dichloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
1,2-Dichloropropane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
1,3-Dichlorobenzene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
1,4-Dichlorobenzene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	ND(0.50)	ND(0.50)	ND(0.50)	-	ND(0.50)	ND(0.50)	ND(0.50)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	ND(0.50)	ND(0.50)	ND(0.50)	-	ND(0.50)	ND(0.50)	ND(0.50)
Acetone	mg/kg	ND(0.50)	ND(0.50)	ND(0.50)	-	ND(0.50)	ND(0.50)	ND(0.50)
Benzene	mg/kg	ND(0.0050)	ND(0.0050)	ND(0.0050)	-	0.0794	0.0164	ND(0.0050)
Bromodichloromethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
Bromofom	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
Bromomethane (Methyl bromide)	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
Carbon tetrachloride	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
Chlorobenzene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
Chloroform (Trichloromethane)	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
cis-1,2-Dichloroethene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
cis-1,3-Dichloropropene	mg/kg	ND(0.030)	ND(0.030)	ND(0.030)	-	ND(0.030)	ND(0.030)	ND(0.030)
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	mg/kg	ND(0.05)	ND(0.05)	ND(0.05)	-	ND(0.05)	ND(0.05)	ND(0.05)
Dibromochloromethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
Dichlorodifluoromethane (CFC-12)	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
Ethylbenzene	mg/kg	ND(0.015)	ND(0.015)	ND(0.015)	-	0.408	0.066	ND(0.015)
Hexane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
m&p-Xylenes	mg/kg	ND(0.030)	ND(0.030)	ND(0.030)	-	0.365	0.052	ND(0.030)
Methyl tert butyl ether (MTBE)	mg/kg	ND(0.040)	ND(0.040)	ND(0.040)	-	ND(0.040)	ND(0.040)	ND(0.040)
Methylene chloride	mg/kg	ND(0.045)	ND(0.054)	ND(0.045)	-	ND(0.045)	ND(0.045)	ND(0.045)
o-Xylene	mg/kg	ND(0.030)	ND(0.030)	ND(0.030)	-	0.210	0.038	ND(0.030)
Styrene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	0.125	0.115	ND(0.050)
Tetrachloroethene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
Toluene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	0.393	0.083	ND(0.050)
Total BTEX	mg/kg	ND(0.1)	ND(0.1)	ND(0.1)	-	1.46	0.26	ND(0.1)
trans-1,2-Dichloroethene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
trans-1,3-Dichloropropene	mg/kg	ND(0.030)	ND(0.030)	ND(0.030)	-	ND(0.030)	ND(0.030)	ND(0.030)
Trichloroethene	mg/kg	ND(0.010)	ND(0.010)	ND(0.010)	-	ND(0.010)	ND(0.010)	ND(0.010)
Trichlorofluoromethane (CFC-11)	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	ND(0.050)	ND(0.050)
Vinyl chloride	mg/kg	ND(0.020)	ND(0.020)	ND(0.020)	-	ND(0.020)	ND(0.020)	ND(0.020)
Xylenes (total)	mg/kg	ND(0.05)	ND(0.05)	ND(0.05)	-	0.575	0.090	ND(0.05)
<b>Semi-Volatiles</b>								
1+2-Methylnaphthalene	mg/kg	-	-	0.148	0.144	-	-	0.310
1-Methylnaphthalene	mg/kg	-	-	0.082	0.081	-	-	0.124
2-Methylnaphthalene	mg/kg	-	-	0.066	0.063	-	-	0.186
Acenaphthene	mg/kg	-	-	0.085	0.086	-	-	0.157
Acenaphthylene	mg/kg	-	-	ND(0.050)	ND(0.050)	-	-	ND(0.050)
Anthracene	mg/kg	-	-	0.243	0.292	-	-	0.499
Benzo(a)anthracene	mg/kg	-	-	0.774	1.09	-	-	0.704
Benzo(a)pyrene	mg/kg	-	-	0.784	1.14	-	-	0.667
Benzo(b)fluoranthene/Benzo(j)fluoranthene	mg/kg	-	-	0.930	1.44	-	-	0.831
Benzo(g,h,i)perylene	mg/kg	-	-	0.533	0.676	-	-	0.402
Benzo(k)fluoranthene	mg/kg	-	-	0.406	0.498	-	-	0.258
Chrysene	mg/kg	-	-	0.936	1.24	-	-	0.702
Dibenz(a,h)anthracene	mg/kg	-	-	0.153	0.190	-	-	0.120
Fluoranthene	mg/kg	-	-	1.89	2.63	-	-	1.67
Fluorene	mg/kg	-	-	0.087	0.092	-	-	0.327
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	0.478	0.612	-	-	0.331
Naphthalene	mg/kg	-	-	0.025	0.028	-	-	0.190
Phenanthrene	mg/kg	-	-	1.04	1.36	-	-	1.83
Pyrene	mg/kg	-	-	1.54	2.09	-	-	1.31

**Table 2**  
**Soil Analytical Results**  
**2524 Cawthra Road, Mississauga, Ontario**  
**The Corporation of the City of Mississauga**

Parameters	Units	BH6-22	BH7-22	BH8-22	BH8-22	BH9-22	BH9-22	BH10-22
		S-12581540-220614-JB-BH6-22-0.0-0.6 6/14/2022 0.00-0.60	S-12581540-220613-JB-BH7-22-0.0-0.6 6/13/2022 0.00-0.60	S-12581540-220614-JB-BH8-22-0.0-0.6 6/14/2022 0.00-0.60	S-12581540-220614-JB-BH8-22-0.0-0.6X 6/14/2022 0.00-0.60 Duplicate	S-12581540-220614-JB-BH9-22-0.0-0.6 6/14/2022 0.00-0.60	S-12581540-220614-JB-BH9-22-0.0-0.6X 6/14/2022 0.00-0.60 Duplicate	S-12581540-220613-JB-BH10-22-0.0-0.6 6/13/2022 0.00-0.60
<b>Metals</b>								
Antimony	mg/kg	0.52	0.44	0.73	-	38.6	-	0.51
Arsenic	mg/kg	5.19	39.4	6.86	-	26.5	-	5.90
Barium	mg/kg	69.0	116	62.0	-	90.8	-	102
Beryllium	mg/kg	0.30	0.46	0.30	-	0.31	-	1.01
Boron	mg/kg	12.7	19.8	11.8	-	9.7	-	14.6
Boron (hot water soluble)	mg/kg	1.02	0.63	0.47	-	0.97	-	0.77
Cadmium	mg/kg	0.309	0.868	0.891	-	3.99	-	2.90
Chromium	mg/kg	76.9	113	82.4	-	50.4	-	56.5
Chromium VI (hexavalent)	mg/kg	1.96	1.45	1.48	-	ND(0.10)	-	0.18
Cobalt	mg/kg	5.16	5.52	4.99	-	21.2	-	3.34
Copper	mg/kg	40.2	26.8	39.6	-	26.3	-	19.0
Lead	mg/kg	30.2	48.0	79.5	-	53.2	-	286
Mercury	mg/kg	0.0146	0.137	0.0339	-	0.310	-	0.0320
Molybdenum	mg/kg	2.14	2.02	2.40	-	2.21	-	2.60
Nickel	mg/kg	15.7	172	16.3	-	50.1	-	12.3
Selenium	mg/kg	ND(0.20)	1.09	ND(0.20)	-	0.78	-	0.83
Silver	mg/kg	ND(0.50)	ND(0.50)	ND(0.50)	-	ND(0.50)	-	ND(0.50)
Thallium	mg/kg	0.373	0.059	0.070	-	0.083	-	0.101
Uranium	mg/kg	0.478	1.16	0.588	-	0.491	-	1.12
Vanadium	mg/kg	69.4	387	59.9	-	71.3	-	35.8
Zinc	mg/kg	126	145	748	-	202	-	1310
<b>SAR Metals</b>								
Calcium (soluble)	mg/L	44.4	107	83.9	-	11.5	-	3.47
Magnesium (soluble)	mg/L	ND(0.50)	0.78	ND(0.50)	-	6.80	-	ND(0.50)
Sodium (soluble)	mg/L	55.2	62.8	25.5	-	111	-	153
<b>PCBs</b>								
Aroclor-1016 (PCB-1016)	mg/kg	-	ND(0.040)	-	-	-	-	-
Aroclor-1221 (PCB-1221)	mg/kg	-	ND(0.040)	-	-	-	-	-
Aroclor-1232 (PCB-1232)	mg/kg	-	ND(0.040)	-	-	-	-	-
Aroclor-1242 (PCB-1242)	mg/kg	-	ND(0.040)	-	-	-	-	-
Aroclor-1248 (PCB-1248)	mg/kg	-	ND(0.040)	-	-	-	-	-
Aroclor-1254 (PCB-1254)	mg/kg	-	ND(0.040)	-	-	-	-	-
Aroclor-1260 (PCB-1260)	mg/kg	-	ND(0.040)	-	-	-	-	-
Aroclor-1262 (PCB-1262)	mg/kg	-	ND(0.040)	-	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	-	ND(0.040)	-	-	-	-	-
Total PCBs	mg/kg	-	ND(0.120)	-	-	-	-	-
<b>Petroleum Hydrocarbons</b>								
Petroleum hydrocarbons F1 (C6-C10)	mg/kg	ND(5.0)	ND(5.0)	ND(5.0)	-	18.4	9.1	ND(5.0)
Petroleum hydrocarbons F1 minus BTEX	mg/kg	ND(5)	ND(5)	ND(5)	-	16.9	8.8	ND(5)
Petroleum hydrocarbons F2 (C10-C16)	mg/kg	ND(63)	ND(30)	80	-	ND(58)	ND(30)	ND(30)
Petroleum hydrocarbons F2 minus Naphthalene	mg/kg	-	-	80	-	-	-	ND(30)
Petroleum hydrocarbons F3 (C16-C34)	mg/kg	1400	806	1900	-	1120	1110	778
Petroleum hydrocarbons F3 minus PAH	mg/kg	-	-	1890	-	-	-	770
Petroleum hydrocarbons F4 (C34-C50)	mg/kg	3580	2330	3580	-	2670	2490	1660
Petroleum hydrocarbons F4 gravimetric - silica gel (GHH)	mg/kg	11200	6630	11200	-	8110	6870	5260
Total Petroleum Hydrocarbons (C6-C50)	mg/kg	4980	3140	5560	-	3810	3610	2440
<b>General Chemistry</b>								
Conductivity	mS/cm	0.503	0.826	0.593	-	0.642	-	0.805
Cyanide, weak acid dissociable	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	-	ND(0.050)	-	ND(0.050)
Moisture	%	7.46	22.0	8.06	7.51	7.20	9.01	6.95
pH, soluble (1:2)	s.u.	10.7	10.8	11.1	-	8.53	-	10.3
Sodium adsorption ratio (SAR)	none	2.28	1.66	0.77	-	6.46	-	22.6

**Notes:**

(1) Ontario Ministry of the Environment, Conservation and Parks (MECP), "Excess Soil Quality Standards" (dated February 19, 2024) contained in Part II of the document entitled "Rules for Soil Management and Excess Soil Quality Standards", dated February 2024, adopted by reference in O. Reg. 406/19 (On-Site and Excess Soil Management) made under the Environmental Protection Act, R.S.O. 1990, c. E.19 (EPA).

Table 3 ICC Table 3.1: Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition Industrial/Commercial/Community (ICC) Property Use for medium to fine textured soil

- Not applicable.

mBGS metres Below Ground Surface

ug/g micrograms per gram

mS/cm milliSiemens per centimetre

% percent

s.u. standard units

NV No value

ND(0.050) Not detected at the associated reporting limit indicated in brackets

- Not analyzed

Exceeds Table 3.1 ICC standard.

Exceeds RBC Value for F4G (8000 ug/g)

**Table 2**  
**Soil Analytical Results**  
**2524 Cawthra Road, Mississauga, Ontario**  
**The Corporation of the City of Mississauga**

Parameters	Units	BH11-22	BH12-22	BH13-22	BH14-22	BH104-23	BH106-23	BH112-23
		S-12581540-220613-JB-BH11-22-0.0-0.6 6/13/2022 0.00-0.60	S-12581540-220610-JB-BH12-22-0.05-0.6 6/10/2022 0.05-0.60	S-12581540-220610-JB-BH13-22-0.0-0.6 6/10/2022 0.00-0.60	S-12581540-220610-JB-BH14-22-0.8-1.4 6/10/2022 0.80-1.40	S-12581540-092023-CC-BH104-2-4 9/20/2023 0.61-1.22	S-12581540-092023-CC-BH106-2-4 9/20/2023 0.61-1.22	S-12581540-092023-CC-BH112-2-4 9/20/2023 0.61-1.22
<b>Volatiles</b>								
1,1,1,2-Tetrachloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
1,1,1-Trichloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
1,1,2,2-Tetrachloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
1,1,2-Trichloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
1,1-Dichloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
1,1-Dichloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
1,2-Dichlorobenzene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
1,2-Dichloroethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.049)
1,2-Dichloropropane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
1,3-Dichlorobenzene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
1,4-Dichlorobenzene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	-	-	ND(0.40)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	-	-	ND(0.40)
Acetone	mg/kg	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	-	-	ND(0.49)
Benzene	mg/kg	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.0050)	ND(0.020)	ND(0.020)	0.030
Bromodichloromethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
Bromoform	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
Bromomethane (Methyl bromide)	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
Carbon tetrachloride	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
Chlorobenzene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
Chloroform (Trichloromethane)	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
cis-1,2-Dichloroethene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
cis-1,3-Dichloropropene	mg/kg	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	-	-	ND(0.030)
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	mg/kg	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	-	-	ND(0.050)
Dibromochloromethane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
Dichlorodifluoromethane (CFC-12)	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
Ethylbenzene	mg/kg	0.016	ND(0.015)	ND(0.015)	ND(0.015)	ND(0.020)	ND(0.020)	0.026
Hexane	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
m&p-Xylenes	mg/kg	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.040)	ND(0.040)	0.10
Methyl tert butyl ether (MTBE)	mg/kg	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	-	-	ND(0.040)
Methylene chloride	mg/kg	ND(0.045)	ND(0.045)	ND(0.045)	ND(0.045)	-	-	ND(0.049)
o-Xylene	mg/kg	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.020)	ND(0.020)	0.054
Styrene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
Tetrachloroethene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
Toluene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.020)	ND(0.020)	0.088
Total BTEX	mg/kg	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	-	-	-
trans-1,2-Dichloroethene	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
trans-1,3-Dichloropropene	mg/kg	ND(0.030)	ND(0.030)	ND(0.030)	ND(0.030)	-	-	ND(0.040)
Trichloroethene	mg/kg	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	-	-	ND(0.010)
Trichlorofluoromethane (CFC-11)	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	ND(0.040)
Vinyl chloride	mg/kg	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	-	-	ND(0.019)
Xylenes (total)	mg/kg	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.040)	ND(0.040)	0.15
<b>Semi-Volatiles</b>								
1+2-Methylnaphthalene	mg/kg	1.29	-	ND(0.05)	-	-	-	-
1-Methylnaphthalene	mg/kg	0.670	-	ND(0.030)	-	-	-	-
2-Methylnaphthalene	mg/kg	0.618	-	ND(0.030)	-	-	-	-
Acenaphthene	mg/kg	1.96	-	ND(0.050)	-	-	-	-
Acenaphthylene	mg/kg	0.570	-	ND(0.050)	-	-	-	-
Anthracene	mg/kg	8.21	-	ND(0.050)	-	-	-	-
Benzo(a)anthracene	mg/kg	17.6	-	ND(0.050)	-	-	-	-
Benzo(a)pyrene	mg/kg	14.8	-	ND(0.050)	-	-	-	-
Benzo(b)fluoranthene/Benzo(j)fluoranthene	mg/kg	15.8	-	ND(0.050)	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	6.16	-	ND(0.050)	-	-	-	-
Benzo(k)fluoranthene	mg/kg	8.73	-	ND(0.050)	-	-	-	-
Chrysene	mg/kg	15.4	-	ND(0.050)	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	2.28	-	ND(0.050)	-	-	-	-
Fluoranthene	mg/kg	39.1	-	ND(0.050)	-	-	-	-
Fluorene	mg/kg	3.74	-	ND(0.050)	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	7.76	-	ND(0.050)	-	-	-	-
Naphthalene	mg/kg	0.958	-	ND(0.010)	-	-	-	-
Phenanthrene	mg/kg	30.7	-	ND(0.050)	-	-	-	-
Pyrene	mg/kg	29.6	-	ND(0.050)	-	-	-	-

**Table 2**  
**Soil Analytical Results**  
**2524 Cawthra Road, Mississauga, Ontario**  
**The Corporation of the City of Mississauga**

Parameters	Units	BH11-22	BH12-22	BH13-22	BH14-22	BH104-23	BH106-23	BH112-23
		S-12581540-220613-JB-BH11-22-0.0-0.6 6/13/2022 0.00-0.60	S-12581540-220610-JB-BH12-22-0.05-0.6 6/10/2022 0.05-0.60	S-12581540-220610-JB-BH13-22-0.0-0.6 6/10/2022 0.00-0.60	S-12581540-220610-JB-BH14-22-0.8-1.4 6/10/2022 0.80-1.40	S-12581540-092023-CC-BH104-2-4 9/20/2023 0.61-1.22	S-12581540-092023-CC-BH106-2-4 9/20/2023 0.61-1.22	S-12581540-092023-CC-BH112-2-4 9/20/2023 0.61-1.22
<b>Metals</b>								
Antimony	mg/kg	1.02	0.36	0.84	0.18	-	-	-
Arsenic	mg/kg	7.06	10.2	6.87	7.11	-	-	-
Barium	mg/kg	137	136	130	164	-	-	-
Beryllium	mg/kg	0.42	0.33	0.37	0.71	-	-	-
Boron	mg/kg	18.4	8.1	9.3	9.3	-	-	-
Boron (hot water soluble)	mg/kg	1.57	0.43	1.15	0.57	-	-	-
Cadmium	mg/kg	1.33	0.793	0.592	0.089	-	-	-
Chromium	mg/kg	98.1	15.2	42.5	23.6	-	-	-
Chromium VI (hexavalent)	mg/kg	0.42	ND(0.66)	ND(0.66)	ND(0.66)	-	-	-
Cobalt	mg/kg	6.82	5.88	7.54	10.8	-	-	-
Copper	mg/kg	37.0	32.9	27.1	37.9	-	-	-
Lead	mg/kg	115	53.5	43.3	6.12	-	-	-
Mercury	mg/kg	0.0599	0.0187	0.0209	0.0186	-	-	-
Molybdenum	mg/kg	3.28	1.05	1.19	0.66	-	-	-
Nickel	mg/kg	18.9	14.0	13.9	23.9	-	-	-
Selenium	mg/kg	0.30	ND(0.20)	0.23	ND(0.20)	-	-	-
Silver	mg/kg	ND(0.50)	ND(0.10)	ND(0.10)	ND(0.10)	-	-	-
Thallium	mg/kg	0.121	0.086	0.082	0.188	-	-	-
Uranium	mg/kg	0.930	0.392	0.379	0.413	-	-	-
Vanadium	mg/kg	42.6	22.6	41.4	34.7	-	-	-
Zinc	mg/kg	472	79.8	75.1	51.9	-	-	-
<b>SAR Metals</b>								
Calcium (soluble)	mg/L	8.05	12.4	21.8	4.23	-	-	-
Magnesium (soluble)	mg/L	0.59	1.34	3.44	0.64	-	-	-
Sodium (soluble)	mg/L	130	39.7	72.0	139	-	-	-
<b>PCBs</b>								
Aroclor-1016 (PCB-1016)	mg/kg	ND(0.010)	-	ND(0.010)	-	-	-	-
Aroclor-1221 (PCB-1221)	mg/kg	ND(0.010)	-	ND(0.010)	-	-	-	-
Aroclor-1232 (PCB-1232)	mg/kg	ND(0.010)	-	ND(0.010)	-	-	-	-
Aroclor-1242 (PCB-1242)	mg/kg	ND(0.010)	-	ND(0.010)	-	-	-	-
Aroclor-1248 (PCB-1248)	mg/kg	ND(0.010)	-	ND(0.010)	-	-	-	-
Aroclor-1254 (PCB-1254)	mg/kg	0.055	-	ND(0.010)	-	-	-	-
Aroclor-1260 (PCB-1260)	mg/kg	0.051	-	ND(0.010)	-	-	-	-
Aroclor-1262 (PCB-1262)	mg/kg	ND(0.010)	-	ND(0.010)	-	-	-	-
Aroclor-1268 (PCB-1268)	mg/kg	ND(0.010)	-	ND(0.010)	-	-	-	-
Total PCBs	mg/kg	0.106	-	ND(0.030)	-	-	-	-
<b>Petroleum Hydrocarbons</b>								
Petroleum hydrocarbons F1 (C6-C10)	mg/kg	ND(5.0)	ND(5.0)	ND(5.0)	ND(5.0)	ND(10)	ND(10)	ND(10)
Petroleum hydrocarbons F1 minus BTEX	mg/kg	ND(5)	ND(5)	ND(5)	ND(5)	ND(10)	ND(10)	ND(10)
Petroleum hydrocarbons F2 (C10-C16)	mg/kg	ND(66)	ND(10)	ND(60)	ND(10)	32	34	80
Petroleum hydrocarbons F2 minus Naphthalene	mg/kg	ND(66)	-	ND(60)	-	-	-	-
Petroleum hydrocarbons F3 (C16-C34)	mg/kg	1120	ND(50)	630	ND(50)	1100	1100	1900
Petroleum hydrocarbons F3 minus PAH	mg/kg	954	-	630	-	-	-	-
Petroleum hydrocarbons F4 (C34-C50)	mg/kg	2660	ND(50)	2400	ND(50)	2200	1800	990
Petroleum hydrocarbons F4 gravimetric - silica gel (GHH)	mg/kg	8590	-	10200	-	7300	5400	3400
Total Petroleum Hydrocarbons (C6-C50)	mg/kg	3780	ND(80)	3030	ND(80)	-	-	-
<b>General Chemistry</b>								
Conductivity	mS/cm	0.678	0.265	0.501	0.690	-	-	-
Cyanide, weak acid dissociable	mg/kg	ND(0.050)	ND(0.050)	ND(0.050)	ND(0.050)	-	-	-
Moisture	%	6.62	10.7 Dup 6.08	10.0	9.23 Dup 9.84	8.6	14	14
pH, soluble (1:2)	s.u.	9.53	8.47	7.17	8.03	-	-	-
Sodium adsorption ratio (SAR)	none	11.9	2.86	3.78	16.6	-	-	-

**Notes:**

(1) Ontario Ministry of the Environment, Conservation and Parks (MECP), "Excess Soil Quality Standards" (dated February 19, 2024) contained in Part II of the document entitled "Rules for Soil Management and Excess Soil Quality Standards", dated February 2024, adopted by reference in O. Reg. 406/19 (On-Site and Excess Soil Management) made under the Environmental Protection Act, R.S.O. 1990, c. E.19 (EPA).

Table 3 ICC Table 3.1: Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition Industrial/Commercial/Community (ICC) Property Use for medium to fine textured soil

- Not applicable.

mBGS metres Below Ground Surface

ug/g micrograms per gram

mS/cm milliSiemens per centimetre

% percent

s.u. standard units

NV No value

ND(0.050) Not detected at the associated reporting limit indicated in brackets

- Not analyzed

Exceeds Table 3.1 ICC standard.

Exceeds RBC Value for F4G (8000 ug/g)

**Table 2**  
**Soil Analytical Results**  
**2524 Cawthra Road, Mississauga, Ontario**  
**The Corporation of the City of Mississauga**

Parameters	Units	BH115-23	BH117-23	BH118-23	BH119-23	BH119-23	BH120-23	MW1-22
		S-12581540-092023-CC-BH115-2-4	S-12581540-092023-CC-BH117-2-4	S-12581540-092023-CC-BH118-2-4	S-12581540-092023-CC-BH119-2-4	S-12581540-092023-CC-DUP2	S-12581540-092023-CC-BH120-2-4	S-12581540-220606-JB-MW1-22-0.0 TO 0.6
		9/20/2023 0.61-1.22	9/20/2023 0.61-1.22	9/20/2023 0.61-1.22	9/20/2023 0.61-1.22	9/20/2023 0.61-1.22 Duplicate	9/20/2023 0.61-1.22	6/6/2022 0.00-0.60
<b>Volatiles</b>								
1,1,1,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-
1,1,1-Trichloroethane	mg/kg	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	mg/kg	-	-	-	-	-	-	-
1,1,2-Trichloroethane	mg/kg	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-
1,1-Dichloroethane	mg/kg	-	-	-	-	-	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-
1,2-Dichloroethane	mg/kg	-	-	-	-	-	-	-
1,2-Dichloropropane	mg/kg	-	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	-	-	-	-	-	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	-	-	-	-	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	-	-	-	-	-	-
Acetone	mg/kg	-	-	-	-	-	-	-
Benzene	mg/kg	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	-
Bromodichloromethane	mg/kg	-	-	-	-	-	-	-
Bromoform	mg/kg	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	-	-	-	-	-	-	-
Carbon tetrachloride	mg/kg	-	-	-	-	-	-	-
Chlorobenzene	mg/kg	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	mg/kg	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.022	-
Hexane	mg/kg	-	-	-	-	-	-	-
m&p-Xylenes	mg/kg	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.35	-
Methyl tert butyl ether (MTBE)	mg/kg	-	-	-	-	-	-	-
Methylene chloride	mg/kg	-	-	-	-	-	-	-
o-Xylene	mg/kg	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	ND(0.020)	0.056	-
Styrene	mg/kg	-	-	-	-	-	-	-
Tetrachloroethene	mg/kg	-	-	-	-	-	-	-
Toluene	mg/kg	ND(0.020)	ND(0.020)	0.023	ND(0.020)	ND(0.020)	ND(0.020)	-
Total BTEX	mg/kg	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	mg/kg	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	-	-	-
Trichloroethene	mg/kg	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/kg	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	-	-	-	-	-	-	-
Xylenes (total)	mg/kg	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.40	-
<b>Semi-Volatiles</b>								
1+2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-
1-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/kg	-	-	-	-	-	-	-
Acenaphthene	mg/kg	-	-	-	-	-	-	-
Acenaphthylene	mg/kg	-	-	-	-	-	-	-
Anthracene	mg/kg	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	-	-	-	-	-	-	-
Benzo(b)fluoranthene/Benzo(j)fluoranthene	mg/kg	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/kg	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	-	-	-	-	-	-	-
Chrysene	mg/kg	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	-	-	-	-	-	-	-
Fluoranthene	mg/kg	-	-	-	-	-	-	-
Fluorene	mg/kg	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	-	-	-	-	-
Naphthalene	mg/kg	-	-	-	-	-	-	-
Phenanthrene	mg/kg	-	-	-	-	-	-	-
Pyrene	mg/kg	-	-	-	-	-	-	-

**Table 2**  
**Soil Analytical Results**  
**2524 Cawthra Road, Mississauga, Ontario**  
**The Corporation of the City of Mississauga**

Parameters	Units	BH115-23	BH117-23	BH118-23	BH119-23	BH119-23	BH120-23	MW1-22
		S-12581540-092023-CC-BH115-2-4	S-12581540-092023-CC-BH117-2-4	S-12581540-092023-CC-BH118-2-4	S-12581540-092023-CC-BH119-2-4	S-12581540-092023-CC-DUP2	S-12581540-092023-CC-BH120-2-4	S-12581540-220606-JB-MW1-22-0.0 TO 0.6
		9/20/2023 0.61-1.22	9/20/2023 0.61-1.22	9/20/2023 0.61-1.22	9/20/2023 0.61-1.22	9/20/2023 0.61-1.22 Duplicate	9/20/2023 0.61-1.22	6/6/2022 0.00-0.60
<b>Metals</b>								
Antimony	mg/kg	-	-	-	-	-	-	1.26
Arsenic	mg/kg	-	-	-	-	-	-	3.87
Barium	mg/kg	-	-	-	-	-	-	50.2
Beryllium	mg/kg	-	-	-	-	-	-	0.17
Boron	mg/kg	-	-	-	-	-	-	6.2
Boron (hot water soluble)	mg/kg	-	-	-	-	-	-	0.36
Cadmium	mg/kg	-	-	-	-	-	-	0.266
Chromium	mg/kg	-	-	-	-	-	-	71.8
Chromium VI (hexavalent)	mg/kg	-	-	-	-	-	-	1.58
Cobalt	mg/kg	-	-	-	-	-	-	3.84
Copper	mg/kg	-	-	-	-	-	-	44.5
Lead	mg/kg	-	-	-	-	-	-	17.8
Mercury	mg/kg	-	-	-	-	-	-	0.0072
Molybdenum	mg/kg	-	-	-	-	-	-	3.40
Nickel	mg/kg	-	-	-	-	-	-	12.9
Selenium	mg/kg	-	-	-	-	-	-	ND(0.20)
Silver	mg/kg	-	-	-	-	-	-	ND(0.10)
Thallium	mg/kg	-	-	-	-	-	-	0.211
Uranium	mg/kg	-	-	-	-	-	-	0.297
Vanadium	mg/kg	-	-	-	-	-	-	47.8
Zinc	mg/kg	-	-	-	-	-	-	133
<b>SAR Metals</b>								
Calcium (soluble)	mg/L	-	-	-	-	-	-	34.0
Magnesium (soluble)	mg/L	-	-	-	-	-	-	1.08
Sodium (soluble)	mg/L	-	-	-	-	-	-	14.4
<b>PCBs</b>								
Aroclor-1016 (PCB-1016)	mg/kg	-	-	-	-	-	-	ND(0.100)
Aroclor-1221 (PCB-1221)	mg/kg	-	-	-	-	-	-	ND(0.100)
Aroclor-1232 (PCB-1232)	mg/kg	-	-	-	-	-	-	ND(0.100)
Aroclor-1242 (PCB-1242)	mg/kg	-	-	-	-	-	-	ND(0.100)
Aroclor-1248 (PCB-1248)	mg/kg	-	-	-	-	-	-	ND(0.100)
Aroclor-1254 (PCB-1254)	mg/kg	-	-	-	-	-	-	ND(0.100)
Aroclor-1260 (PCB-1260)	mg/kg	-	-	-	-	-	-	ND(0.100)
Aroclor-1262 (PCB-1262)	mg/kg	-	-	-	-	-	-	ND(0.100)
Aroclor-1268 (PCB-1268)	mg/kg	-	-	-	-	-	-	ND(0.100)
Total PCBs	mg/kg	-	-	-	-	-	-	ND(0.300)
<b>Petroleum Hydrocarbons</b>								
Petroleum hydrocarbons F1 (C6-C10)	mg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	-
Petroleum hydrocarbons F1 minus BTEX	mg/kg	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	-
Petroleum hydrocarbons F2 (C10-C16)	mg/kg	ND(10)	16	ND(10)	ND(10)	ND(10)	ND(10)	-
Petroleum hydrocarbons F2 minus Naphthalene	mg/kg	-	-	-	-	-	-	-
Petroleum hydrocarbons F3 (C16-C34)	mg/kg	ND(50)	560	ND(50)	ND(50)	ND(50)	830	-
Petroleum hydrocarbons F3 minus PAH	mg/kg	-	-	-	-	-	-	-
Petroleum hydrocarbons F4 (C34-C50)	mg/kg	ND(50)	1000	ND(50)	ND(50)	ND(50)	470	-
Petroleum hydrocarbons F4 gravimetric - silica gel (GHH)	mg/kg	-	3800	-	-	-	1200	-
Total Petroleum Hydrocarbons (C6-C50)	mg/kg	-	-	-	-	-	-	-
<b>General Chemistry</b>								
Conductivity	mS/cm	-	-	-	-	-	-	0.266
Cyanide, weak acid dissociable	mg/kg	-	-	-	-	-	-	ND(0.050)
Moisture	%	19	6.9	16	15	14	18	6.84
pH, soluble (1:2)	s.u.	-	-	-	-	-	-	10.4
Sodium adsorption ratio (SAR)	none	-	-	-	-	-	-	0.66

**Notes:**

(1) Ontario Ministry of the Environment, Conservation and Parks (MECP), "Excess Soil Quality Standards" (dated February 19, 2024) contained in Part II of the document entitled "Rules for Soil Management and Excess Soil Quality Standards", dated February 2024, adopted by reference in O. Reg. 406/19 (On-Site and Excess Soil Management) made under the Environmental Protection Act, R.S.O. 1990, c. E.19 (EPA).

Table 3 ICC Table 3.1: Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition Industrial/Commercial/Community (ICC) Property Use for medium to fine textured soil

- Not applicable.

mBGS metres Below Ground Surface

ug/g micrograms per gram

mS/cm milliSiemens per centimetre

% percent

s.u. standard units

NV No value

ND(0.050) Not detected at the associated reporting limit indicated in brackets

- Not analyzed

Exceeds Table 3.1 ICC standard.

Exceeds RBC Value for F4G (8000 ug/g)

**Table 2**  
**Soil Analytical Results**  
**2524 Cawthra Road, Mississauga, Ontario**  
**The Corporation of the City of Mississauga**

Parameters	Units	MW1-22	MW2-22	MW2-22	MW3-22	MW3-22	MW3-22	MW4-22
		S-12581540-220606-JB-MW1-22-0.0 TO 0.6X	S-12581540-220606-JB-MW2-22-0.0 TO 0.6	S-12581540-220606-JB-MW2-22-0.7 TO 1.3	S-12581540-220606-JB-MW3-22-0.0 TO 0.6	S-12581540-220606-JB-MW3-22-0.0 TO 0.6X	S-12581540-220606-JB-MW3-22-0.7 TO 1.3	S-12581540-220610-JB-MW4-22-0.05-0.6
		6/6/2022 0.00-0.60 Duplicate	6/6/2022 0.00-0.60	6/6/2022 0.70-1.30	6/6/2022 0.00-0.60	6/6/2022 0.00-0.60 Duplicate	6/6/2022 0.70-1.30	6/10/2022 0.05-0.60
<b>Volatiles</b>								
1,1,1,2-Tetrachloroethane	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
1,1,1-Trichloroethane	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
1,1,2,2-Tetrachloroethane	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
1,1,2-Trichloroethane	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
1,1-Dichloroethane	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
1,1-Dichloroethene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
1,2-Dichlorobenzene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
1,2-Dichloroethane	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
1,2-Dichloropropane	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
1,3-Dichlorobenzene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
1,4-Dichlorobenzene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	ND(0.50)	-	-	-	ND(0.50)	ND(0.50)
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	ND(0.50)	-	-	-	ND(0.50)	ND(0.50)
Acetone	mg/kg	-	ND(0.50)	-	-	-	ND(0.50)	ND(0.50)
Benzene	mg/kg	-	ND(0.0050)	-	-	-	ND(0.0050)	ND(0.0050)
Bromodichloromethane	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Bromoform	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Bromomethane (Methyl bromide)	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Carbon tetrachloride	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Chlorobenzene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Chloroform (Trichloromethane)	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
cis-1,2-Dichloroethene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
cis-1,3-Dichloropropene	mg/kg	-	ND(0.030)	-	-	-	ND(0.030)	ND(0.030)
cis-1,3-Dichloropropene/trans-1,3-Dichloropropene	mg/kg	-	ND(0.05)	-	-	-	ND(0.05)	ND(0.05)
Dibromochloromethane	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Dichlorodifluoromethane (CFC-12)	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Ethylbenzene	mg/kg	-	ND(0.015)	-	-	-	ND(0.015)	ND(0.015)
Hexane	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
m&p-Xylenes	mg/kg	-	ND(0.030)	-	-	-	ND(0.030)	ND(0.030)
Methyl tert butyl ether (MTBE)	mg/kg	-	ND(0.040)	-	-	-	ND(0.040)	ND(0.040)
Methylene chloride	mg/kg	-	ND(0.045)	-	-	-	ND(0.045)	ND(0.045)
o-Xylene	mg/kg	-	ND(0.030)	-	-	-	ND(0.030)	ND(0.030)
Styrene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Tetrachloroethene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Toluene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Total BTEX	mg/kg	-	ND(0.1)	-	-	-	ND(0.1)	ND(0.1)
trans-1,2-Dichloroethene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
trans-1,3-Dichloropropene	mg/kg	-	ND(0.030)	-	-	-	ND(0.030)	ND(0.030)
Trichloroethene	mg/kg	-	ND(0.010)	-	-	-	ND(0.010)	ND(0.010)
Trichlorofluoromethane (CFC-11)	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Vinyl chloride	mg/kg	-	ND(0.020)	-	-	-	ND(0.020)	ND(0.020)
Xylenes (total)	mg/kg	-	ND(0.05)	-	-	-	ND(0.05)	ND(0.05)
<b>Semi-Volatiles</b>								
1+2-Methylnaphthalene	mg/kg	-	ND(0.05)	-	-	-	ND(0.05)	ND(0.05)
1-Methylnaphthalene	mg/kg	-	ND(0.030)	-	-	-	ND(0.030)	ND(0.030)
2-Methylnaphthalene	mg/kg	-	ND(0.030)	-	-	-	ND(0.030)	ND(0.030)
Acenaphthene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Acenaphthylene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Anthracene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Benzo(a)anthracene	mg/kg	-	0.095	-	-	-	ND(0.050)	ND(0.050)
Benzo(a)pyrene	mg/kg	-	0.137	-	-	-	ND(0.050)	ND(0.050)
Benzo(b)fluoranthene/Benzo(j)fluoranthene	mg/kg	-	0.156	-	-	-	ND(0.050)	ND(0.050)
Benzo(g,h,i)perylene	mg/kg	-	0.105	-	-	-	ND(0.050)	ND(0.050)
Benzo(k)fluoranthene	mg/kg	-	0.066	-	-	-	ND(0.050)	ND(0.050)
Chrysene	mg/kg	-	0.103	-	-	-	ND(0.050)	ND(0.050)
Dibenz(a,h)anthracene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Fluoranthene	mg/kg	-	0.180	-	-	-	0.054	ND(0.050)
Fluorene	mg/kg	-	ND(0.050)	-	-	-	ND(0.050)	ND(0.050)
Indeno(1,2,3-cd)pyrene	mg/kg	-	0.105	-	-	-	ND(0.050)	ND(0.050)
Naphthalene	mg/kg	-	0.012	-	-	-	ND(0.010)	ND(0.010)
Phenanthrene	mg/kg	-	0.077	-	-	-	ND(0.050)	ND(0.050)
Pyrene	mg/kg	-	0.170	-	-	-	ND(0.050)	ND(0.050)

**Table 2**  
**Soil Analytical Results**  
**2524 Cawthra Road, Mississauga, Ontario**  
**The Corporation of the City of Mississauga**

Parameters	Units	MW1-22	MW2-22	MW2-22	MW3-22	MW3-22	MW3-22	MW4-22
		S-12581540-220606-JB-MW1-22-0.0 TO 0.6X 6/6/2022 0.00-0.60 Duplicate	S-12581540-220606-JB-MW2-22-0.0 TO 0.6 6/6/2022 0.00-0.60	S-12581540-220606-JB-MW2-22-0.7 TO 1.3 6/6/2022 0.70-1.30	S-12581540-220606-JB-MW3-22-0.0 TO 0.6 6/6/2022 0.00-0.60	S-12581540-220606-JB-MW3-22-0.0 TO 0.6X 6/6/2022 0.00-0.60 Duplicate	S-12581540-220606-JB-MW3-22-0.7 TO 1.3 6/6/2022 0.70-1.30	S-12581540-220610-JB-MW4-22-0.05-0.6 6/10/2022 0.05-0.60
<b>Metals</b>								
Antimony	mg/kg	1.58	0.74	-	0.39	-	-	0.28
Arsenic	mg/kg	4.78	5.49	-	4.50	-	-	7.95
Barium	mg/kg	60.3	43.1	-	89.6	-	-	83.0
Beryllium	mg/kg	0.22	0.27	-	0.29	-	-	0.32
Boron	mg/kg	8.0	ND(5.0)	-	14.8	-	-	7.9
Boron (hot water soluble)	mg/kg	0.54	0.24	-	0.84	-	-	0.18
Cadmium	mg/kg	0.288	0.504	-	0.429	-	-	0.455
Chromium	mg/kg	82.1	16.9	-	85.0	-	-	14.4
Chromium VI (hexavalent)	mg/kg	1.74	1.23	-	2.68	-	-	ND(0.66)
Cobalt	mg/kg	4.62	4.33	-	4.07	-	-	6.10
Copper	mg/kg	48.5	27.4	-	27.2	-	-	30.2
Lead	mg/kg	19.1	59.9	-	26.5	-	-	21.9
Mercury	mg/kg	0.0082	0.0382	-	0.0149	-	-	0.0134
Molybdenum	mg/kg	3.91	1.08	-	1.87	-	-	1.83
Nickel	mg/kg	15.6	11.1	-	12.2	-	-	13.0
Selenium	mg/kg	ND(0.20)	ND(0.20)	-	ND(0.20)	-	-	ND(0.20)
Silver	mg/kg	ND(0.10)	ND(0.10)	-	ND(0.10)	-	-	ND(0.10)
Thallium	mg/kg	0.288	0.058	-	0.069	-	-	0.094
Uranium	mg/kg	0.358	0.434	-	0.484	-	-	0.389
Vanadium	mg/kg	61.1	19.5	-	58.1	-	-	19.2
Zinc	mg/kg	134	84.5	-	114	-	-	162
<b>SAR Metals</b>								
Calcium (soluble)	mg/L	36.1	17.4	-	79.1	-	-	19.3
Magnesium (soluble)	mg/L	1.29	1.12	-	ND(0.50)	-	-	2.05
Sodium (soluble)	mg/L	14.9	5.80	-	87.7	-	-	6.02
<b>PCBs</b>								
Aroclor-1016 (PCB-1016)	mg/kg	-	-	ND(0.010)	ND(0.100)	ND(0.100)	-	ND(0.010)
Aroclor-1221 (PCB-1221)	mg/kg	-	-	ND(0.010)	ND(0.100)	ND(0.100)	-	ND(0.010)
Aroclor-1232 (PCB-1232)	mg/kg	-	-	ND(0.010)	ND(0.100)	ND(0.100)	-	ND(0.010)
Aroclor-1242 (PCB-1242)	mg/kg	-	-	ND(0.010)	ND(0.100)	ND(0.100)	-	ND(0.010)
Aroclor-1248 (PCB-1248)	mg/kg	-	-	ND(0.010)	ND(0.100)	ND(0.100)	-	ND(0.010)
Aroclor-1254 (PCB-1254)	mg/kg	-	-	ND(0.010)	ND(0.100)	ND(0.100)	-	ND(0.010)
Aroclor-1260 (PCB-1260)	mg/kg	-	-	ND(0.010)	ND(0.100)	ND(0.100)	-	0.064
Aroclor-1262 (PCB-1262)	mg/kg	-	-	ND(0.010)	ND(0.100)	ND(0.100)	-	ND(0.010)
Aroclor-1268 (PCB-1268)	mg/kg	-	-	ND(0.010)	ND(0.100)	ND(0.100)	-	ND(0.010)
Total PCBs	mg/kg	-	-	ND(0.030)	ND(0.300)	ND(0.300)	-	0.064
<b>Petroleum Hydrocarbons</b>								
Petroleum hydrocarbons F1 (C6-C10)	mg/kg	-	ND(5.0)	-	-	-	ND(5.0)	ND(5.0)
Petroleum hydrocarbons F1 minus BTEX	mg/kg	-	-	-	-	-	ND(5)	ND(5)
Petroleum hydrocarbons F2 (C10-C16)	mg/kg	-	ND(10)	-	-	-	ND(10)	ND(10)
Petroleum hydrocarbons F2 minus Naphthalene	mg/kg	-	ND(25)	-	-	-	ND(25)	ND(25)
Petroleum hydrocarbons F3 (C16-C34)	mg/kg	-	571	-	-	-	157	ND(50)
Petroleum hydrocarbons F3 minus PAH	mg/kg	-	570	-	-	-	157	ND(50)
Petroleum hydrocarbons F4 (C34-C50)	mg/kg	-	250	-	-	-	340	ND(50)
Petroleum hydrocarbons F4 gravimetric - silica gel (GHH)	mg/kg	-	1170	-	-	-	920	-
Total Petroleum Hydrocarbons (C6-C50)	mg/kg	-	821	-	-	-	497	ND(80)
<b>General Chemistry</b>								
Conductivity	mS/cm	0.268	0.138	-	0.817	-	-	0.175
Cyanide, weak acid dissociable	mg/kg	ND(0.050)	ND(0.050)	-	ND(0.050)	-	-	ND(0.050)
Moisture	%	7.00	11.9	7.02	8.71	6.46	18.8	4.99
pH, soluble (1:2)	s.u.	7.65	11.1	-	7.82	-	-	7.78
Sodium adsorption ratio (SAR)	none	0.66	0.36	-	2.72	-	-	0.35

**Notes:**

(1) Ontario Ministry of the Environment, Conservation and Parks (MECP), "Excess Soil Quality Standards" (dated February 19, 2024) contained in Part II of the document entitled "Rules for Soil Management and Excess Soil Quality Standards", dated February 2024, adopted by reference in O. Reg. 406/19 (On-Site and Excess Soil Management) made under the Environmental Protection Act, R.S.O. 1990, c. E.19 (EPA).

Table 3 ICC Table 3.1: Full Depth Excess Soil Quality Standards in a Non-Potable Ground Water Condition Industrial/Commercial/Community (ICC) Property Use for medium to fine textured soil

- Not applicable.

mBGS metres Below Ground Surface

ug/g micrograms per gram

mS/cm milliSiemens per centimetre

% percent

s.u. standard units

NV No value

ND(0.050) Not detected at the associated reporting limit indicated in brackets

- Not analyzed

Exceeds Table 3.1 ICC standard.

Exceeds RBC Value for F4G (8000 ug/g)



**PART 1: LOADING DETAILS**

To be completed prior to each load of soil leaving Source Site. Hauler must keep this record on them at all times during transportation.

<b>Source Site (Project Area)</b>	
Site Location: _____ <i>(Address, City, Province, Postal Code)</i>	
Contact Name (Contractor): _____	
Tel: _____	Email: _____
<b>Load Details</b>	
Date/Time: _____ <i>(YYYY-MM-DD, HH:MM)</i>	(am/pm) Quantity: _____ (TN/m <sup>3</sup> )
Quality of Material (if known): _____	
Receiving Site: _____ <i>(Name (if available), Address, City, Province, Postal Code)</i>	
<b>Hauler Details</b>	
Transport Company: _____	Truck License Plate No: _____
Driver Name: _____	Driver Signature _____

**PART 2: RECEIVING DETAILS**

To be completed upon arrival and acceptance at Receiving Site. Copy of this document to be provided to Receiving Site representative.

<b>Deposit Details</b>	
Date/Time: _____ <i>(YYYY-MM-DD, HH:MM)</i>	(am/pm) Ticket No.: _____
I, _____ <i>(name of Receiving Site Representative)</i> , declare the foregoing information is true and correct and acknowledge and consent to the deposit of the excess soil described above at the receiving site noted above.	
Date: _____ <i>(YYYY-MM-DD)</i>	Signature _____
Tel: _____	Email: _____

# Due-Diligence Soil Characterization

## 1 Description and Application

The purpose of this document is to outline the City's best management practices for soil characterization and reporting for the excavation, removal, disposal and importation of excess soil.

This document is to only be applied to projects that are exempt from Section 8 of Ontario Regulation (O. Reg.) 406/19. If a project is not exempt or you are unsure if a project is exempt from Section 8 of O. Reg. 406/19, please reach out to T&W Environmental Services Section ([Env.Inquiries@mississauga.ca](mailto:Env.Inquiries@mississauga.ca)) for further direction. Except as additionally and otherwise provided for in this document, capitalized terms contained in this document shall have the same meaning as set out in the Contract Documents.

## 2 Excavation, Removal and Disposal of Excess Soil

Prior to any removal of excess soil from a Project and Working Area (herein referred to as the Project Area), due-diligence soil characterization shall be completed. The best management practices that apply to a project are dependent on the volume and receiving destination of the excess soil. For ease of reference, projects have been divided into two (2) scenarios and are defined as follows:

- Scenario 1. Projects where less than 100 m<sup>3</sup> of excess soil is being removed (equivalent to 200 metric tonnes (MT) or 10 truckloads) AND is directly transported to a waste disposal site (that is not a Class 2 soil management site); or
- Scenario 2. All other projects that do not meet the criteria of Scenario 1.

Please select the scenario that best fits the project and refer to scenario specific requirements outlined below.

### 2.1 Scenario 1 Projects

A Scenario 1 project is when both of the following circumstances apply:

1. The amount of soil to be removed from the Project Area is less than 100 m<sup>3</sup>; and
2. The excess soil is directly transported to a waste disposal site that is not a Class 2 soil management site.

#### 2.1.1 Sampling and Analysis

Soil characterization shall include, but is not limited to, the following:

- Collection of a soil sample for waste characterization purpose for laboratory analysis using the Toxicity Characterization Leaching Procedure (TCLP) method in accordance with O. Reg. 347 for the following parameters:

- Metals and Inorganics;
- Volatile Organic Compounds (VOCs); and
- Any additional contaminants of concern or as required by the Receiving Site.
- Collection of bulk soil samples as required by the Receiving Site.

### 2.1.2 Reporting

Unless otherwise indicated by the Receiving Site, no formal report is required. A copy of the laboratory certificate of analysis shall be provided to the Contract Manager.

## 2.2 Scenario 2 Projects

A Scenario 2 project is when one (1) of the following circumstances apply:

1. The amount of soil to be removed from the Project Area is greater than 100 m<sup>3</sup>; and/or
2. The excess soil is not directly transported to a waste disposal site that is not a Class 2 soil management site.

### 2.2.1 Sampling and Analysis

Soil characterization shall include, but is not limited to, the following:

- Collection of soil samples, including the applicable Quality Assurance and Quality Control (QA/QC) samples, at a frequency that ensures an appropriate level of sampling and analysis is carried out to determine the concentrations of contaminants in the excavated excess soil. Sampling frequency shall meet the following minimum requirements, plus applicable QA/QC samples:
  - Minimum of three (3) samples if less than 1,000 m<sup>3</sup> of excess soil;
  - Minimum of four (4) samples plus one (1) additional sample for each additional 1,000 m<sup>3</sup> exceeding 1,000 m<sup>3</sup> up to 10,000 m<sup>3</sup> of excess soil; and
  - One (1) additional sample for each additional 5,000 m<sup>3</sup> exceeding 10,000 m<sup>3</sup> of excess soil.
- Conduct soil analysis in accordance with O. Reg. 406/19 and O. Reg. 153/04, as amended, for the following parameters:
  - Petroleum Hydrocarbons (PHCs) F1-F4 including benzene, toluene, ethylbenzene and xylenes (BTEX);
  - Metals and hydride-forming metals (antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, silver, thallium, uranium, vanadium and zinc);
  - Sodium Adsorption Ratio (SAR) and Electrical Conductivity (EC);
  - Semi-Volatile Organic Compounds (SVOCs) and VOCs; and
  - Any additional contaminants of concern that have been identified through a review of past and current uses or as required by the chosen Receiving Site.
- Collection of soil samples for waste characterization purpose for laboratory analysis using the TCLP method in accordance with O. Reg. 347.
- All environmental samples shall be submitted to a laboratory accredited with the Canadian Association for Laboratory Accreditation (CALA) for analysis.

- All soil samples must be compared to the appropriate tables as outlined in the Ministry of the Environment, Conservation and Parks (MECP)'s O. Reg. 406/19, Rules for Soil Management and Excess Soil Quality Standards, Appendix 1 & 2; and the MECP's O. Reg. 153/04 *Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act*, as applicable.

The soil characterization can be completed concurrently with a Geotechnical Investigation, if applicable and feasible.

#### 2.2.2 Reporting (can be combined with Geotechnical Report or Soil Management Plan)

The Soil Characterization Report shall include, but is not limited to, the following:

- Background information, including the purpose of the project, location of work, etc.;
- A summary of the quantity of samples and type of analysis conducted;
- Estimated volume of soil to be removed, reused and/or imported to/from the Project Area, if applicable;
- Sampling and QA/QC methodology;
- Copy of the Laboratory's Certificate of Analysis;
- Borehole logs;
- Drawing/map of the Project Area showing excavation locations and limits and temporary on-site storage areas, if applicable;
- Identify the applicable site condition standards and sampling and analysis requirements for imported soil in accordance with applicable law and the City's due-diligence requirements (see Section 3 Importation of Excess Soil), if applicable;
- Details regarding temporary on-site storage including segregation of various types and quality of soil and materials, if applicable;
- Tables of results, compared to the applicable MECP standards (i.e. Excess Soil Quality Standards and O. Reg. 153/04 standards); and
- Summary of the results and conclusions of the soil characterization, including recommendations for the handling, importation, reuse and/or disposal options, as required.

The report is to be completed in general accordance with O. Reg. 406/19, as amended, and must be signed and sealed by a Qualified Person (QP) as defined by O. Reg. 153/04, as amended. The report will also act as a soil management plan to address the handling, disposal, reuse and importation practices and identify site specific requirements and can be combined with a Geotechnical Report, if applicable and feasible.

### 3 Importation of Excess Soil

Prior to importing any fill, excess soil and/or backfill material (including topsoil), soil quality shall be confirmed to ensure that the material meets the applicable soil quality standards and is suitable for reuse at the Project Area. The best management practices that apply are dependent on the type and source of excess soil. For ease of reference, importation requirements have been divided into two (2) scenarios and are defined as follows:

- Scenario 1. Importation of topsoil; or
- Scenario 2. Importation of backfill material (excluding topsoil or engineered fill).

Please select the scenario that best fits the project and refer to scenario specific requirements outlined below.

Note, when importing soil and/or backfill material to a Project Area, ensure that the soil and/or backfill material not only meets the applicable soil quality standards but also is suitable for the intended purpose (i.e. meets any geotechnical requirements), as applicable.

#### 3.1 Scenario 1 – Topsoil

##### 3.1.1 Sampling and Analysis

Soil characterization shall be completed in accordance with the project specifications (as applicable) and shall include, but is not limited to, the following environmental sampling and analysis:

- Collection of soil samples, at a frequency that ensures an appropriate level of sampling and analysis is carried out to determine the concentrations of contaminants in the imported excess soil. Each composite sample shall be an amalgamation of at least three sub-samples randomly taken from the source. Samples will be mixed together prior to testing, labelled and otherwise documented prior to delivery to the testing laboratory. Sampling frequency shall meet the following minimum requirements, plus applicable QA/QC samples:
  - Minimum of one (1) composite sample per 250 m<sup>3</sup> up to the first 1,000 m<sup>3</sup> of excess soil;
  - One (1) additional composite sample for each additional 1,000 m<sup>3</sup> up to 10,000 m<sup>3</sup> of excess soil; and
  - One (1) additional composite sample for each additional 5,000 m<sup>3</sup> exceeding 10,000 m<sup>3</sup> of excess soil.
- Conduct soil analysis in accordance with O. Reg. 406/19 and O. Reg. 153/04, as amended, for the following parameters:
  - Metals and hydride-forming metals (antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, silver, thallium, uranium, vanadium and zinc); and
  - SAR and EC.

- Topsoil shall consist of 7% to 20% clay, 3% to 7% organic matter (by weight) and 8% combined stone and gravel content, unless otherwise stated in the project specifications.
- Topsoil shall be entirely free of all contaminants and deleterious materials such as litter, construction materials, stones greater than 50mm in diameter, wood materials greater than 25mm in diameter, plant or soil pests, subsoil, or any other contaminants that may damage or otherwise impair plants or plant growth.
- All environmental samples shall be submitted to a laboratory accredited with CALA for analysis.
- All environmental samples must be compared to the appropriate tables as outlined in the MECP's O. Reg. 406/19, Rules for Soil Management and Excess Soil Quality Standards, Appendix 1 & 2; and the MECP's O. Reg. 153/04 *Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act*, as applicable.

### 3.1.2 Reporting

**Soil Certification Letter(s)** confirming that the imported material meets the applicable soil condition standards and quality parameters. Written confirmation shall include but not be limited to:

- Supplier information (address, owner, contact information) and copy of the supplier's Certificate of Approval (C of A) or other environmental compliance approvals, if applicable (C of A or equivalent are required if the supplier is a Class 1 Soil Management Site, as defined by O. Reg. 406/19);
- Type, quantity and source/depot address (if different from the supplier address) of material being imported. If supplier has multiple source/depot locations include type and quantity of material per location. );
- Sampling methodology (sampling and analysis plan per the frequency requirements)
- Results of the sampling, including the parameters analysed and the total number of samples collected per location(s) based on the volume(s) to be imported;
- Laboratory certificates of analysis or analytical reports for all samples analysed; and
- Signed and sealed by a QP.

## 3.2 Scenario 2 – Backfill Material (Excluding Topsoil and Engineered Fill)

### 3.2.1 Sampling and Analysis

Soil characterization shall include, but are not limited to, the following:

- Collection of soil samples, including the applicable QA/QC samples, at a frequency that ensures an appropriate level of sampling and analysis is carried out to determine the concentrations of contaminants in the imported excess soil. Sampling frequency shall meet the following minimum requirements, plus applicable QA/QC samples:
  - Minimum of three (3) samples if less than 1,000 m<sup>3</sup> of excess soil;

- Minimum of four (4) samples plus one (1) additional sample for each additional 1,000 m<sup>3</sup> exceeding 1,000 m<sup>3</sup> up to 10,000 m<sup>3</sup> of excess soil; and
- One (1) additional sample for each additional 5,000 m<sup>3</sup> exceeding 10,000 m<sup>3</sup> of excess soil.
- Conduct soil analysis in accordance with O. Reg. 406/19 and O. Reg. 153/04, as amended, for the following parameters:
  - PHCs F1-F4 including BTEX;
  - Metals and hydride-forming metals (antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, silver, thallium, uranium, vanadium and zinc);
  - SAR and EC;
  - SVOCs and VOCs; and
  - Any additional contaminants of concern that have been identified through a review of past and current uses or as indicated by the Contract Manager.
- Collection of soil samples for waste characterization purpose for laboratory analysis using the TCLP method in accordance with O. Reg. 347.
- All environmental samples shall be submitted to a laboratory accredited with CALA for analysis.
- All environmental samples must be compared to the appropriate tables as outlined in the MECP's O. Reg. 406/19, Rules for Soil Management and Excess Soil Quality Standards, Appendix 1 & 2; and the MECP's O. Reg. 153/04 *Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act*, as applicable.

### 3.2.2 Reporting

**Soil Certification Letter(s)** confirming that the imported material meets the applicable soil condition standards and quality parameters. Written confirmation shall include but not be limited to:

- Supplier information (address, owner, contact information) and copy of the supplier's Certificate of Approval (C of A) or other environmental compliance approvals, if applicable (C of A or equivalent are required if the supplier is a Class 1 Soil Management Site, as defined by O. Reg. 406/19);
- Type, quantity and source/depot address (if different from the supplier address) of material being imported. If supplier has multiple source/depot locations include type and quantity of material per location;
- Sampling methodology (sampling and analysis plan per the frequency requirements)
- Results of the sampling, including the parameters analysed and the total number of samples collected per location(s) based on the volume(s) to be imported;
- Laboratory certificates of analysis or analytical reports for all samples analysed; and
- Signed and sealed by a QP.

#### 4 Revision History

<b>Rev. #</b>	<b>Date Revised</b>	<b>Author</b>	<b>Description of Changes</b>
1.0	April 3, 2023	Katrina MacDonald	Original Release
2.0	April 13, 2023	Katrina MacDonald	Updated to include contact details
3.0	March 21, 2024	Katrina MacDonald	Updated parameter analysis requirements for VOCs and SVOCs

# Excavation Procedure of Impacted Soils

## 1 Description and Application

The purpose of this document is to outline the City's best management practices for the discovery of impacted soils during excavation undertakings.

## 2 Excavation Procedure

During excavation of soil at the Project and Working Areas, should any visual or olfactory observations (i.e. staining, odours, free product etc.) be made that may suggest that the soil being excavated may be impacted the following should be completed:

1. Soil excavation in the Project Area must cease immediately upon the observation being made until the City/Project Leader directs that soil excavation may resume.
2. The City/Project Leader must be notified immediately by the Contractor that impacted soil may have been encountered during construction activities.
3. Before the City/Project Leader can direct that the excavation work can resume, the necessary steps must be taken to ensure:
  - All potentially impacted soil is segregated from other excavated soil in the project area;
  - The limits of the Project Area that may be impacted is determined; and
  - Any excess soil from the portion of the Project Area that is potentially impacted is characterized and disposed of in accordance with O.Reg. 406/19. This may include transport to a reuse site, or if heavily impacted, to a licensed disposal/treatment facility.

A Qualified Person (QP) under O.Reg. 153/04 should be retained to assist with ensuring impacted soil is segregated, characterized, delineated, and disposed of in accordance with O.Reg. 406/19.

In the event that impacts are identified to extend beyond the Project Area excavation limits, it is recommended that the City/Project Leader, in coordination with the QP, reach out to T&W Environmental Services Section ([Env.Inquiries@mississauga.ca](mailto:Env.Inquiries@mississauga.ca)) for further direction prior to undertaking any remedial activities.

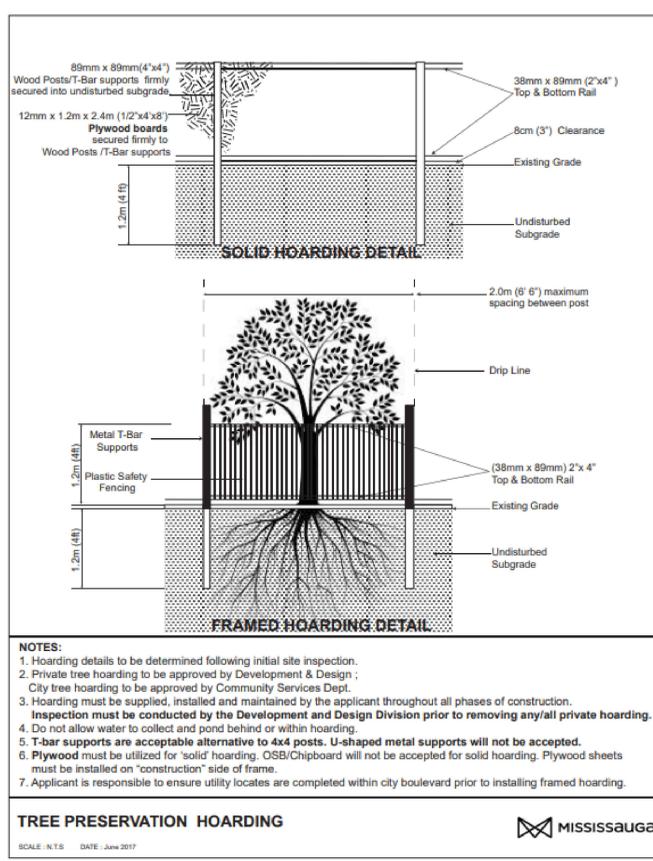
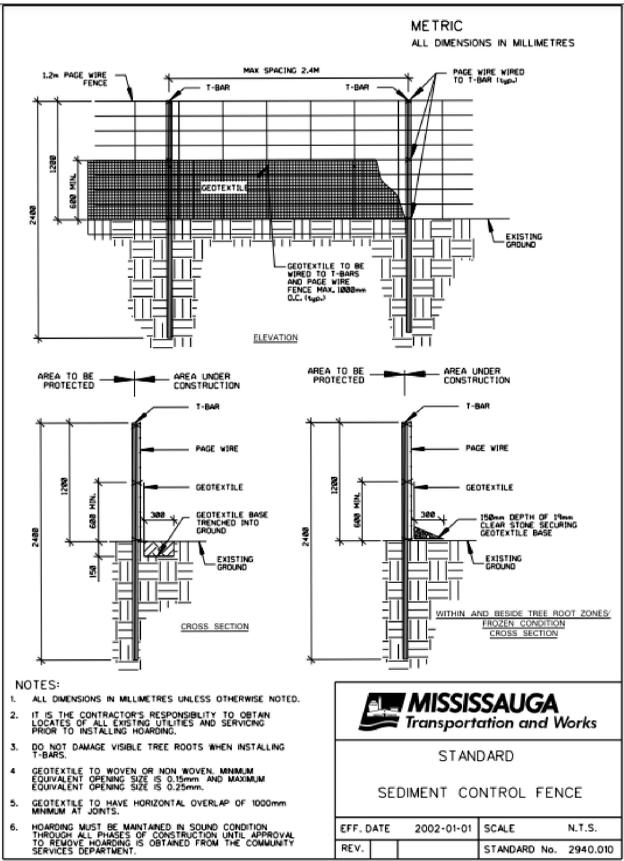
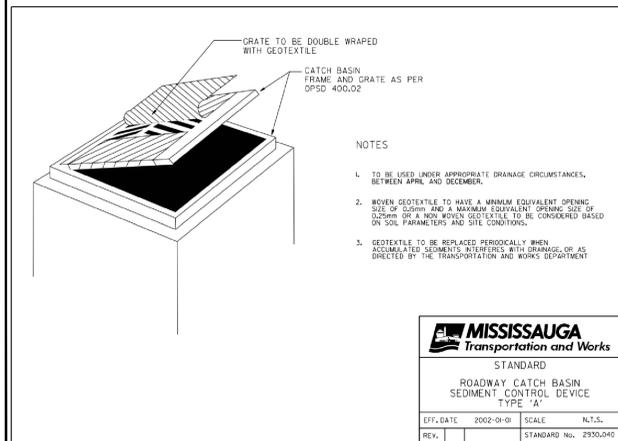
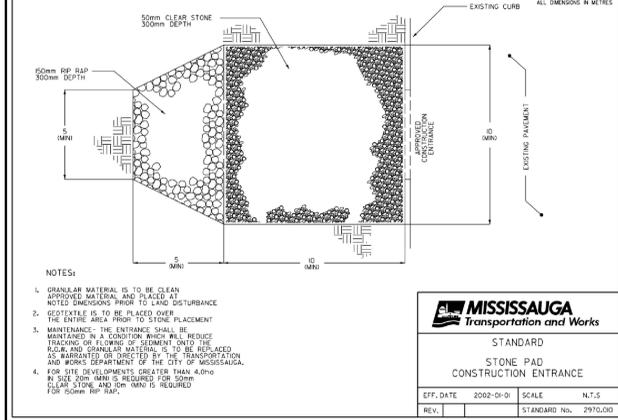
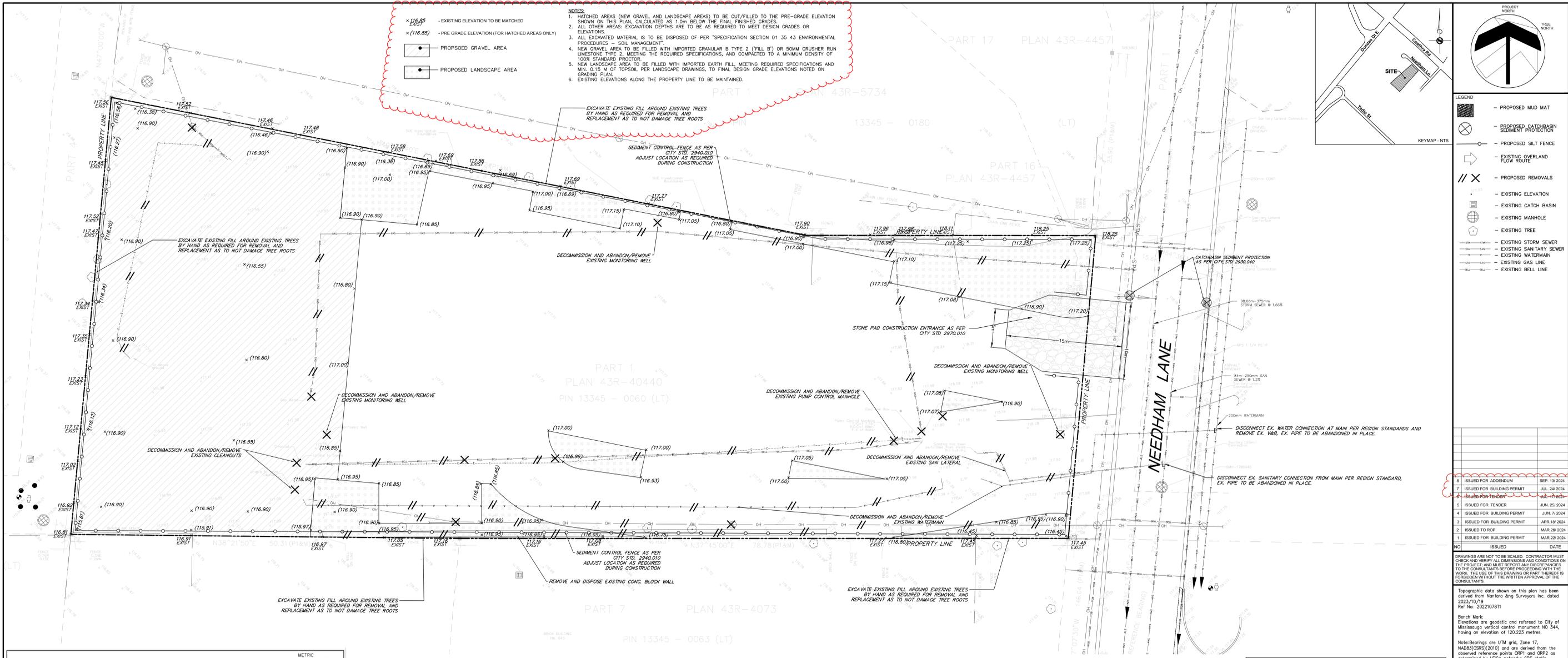
4. The Contractor will be required to assist the City/Project Leader and QP, if applicable, with the work required to characterize and delineate the area of potential

contamination. This may include provision of an excavator and operator to complete test pits and assist with sample collection.

5. Delineation will be undertaken by stepping out from the area of potential impacts until the impacts are no longer observable within the Project Area. Sample intervals will be determined by the QP, and clean limits will be verified by laboratory analysis.
6. Following characterization and delineation, the QP shall provide a plan to the City/Project Leader and Contractor for managing the potentially impacted soil. This will include the handling and disposal requirements. The City/Project Leader will direct the Contractor to resume excavation works in accordance with the plan.
7. If the potentially impacted soil requires disposal at a Receiving Site not identified at the outset of the project (i.e. a different reuse or disposal facility), the Contractor will be required to coordinate all necessary agreements to allow such disposal. No soil shall be hauled to a Receiving Site without prior written authorization from the Receiving Site.
8. If necessary and applicable, the QP will be required to update the Sampling and Analysis Plan, Soil Characterization Report and Excess Soil Destination Assessment Report (ESDAR) documents for the Project Area.

### 3 Revision History

<b>Rev. #</b>	<b>Date Revised</b>	<b>Author</b>	<b>Description of Changes</b>
1.0	April 3, 2023	Katrina MacDonald	Original Release
2.0	April 5, 2024	Katrina MacDonald	Revisions to excavation procedure



NO.	ISSUED	DATE
8	ISSUED FOR ADDENDUM	SEP. 19. 2024
7	ISSUED FOR BUILDING PERMIT	AUG. 20. 2024
6	ISSUED FOR TENDER	JUN. 20. 2024
5	ISSUED FOR BUILDING PERMIT	JUN. 7. 2024
4	ISSUED FOR SERVING DESIGN OR CONFLICTS IN CONSTRUCTING THE WORK AS PER THE INTENT OF THE APPROVED DESIGN PRIOR TO CONSTRUCTION.	APR. 19. 2024
3	ISSUED FOR BUILDING PERMIT	APR. 19. 2024
2	ISSUED FOR TENDER	MAR. 29. 2024
1	ISSUED FOR BUILDING PERMIT	MAR. 22. 2024

Topographic data shown on this plan has been derived from Nonaro & King Surveyors Inc. dated 2023/10/19  
Ref No: 2022107811

Bench Mark:  
Elevations are geodetic and referred to City of Mississauga vertical control monument NO. 344, having an elevation of 120.223 metres.

Note: Bearings are UTM grid, Zone 17, NAD83(CRS) (2011) and are derived from the observed reference points GPR1 and GPR2 as determined by LEICA networks GPS static observations.

**FIRE STATION 124**  
CITY FILE # BP 35N 24-1519  
REGION FILE # C604035  
2524 CATHARA ROAD,  
MISSISSAUGA, ON

**MISSISSAUGA**

**MGM CONSULTING INC.**  
Consulting Engineering & Project Management  
555 Industrial Drive  
Mississauga, Ontario L4T 1S1  
Tel: (905) 807-4876  
Fax: (905) 807-3338  
Email: info@mgm.ca  
www.mgm.ca

**EROSION & SEDIMENT CONTROL AND REMOVAL PLAN**

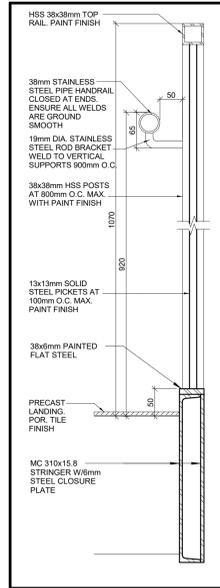
**HOSSACK & ASSOCIATES ARCHITECTS**  
Mississauga, Ontario L4M 4A8  
Tel: (905) 807-8284 Fax: (905) 807-8290

SCALE	PROJECT
DATE	2024-001
JAN. 2024	
DRAWN	DU
CHECKED	CS
	CV-1

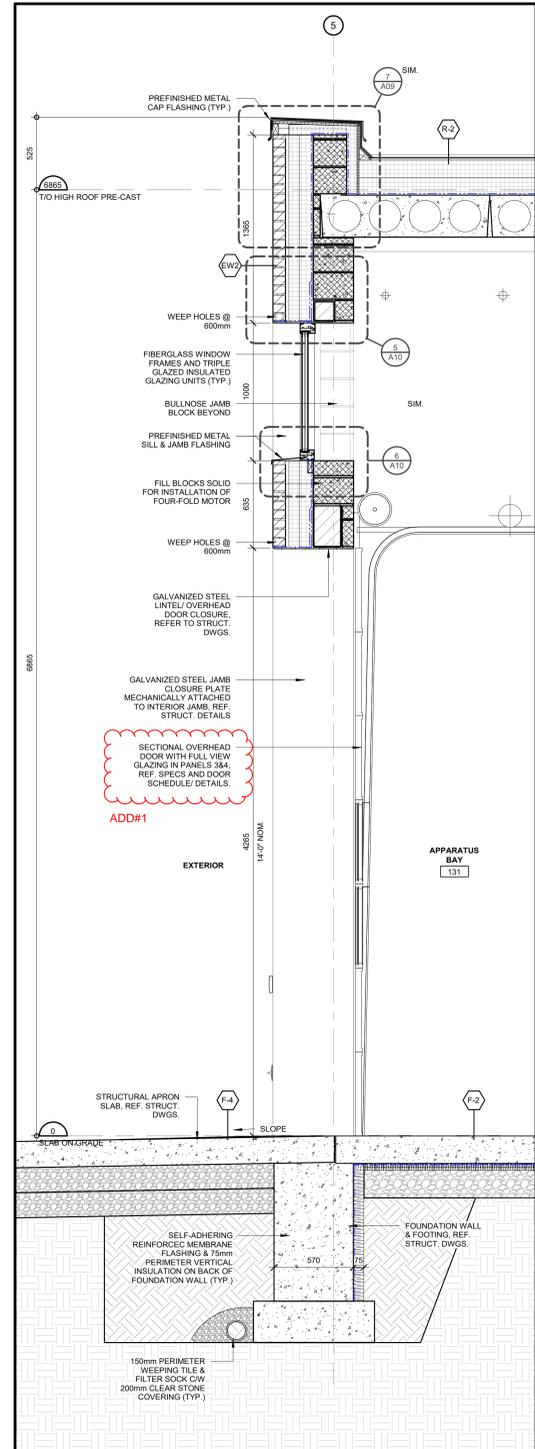




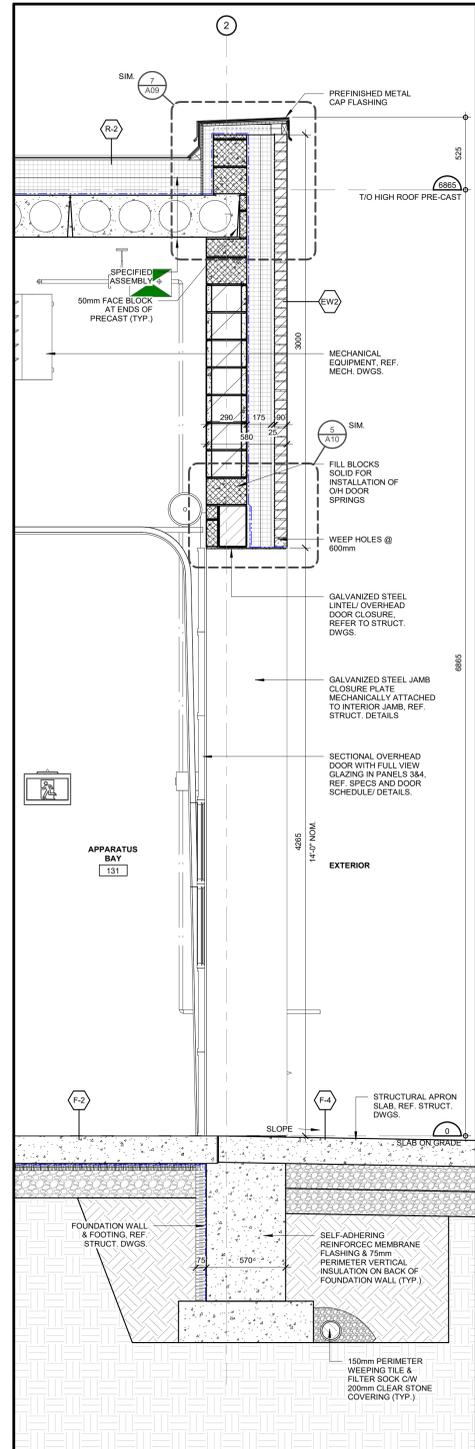




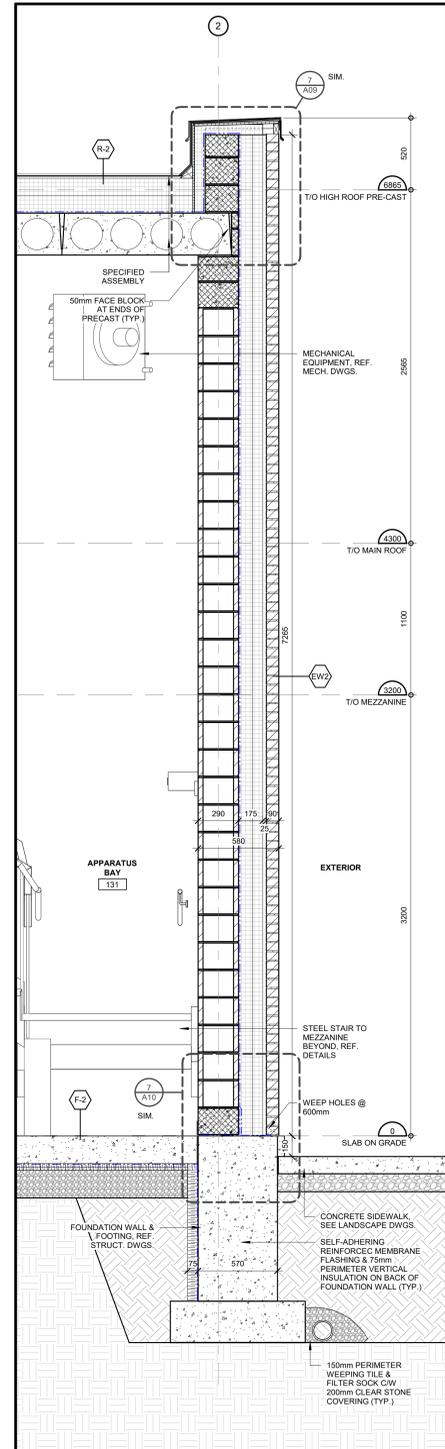
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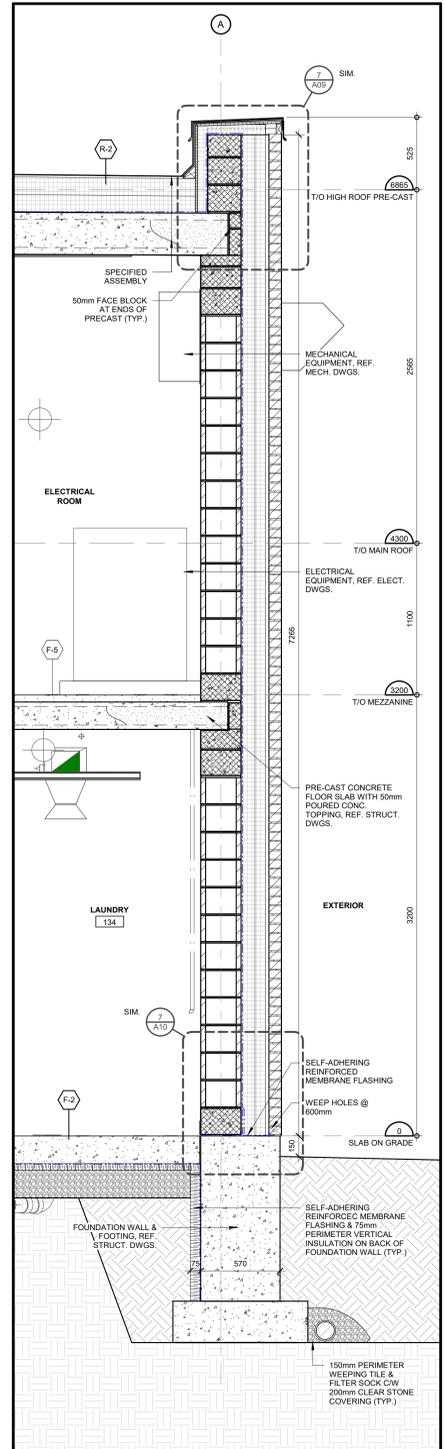
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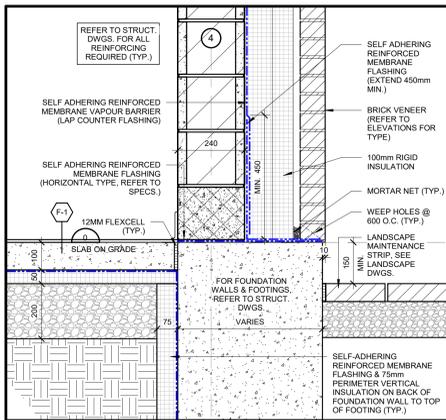
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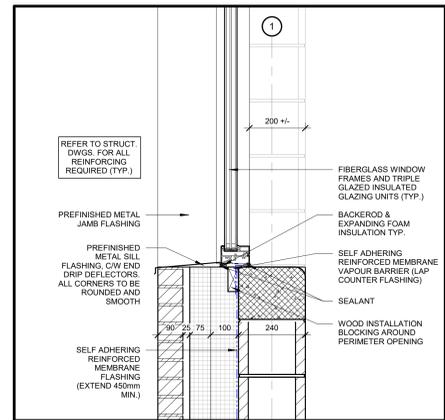
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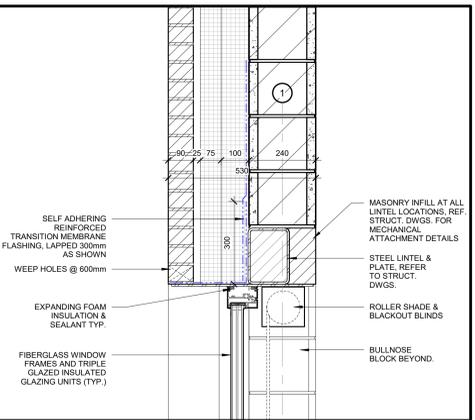
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7 BASE OF WALL @ MASONRY VENEER  
 A10 SCALE: 1:10



6 BASE OF WALL @ WINDOW & MASONRY  
 A10 SCALE: 1:10



5 WINDOW HEAD @ MASONRY VENEER  
 A10 SCALE: 1:10

NO.	DESCRIPTION	DATE
2	ADDENDUM #1	24/09/24
1	ISSUED FOR TENDER	24/06/24



PRC004616 - Construction Services for New Fire Station 124

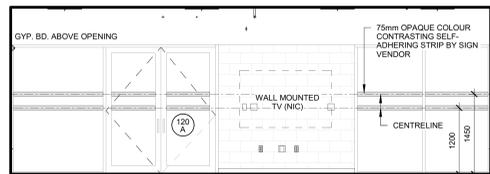
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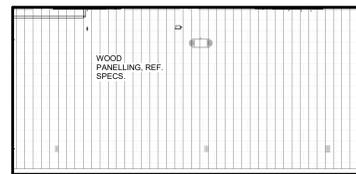
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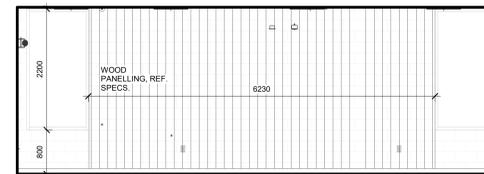
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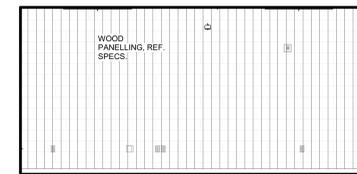
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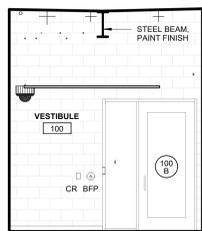
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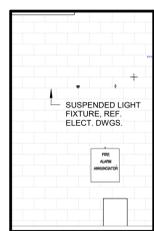
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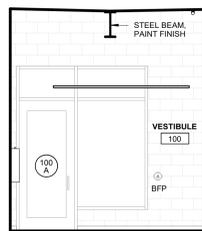
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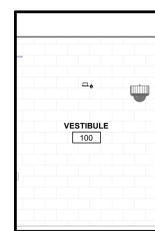
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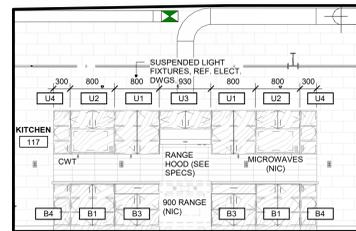
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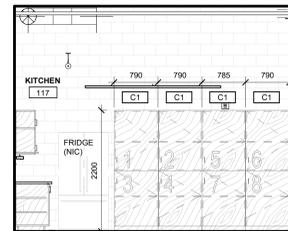
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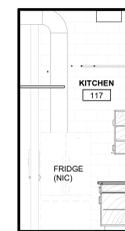
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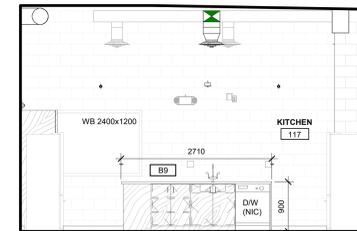
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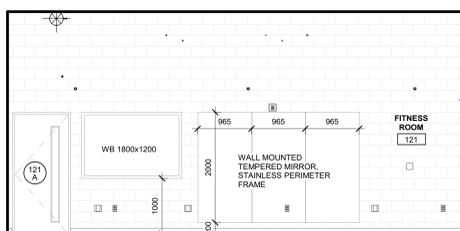
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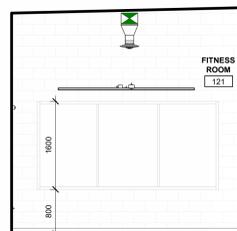
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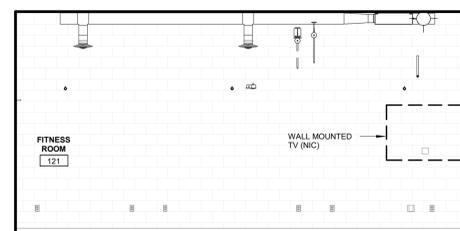
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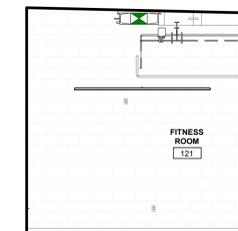
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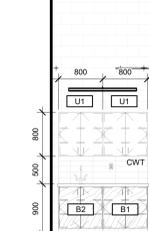
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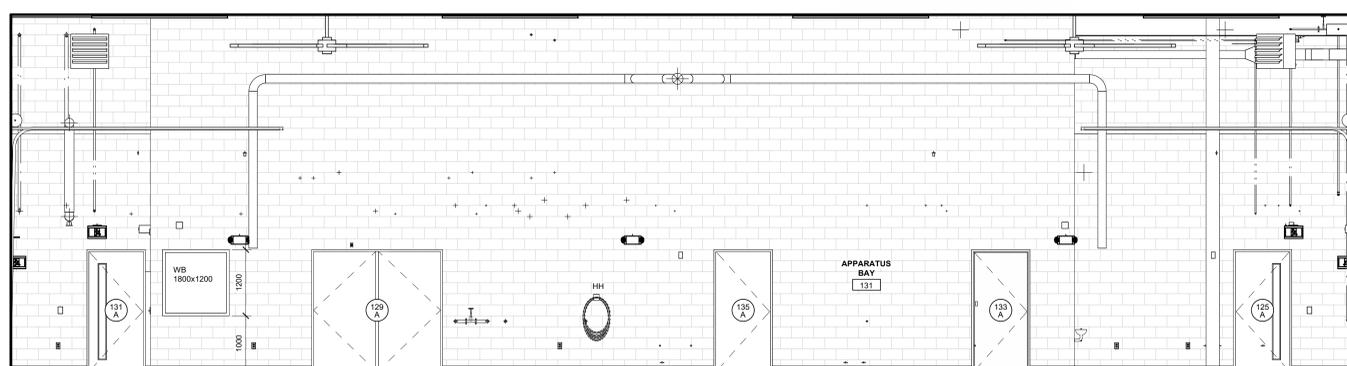
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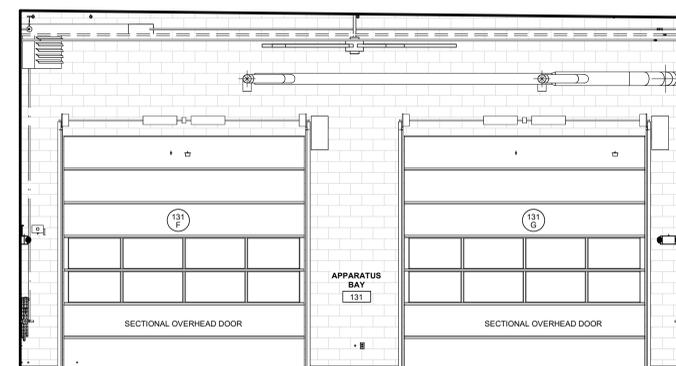
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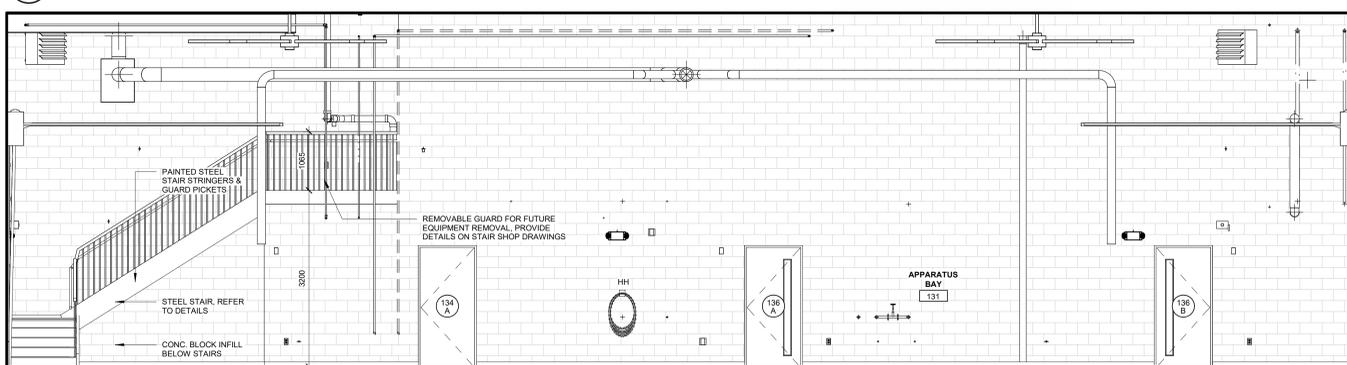
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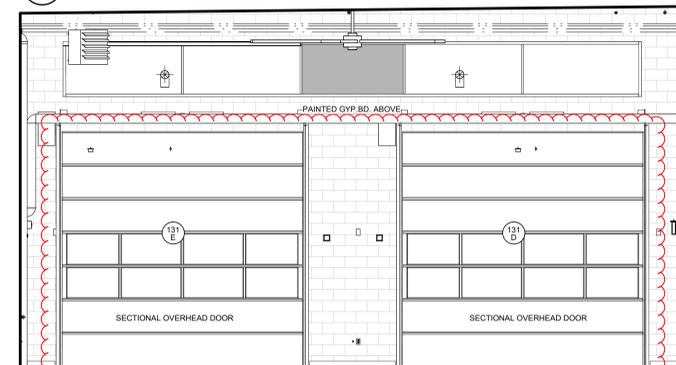
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19 APPARATUS BAY 131 - B  
SCALE: 1:50



20 APPARATUS BAY 131 - C  
SCALE: 1:50



21 APPARATUS BAY 131 - D  
SCALE: 1:50

4	ADDENDUM #1	24/09/12
3	ISSUED FOR TENDER	24/06/25
2	BUILDING PERMIT	24/03/22
1	CLASS B COST & OWNER REVIEW	24/02/20
NO.	DESCRIPTION	DATE

DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE PROJECT AND REPORT ANY DISCREPANCIES TO THE CONSULTANTS BEFORE PROCEEDING WITH THE WORK. THE USE OF THIS DRAWING OR PART THEREOF IS FORBIDDEN WITHOUT THE WRITTEN APPROVAL OF THE CONSULTANTS.



PRC004616 - Construction Services for New Fire Station 124

LEGAL DESCRIPTION:  
PART OF LOT 11, CONVESSION 1, SOUTH OF DANFORTH STREET, CITY OF MISSISSAUGA, REGIONAL MUNICIPALITY OF PEELE



INTERIOR ELEVATIONS



SCALE	PROJECT
DATE	23116
DRAWN	DRAWING
CHECKED	PL
PRINT DATE	2024-09-12 08:12 PM
REVIT FILE	T:\2023\23116\02RevIt.RVT





This Addendum forms part of the contract documents for the above noted project, and the revisions and additions noted herein and any attachments shall read in conjunction with all other documents. This Addendum shall take precedence over all previously issued tender documents where differences occur.

## TENDER DOCUMENTS

### DRAWINGS

#### L100 – Landscape Plan

- .1 Revise and reduce entrance plant bed north of the parking area, from 33m<sup>2</sup> to 11m<sup>2</sup>. Adjust weeping tile to suit new layout. Refer to revised plan for layout.
- .2 Revise and reduce planting area on the south side of the entrance driveway from 17m<sup>2</sup> to 11m<sup>2</sup> to be out of the tree protection zone. Shift small tree in planting area south by 800mm to be further from proposed signage. Refer to revised plan for layout.
- .3 Shift concrete flag pole base in the reduced entrance plant bed north of the parking area, west by 8570mm. Refer to revised plan for layout.
- .4 Revise note for hydro transformer for clarity to read 'Hydro Transformer on concrete pad. (Refer to Electrical).'
- .5 Revise note for river rock surfacing on southeast side of site to read 'River rock Surfacing (Typ.) No granular base this location' to accommodate the tree protection zone.

#### L102 – Landscape Layout and Fine Grading Plan

- .6 Revise sheet number to L102 to differentiate the 2 landscape layout and fine grading plans (L101 & L102).
- .7 Revise dimensions of entrance plant bed north of the parking area as shown on revised drawings.
- .8 Revise top of curb elevations at raised plant beds on the southeast side of the building and north side of the parking area. Refer to revised plan for grades.

#### L200 – Planting Plan

- .9 Delete sixty-three (63) 'Rudbeckia hirta' perennial planting from entrance plant bed north of the parking area – for a total of (387) 'Rudbeckia hirta' perennial planting. Refer to revised plant list.

- .10 Delete twenty-nine (29) 'Ceanothus americanus' shrub planting from entrance plant bed north of the parking area – for a total of (58) 'Ceanothus americanus' shrub planting. Refer to revised plant list.
- .11 Delete thirty (30) 'Deschampsia cespitosa' ornamental grass planting from south side of entrance driveway – for a total of (755) 'Deschampsia cespitosa' ornamental grass planting.

L301 – Landscape Details

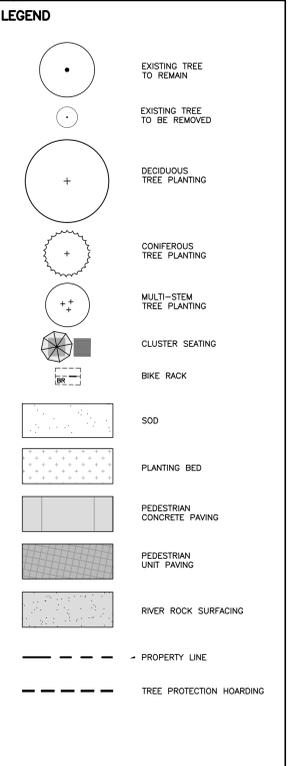
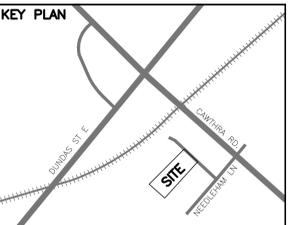
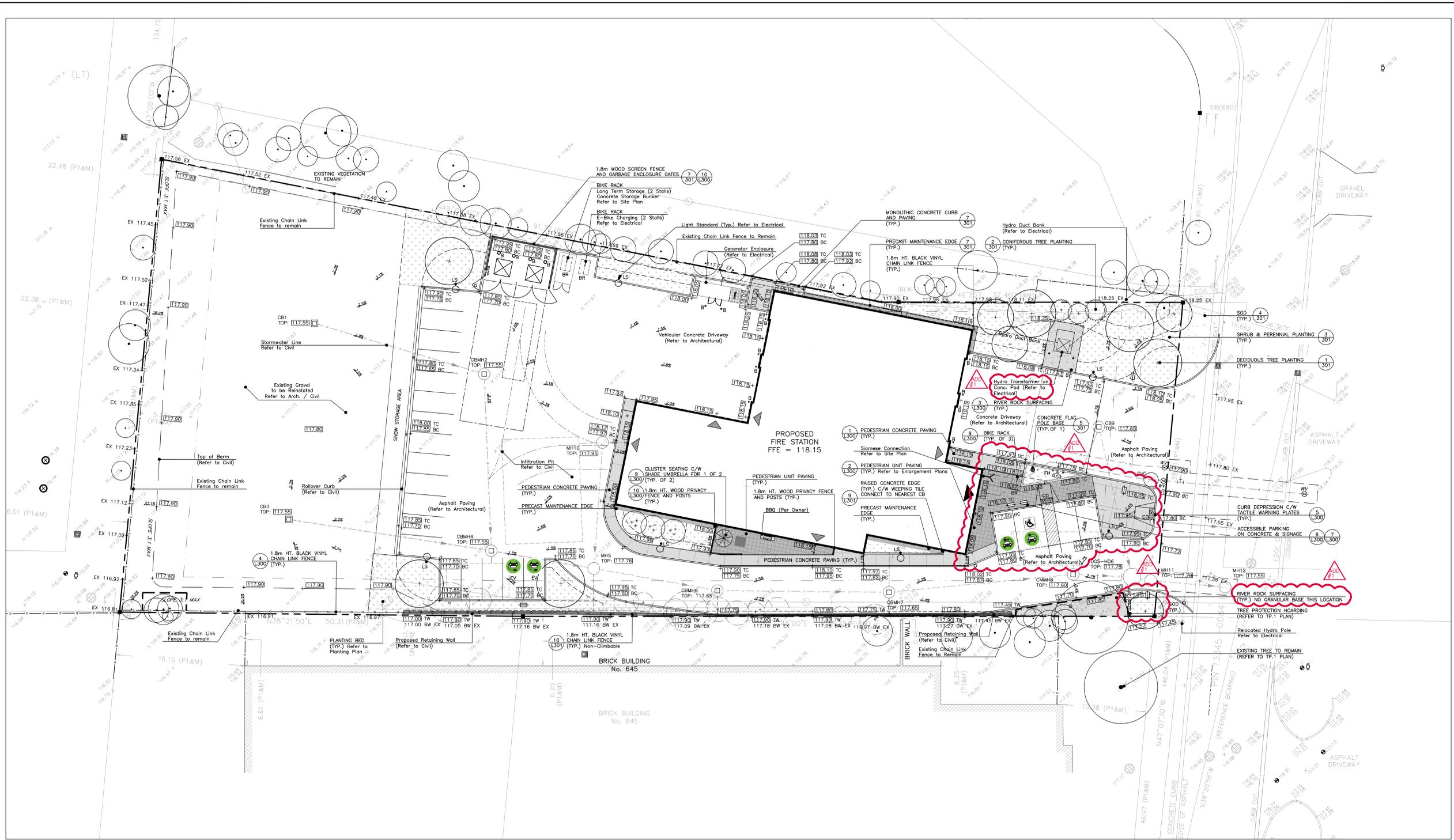
- .12 Revise height of detail 9/L301 Raised Concrete edge to read 150 or 430mm ht. max. - per revised raised concrete edge grades as shown on L102 Landscape Layout and Fine Grading Plan.

ATTACHMENTS TO THIS ADDENDUM

DRAWINGS

L100	Landscape Plan
L102	Landscape Layout and Fine Grading Plan
L200	Planting Plan
L301	Landscape Details

**END OF LANDSCAPE ADDENDUM 1**



LEGAL DESCRIPTION:  
PART OF LOT 11, CONVESSION 1 SOUTH OF  
DUNDAS STREET, CITY OF MISSISSAUGA, REGIONAL  
MUNICIPALITY OF PEEL



**OWNER'S NOTE - CITY PROJECTS:**

UPON COMPLETION OF THE WORKS, WE WILL FORWARD A COPY OF THE COMPLETION NOTIFICATION CERTIFICATE FROM THE LANDSCAPE ARCHITECT TO THE DEVELOPMENT AND DESIGN DIVISION, PLANNING AND BUILDING DEPARTMENT.

ANY REVISION TO THE SITE AND LANDSCAPE PLANS WILL BE SUBMITTED TO THE PLANNING AND BUILDING DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE COMMENCEMENT OF THE WORKS.

WE HEREBY AUTHORIZE THE CITY, ITS AUTHORIZED AGENTS, SERVANTS OR EMPLOYEES TO ENTER UPON OUR LAND TO CARRY OUT INSPECTIONS FROM TIME TO TIME AND AGREE TO INDEMNIFY THE CITY AND ITS AUTHORIZED AGENTS, SERVANTS OR EMPLOYEES OF THE RIGHTS HEREBY GIVEN TO THEM. WE UNDERTAKE TO NOTIFY THE CITY FORTHWITH OF CHANGE OF OWNERSHIP OF THE SAID LANDS.

DEPARTMENT CONTACT SIGNATURE: \_\_\_\_\_  
PRINT NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_

**GENERAL NOTES:**

1. ALL CONSTRUCTION HOARDING AND TREE PROTECTION TO BE INSTALLED PRIOR TO START OF OPERATIONS.
2. CONTRACTOR TO VERIFY ALL SITE CONDITIONS AND REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT IMMEDIATELY.
3. LAYOUT ALL WORK FOR INSPECTION AND APPROVAL BY CONSULTANT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
4. CONTRACTOR RESPONSIBLE FOR ANY AND ALL UNDERGROUND UTILITIES.
5. CONTRACTOR TO LAY OUT ALL SITE FURNISHINGS FOR LANDSCAPE ARCHITECT / OWNER REVIEW AND FINAL FIELD ADJUSTMENT PRIOR TO CONTRACTOR AFFIXING SITE FURNISHINGS TO HARD SURFACES.
6. CONTRACTOR TO ENSURE POSITIVE DRAINAGE FROM ALL STRUCTURES.
7. CONTRACTOR TO MAKE GOOD ALL DAMAGE TO ANY EXISTING OR ADJACENT CONDITIONS/ STRUCTURES DURING CONSTRUCTION TO THE SATISFACTION AND ACCEPTANCE OF THE CONSULTANT.

**TREE PROTECTION NOTE:**

THE APPLICANT IS RESPONSIBLE FOR ENSURING THAT TREE PROTECTION HOARDING IS MAINTAINED THROUGHOUT ALL PHASES OF DEMOLITION AND CONSTRUCTION IN THE LOCATION AND CONDITION AS APPROVED BY THE PLANNING AND BUILDING DEPARTMENT. NO MATERIALS (BUILDING MATERIALS, SOIL, ETC.) MAY BE STOCKPILED WITHIN THE AREA OF HOARDING. FAILURE TO MAINTAIN THE HOARDING AS ORIGINALLY APPROVED OR THE STORAGE OF MATERIALS WITHIN THE HOARDING WILL BE CAUSE FOR THE LETTER OF CREDIT TO BE HELD FOR TWO YEARS FOLLOWING COMPLETION OF ALL SITE WORKS. HOARDING MUST BE INSPECTED PRIOR TO THE REMOVAL OF ANY TREE HOARDING FROM THE SITE.

OWNER'S SIGNATURE: \_\_\_\_\_  
DATE: \_\_\_\_\_

**LANDSCAPING ON MUNICIPAL BOULEVARD NOTE:**

THE APPLICANT WILL BE RESPONSIBLE TO ACQUIRE THE NECESSARY UTILITY STAKE OUTS AND APPROVALS FROM THE PUBLIC UTILITIES COORDINATING COMMITTEE (P.U.C.C.) AND/OR TRANSPORTATION AND WORKS DEPARTMENT PRIOR TO SITE PLAN APPROVAL AND PRIOR TO THE INSTALLATION OF THE LANDSCAPE WORKS ON THE MUNICIPAL BOULEVARD.

**GRADING NOTE:**

I HEREBY CERTIFY THAT THE LANDSCAPE PLAN CONFORMS TO THE APPROVED SITE GRADING PLAN FOR THIS APPLICATION.

SIGNATURE OF LANDSCAPE ARCHITECT  
PRINT NAME:  
BRAD FLEISHER  
DATE:

ADD #1	SEPTEMBER 12, 2024	LA ADD #1
4	JULY 29, 2024	RE-ISSUED FOR BUILDING PERMIT
3	MARCH 19, 2024	ISSUED FOR BUILDING PERMIT
2	FEBRUARY 20, 2024	ISSUED FOR 50% CLASS B COST ESTIMATE
1	FEBRUARY 13, 2024	ISSUED FOR REVIEW

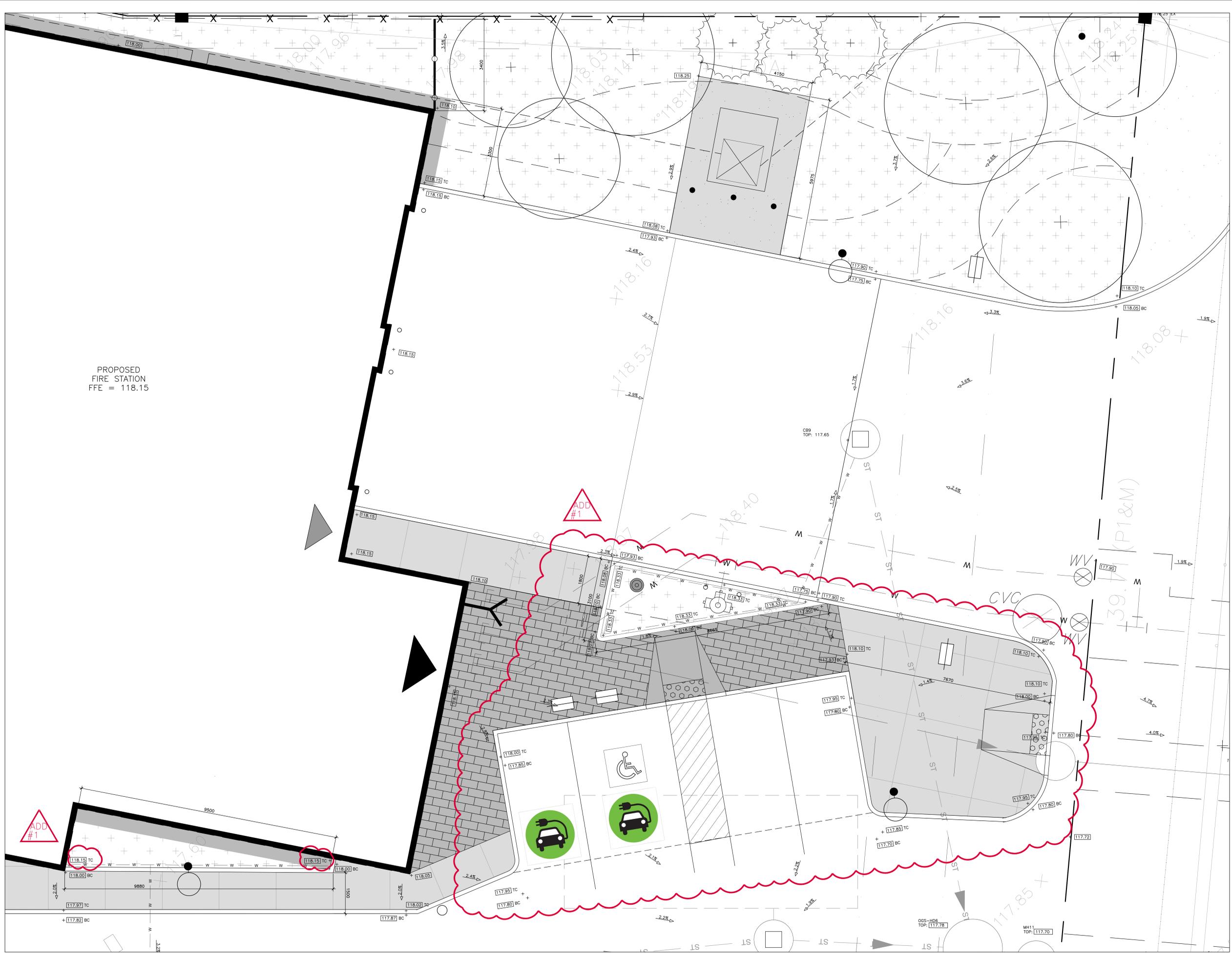


Project Name:  
**PRC004616 CONSTRUCTION SERVICES FOR NEW FIRE STATION 124**  
2524 CAWTHRA RD.

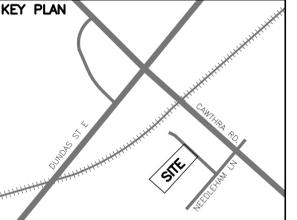
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**LANDSCAPE PLAN**

Drawn: JB	Design: KH	Date: JANUARY 2024
Checked: BF	Appr'd: KH	Scale: 1:200
CADD File: 241553	Dwg. No.:	<b>L100</b>

Project Number:



PROPOSED  
FIRE STATION  
FFE = 118.15



**LEGEND**

	EXISTING TREE TO REMAIN
	EXISTING TREE TO BE REMOVED
	DECIDUOUS TREE PLANTING
	CONIFEROUS TREE PLANTING
	MULTI-STEM TREE PLANTING
	CLUSTER SEATING
	BIKE RACK
	SOD
	PLANTING BED
	PEDESTRIAN CONCRETE PAVING
	PEDESTRIAN UNIT PAVING
	RIVER ROCK SURFACING
	PROPERTY LINE
	TREE PROTECTION HOARDING

LEGAL DESCRIPTION:  
PART OF LOT 11, CONCESSION 1, SOUTH OF  
DUNDAS STREET, CITY OF MISSISSAUGA, REGIONAL  
MUNICIPALITY OF PEEL.



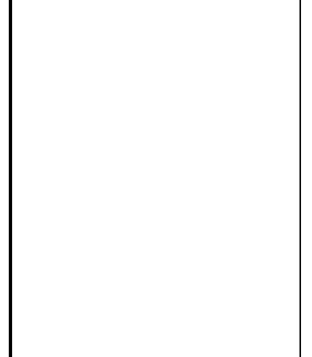
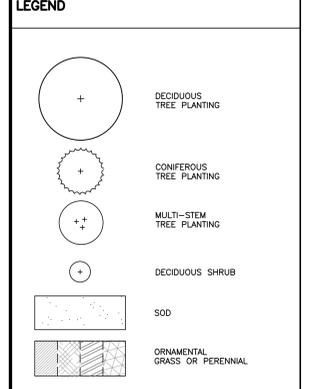
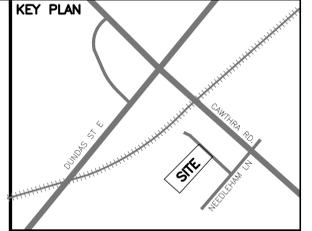
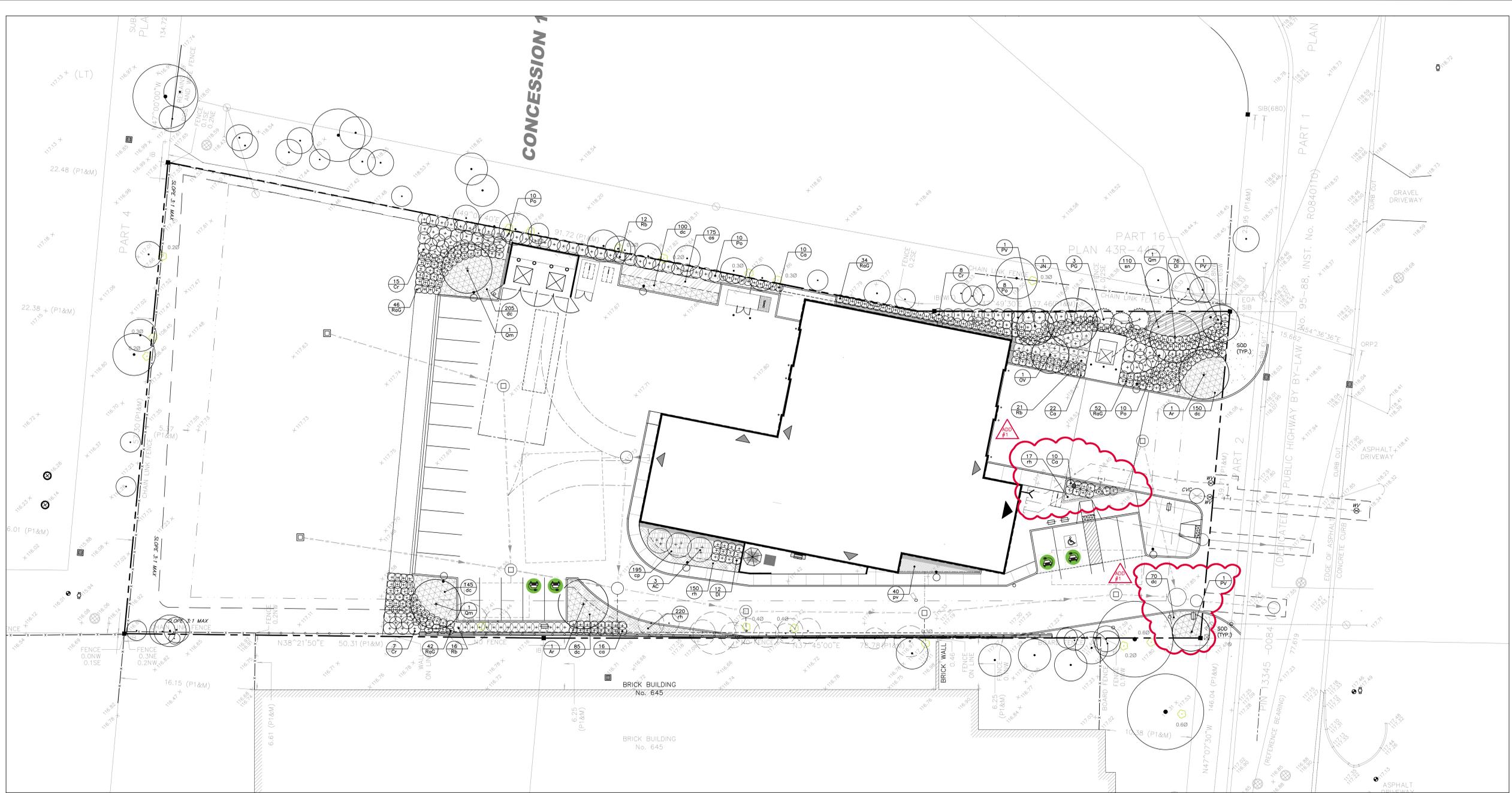
ADD #1	SEPTEMBER 12, 2024	LA ADD #1
4	JULY 29, 2024	RE-ISSUED FOR BUILDING PERMIT
3	MARCH 19, 2024	ISSUED FOR BUILDING PERMIT
2	FEBRUARY 20, 2024	ISSUED FOR 50% CLASS B COST ESTIMATE
1	FEBRUARY 13, 2024	ISSUED FOR REVIEW



Project Name:  
PRC004616 CONSTRUCTION SERVICES FOR NEW FIRE STATION 124 2524 CAWTHRA RD.

Drawing Title:  
LANDSCAPE LAYOUT AND FINE GRADING PLAN

Drawn: JB	Design: KH	Date: JANUARY 2024
Checked: BF	Appr: KH	Scale: 1:50
CADD File: 241553	Dwg. No.:	
Project Number:	L102	



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Tel: 905-415-3200

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Toronto, M6N 1B9  
www.frpinc.ca

**PLANT LIST**

SYMBOL	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	CONDITION	NATIVE	POLLINATOR FRIENDLY	DROUGHT TOLERANT	MIN. SOIL VOLUME PROVIDED	COMMENTS
<b>TREES</b>										
AR	Acer rubrum	Red Maple	2	70 mm	B.B.	YES	NO	YES	45 m <sup>3</sup>	
AC	Amelanchier canadensis	Canadian Serviceberry	3	2.0m ht.	B.B.	YES	YES	YES	15 m <sup>3</sup>	Clump
OV	Ostrya virginiana	Hop Hornbeam	1	45mm	B.B.	YES	YES	YES	30 m <sup>3</sup>	
JN	Juglans nigra	Black Walnut	1	70 mm	B.B.	YES	NO	YES	45 m <sup>3</sup>	
PG	Picea glauca	White Spruce	3	1.8m ht.	B.B.	YES	NO	YES	30 m <sup>3</sup>	
PV	Prunus virginiana	Chokecherry	3	45mm	B.B.	YES	YES	YES	15 m <sup>3</sup>	
QM	Quercus macrocarpa	Bur Oak	3	70 mm	B.B.	YES	NO	YES	45 m <sup>3</sup>	
<b>SHRUBS</b>										
Ca	Ceanothus americanus	New Jersey Tea	58	3 gal.	potted	YES	YES	YES		
Cr	Cornus racemosa	Grey Dogwood	30	3 gal.	potted	YES	YES	YES		
Di	Diervilla lonicera	Bush Honeysuckle	88	3 gal.	potted	YES	YES	YES		
Po	Physocarpus opulifolius	Common Ninebark	38	3 gal.	potted	YES	YES	YES		
RaG	Rhus aromatica 'Gro-low'	Gro-low Fragrant Sumac	174	3 gal.	potted	YES / ADAPTED	YES	YES		
Rb	Rosa blanda	Smooth Rose	49	3 gal.	potted	ADAPTED	YES	YES		
<b>PERENNIALS</b>										
as	Asclepias syriaca	Common Milkweed	175	1 gal.	potted	YES	YES	YES		
rh	Rudbeckia hirta	Black-eyed Susan	387	1 gal.	potted	YES	YES	YES		
<b>GRASSES</b>										
cp	Carex pennsylvanica	Oak Sedge	195	1 gal.	potted	YES	YES	YES		
dc	Deschampsia cespitosa	Tufted Hair Grass	755	1 gal.	potted	YES	NO	YES		
pv	Panicum virgatum	Switchgrass	40	1 gal.	potted	YES	NO	YES		
sn	Sorghastrum nutans	Indian Grass	110	1 gal.	potted	YES	YES	YES		

- PLANTING NOTES:**
- All plant material is to meet the standards as outlined in the Canadian Standards for Nursery Stock, current edition.
  - For all contractor purchased materials plant sizes will be as measured on site. Nursery waybills will not be acceptable for determination of plant sizes.
  - Protect plant material from frost, excessive heat, wind and sun during transportation.
  - Warranty period for all planting is two years from substantial completion. Warranty replacements of all plant material will be undertaken by the contractor as requested by the landscape architect at any time during the warranty period.
  - For burlapped root balls, cut away top one third of wrapping and wire basket without damaging root ball. Do not pull burlap or rope from under root ball. For potted plants remove entire container.
  - Backfill soil in 150mm lifts. Tamp each lift to eliminate air pockets. When two thirds of depth of planting pit has been backfilled, fill remaining space with water. After water has penetrated into soil, backfill to finish grade.
  - Shrubs shown in groups are to be planted in continuous plant beds as shown on planting detail.
  - Plant material installed following leaf drop in the fall will be accepted after the start of the next growing season provided that acceptance conditions are fulfilled.
  - Any planting or landscaping work that is rejected at the final inspection will be corrected in a timely manner at contractor's expense.
  - Rejected plant material must be removed from the site within one working day.



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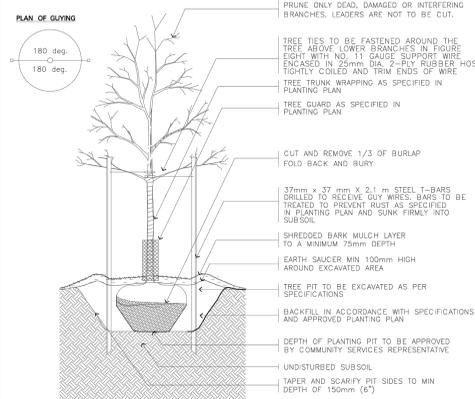
ISSUE DATE REMARKS

Project Name:  
**PRC004616 CONSTRUCTION SERVICES FOR NEW FIRE STATION 124**  
2524 CAWTHRA RD.

Drawing Title:  
**PLANTING PLAN**

Drawn: JB	Design: KH	Date: JANUARY 2024
Checked: BF	Appr'd: KH	Scale: 1:200
CADD File: 241553	Dwg. No.:	<b>L200</b>

Project Number:



- PRUNE ONLY DEAD, DAMAGED OR INTERFERING BRANCHES. LEADERS ARE NOT TO BE CUT.
- TREE TIES TO BE FASTENED AROUND THE TREE ABOVE LOWER BRANCHES IN FIGURE EIGHT WITH NO. 11 GAUGE SUPPORT WIRE ENCASED IN 25mm DIA. 2-PLY RUBBER HOSE TIGHTLY COILED AND TRIM ENDS OF WIRE.
- TREE TRUNK WRAPPING AS SPECIFIED IN PLANTING PLAN.
- TREE GUARD AS SPECIFIED IN PLANTING PLAN.
- CUT AND REMOVE 1/3 OF BURLAP FOLD BACK AND BURY.
- 37mm x 37mm x 2.1m STEEL T-BARS DRILLED TO RECEIVE GUY WIRES. BARS TO BE TREATED TO PREVENT RUST AS SPECIFIED IN PLANTING PLAN AND SUNK FIRMLY INTO SUBSOIL.
- SHREDDED BARK MULCH LAYER TO A MINIMUM 75mm DEPTH.
- EARTH SAUCER MIN. 100mm HIGH AROUND EXCAVATED AREA.
- TREE PIT TO BE EXCAVATED AS PER SPECIFICATIONS.
- BACKFILL IN ACCORDANCE WITH SPECIFICATIONS AND APPROVED PLANTING PLAN.
- DEPTH OF PLANTING PIT TO BE APPROVED BY COMMUNITY SERVICES REPRESENTATIVE.
- UNDISTURBED SUBSOIL.
- TAPER AND SCARIFY PIT SIDES TO MIN DEPTH OF 150mm (6").

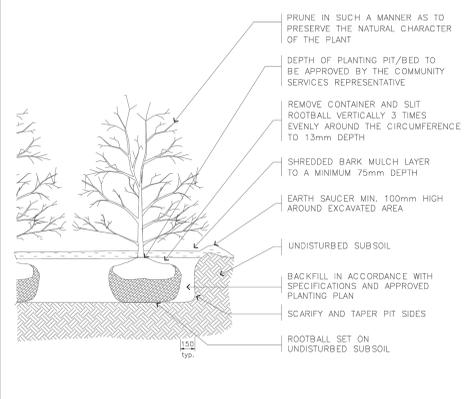
**NOTES:**

- ALL PLANTING SHALL BE DONE UNDER THE DIRECTION AND SUPERVISION OF PERSONNEL WITH AT LEAST 5 YRS. HORTICULTURAL AND PLANTING EXPERIENCE AND CONFORM TO BEST HORTICULTURAL PRACTICES.
- SAMPLES OF MULCH, TOP SOIL AND TREE ACCESSORIES MUST BE SUBMITTED TO COMMUNITY SERVICES FOR APPROVAL.
- PLANTING OF PLANT MATERIAL PRIOR TO COMMUNITY SERVICES APPROVAL WILL BE AT THE CONTRACTOR'S RISK. COMMUNITY SERVICES RESERVES THE RIGHT TO REJECT PLANT MATERIAL THAT DOES NOT CONFORM TO PLANTING PLAN SPECIFICATIONS.
- ONLY USE IMPORTED TOPSOIL WHEN TOPSOIL FROM SITE HAS BEEN DEPLETED OR IS UNACCEPTABLE TO COMMUNITY SERVICES.
- PLANTS SHALL BE SOUND HEALTHY, VIGOROUS AND WELL BRANCHED. THEY SHALL BE FREE OF INSECT PESTS' EGGS AND LARVAE AND SHALL HAVE HEALTHY WELL DEVELOPED ROOT SYSTEMS.
- KEEP ALL PLANTS WATERED FROM TIME OF PLANTING UNTIL ACCEPTANCE.

NO. REVISION DATE

SCALE: N.T.S.  
DATE: JANUARY 2001  
DRAWN BY: P & D  
NUMBER: 02950-1

**TYPICAL DECIDUOUS TREE PLANTING (60mm CAL+)**



- PRUNE IN SUCH A MANNER AS TO PRESERVE THE NATURAL CHARACTER OF THE PLANT.
- DEPTH OF PLANTING PIT/BED TO BE APPROVED BY THE COMMUNITY SERVICES REPRESENTATIVE.
- REMOVE CONTAINER AND SLIT ROOTBALL VERTICALLY 3 TIMES EVENLY AROUND THE CIRCUMFERENCE TO 13mm DEPTH.
- SHREDDED BARK MULCH LAYER TO A MINIMUM 75mm DEPTH.
- EARTH SAUCER MIN. 100mm HIGH AROUND EXCAVATED AREA.
- UNDISTURBED SUBSOIL.
- BACKFILL IN ACCORDANCE WITH SPECIFICATIONS AND APPROVED PLANTING PLAN.
- SCARIFY AND TAPER PIT SIDES.
- ROOTBALL SET ON UNDISTURBED SUBSOIL.

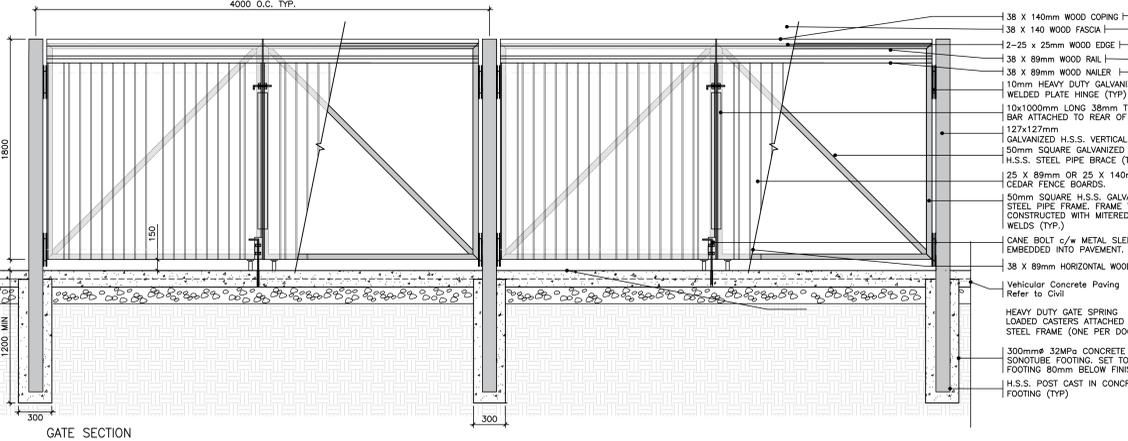
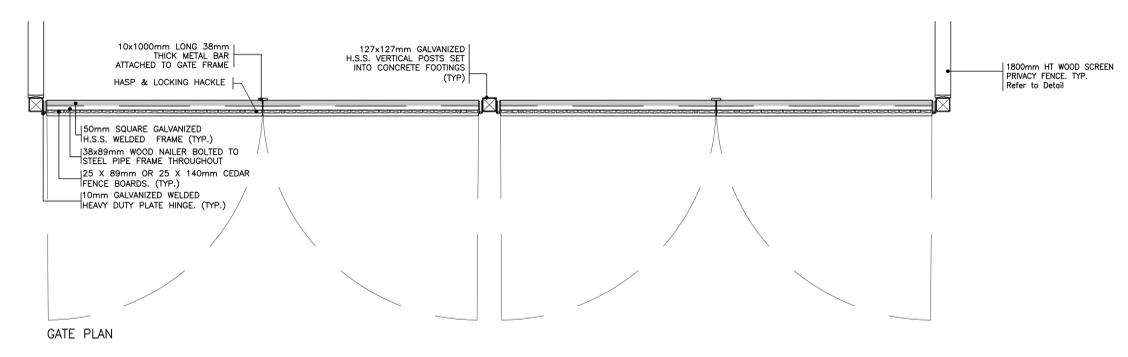
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NO. REVISION DATE

SCALE: N.T.S.  
DATE: JANUARY 2001  
DRAWN BY: P & D  
NUMBER: 02950-4

**TYPICAL CONTINUOUS SHRUB PLANTING BED**

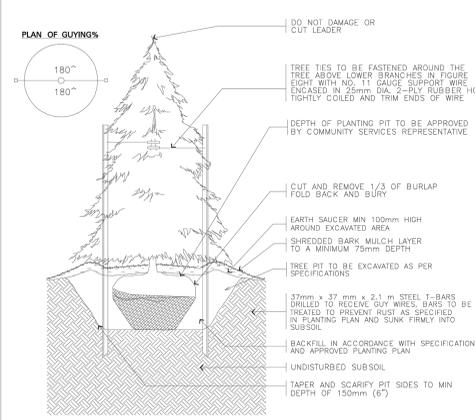


**NOTES:**

- CONTRACTOR TO PROVIDE DETAILED FABRICATION SHOP DRAWINGS FOR CONSULTANT REVIEW.
- ALL WOOD FOR SIDING TO BE NO. 1 GRADE WESTERN RED CEDAR UNLESS OTHERWISE NOTED.
- ALL FASTENERS TO BE STAINLESS STEEL.
- ALL WOOD TO RECEIVE TWO COATS OF CLEAR WOOD PROTECTOR AND WATERPROOFING SEALANT.

1:25

**GARBAGE ENCLOSURE GATES**



- DO NOT DAMAGE OR CUT LEADER.
- TREE TIES TO BE FASTENED AROUND THE TREE ABOVE LOWER BRANCHES IN FIGURE EIGHT WITH NO. 11 GAUGE SUPPORT WIRE ENCASED IN 25mm DIA. 2-PLY RUBBER HOSE TIGHTLY COILED AND TRIM ENDS OF WIRE.
- DEPTH OF PLANTING PIT TO BE APPROVED BY COMMUNITY SERVICES REPRESENTATIVE.
- CUT AND REMOVE 1/3 OF BURLAP FOLD BACK AND BURY.
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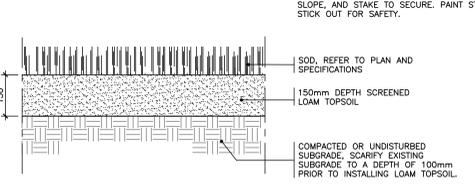
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NO. REVISION DATE

SCALE: N.T.S.  
DATE: JANUARY 2001  
DRAWN BY: P & D  
NUMBER: 02950-2

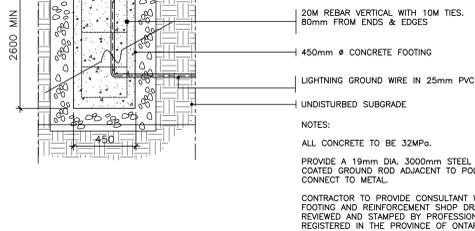
**TYPICAL CONIFEROUS TREE PLANTING**



**NOTES:**

- SOD ON SLOPES OF 4:1 AND OVER, INSTALL SOD WITH THEIR LONGEST DIMENSION PERPENDICULAR TO THE SLOPE AND STAKE TO SECURE. PAINT STAKES THAT STICK OUT FOR SAFETY.

1:10

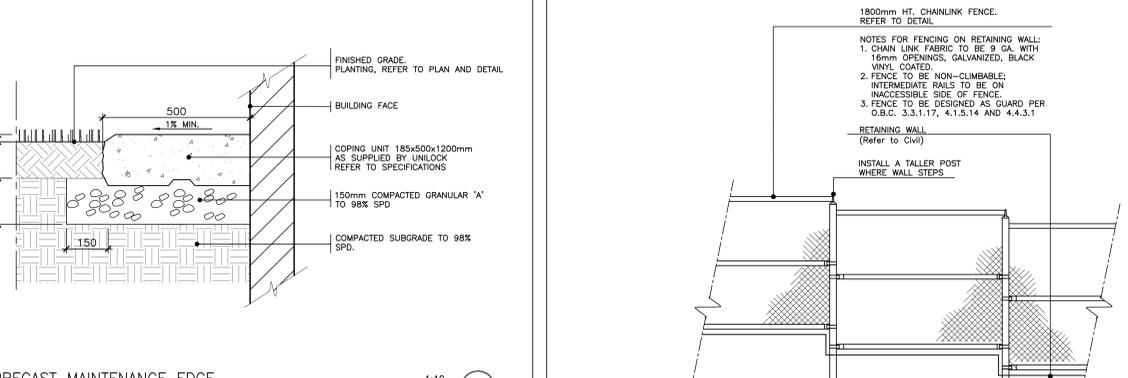


**NOTES:**

- CONCRETE TO BE AIR ENTRAINED.
- PROVIDE SAWCUT JOINTS @ 3m INTERVALS ALONG CURB.
- 15mm WIDTH IMPREGNATED JOINT FILLER. SET 15mm BELOW TOP OF PAVING @ 6000mm MAX SPACING. CAULK JOINT FLUSH WITH FINISH SURFACE.

1:10

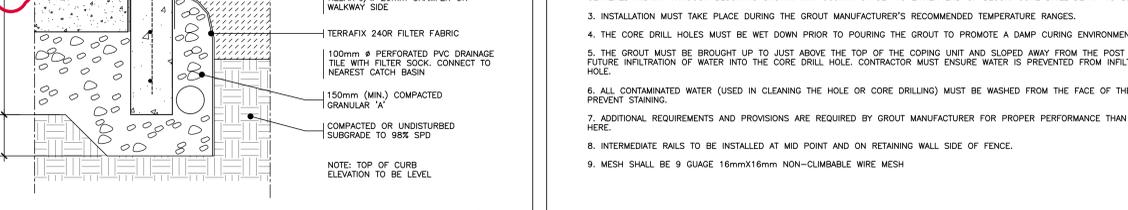
**CONCRETE FLAG POLE BASE**



**NOTES:**

- ALL CONCRETE TO BE 32MPa.
- PROVIDE A 19mm DIA. 3000mm STEEL COPPER COATED GROUND ROD ADJACENT TO POLES AND CONNECT TO METAL.
- CONTRACTOR TO PROVIDE CONSULTANT WITH CONCRETE FOOTING AND REINFORCEMENT SHOP DRAWINGS REVIEWED AND STAMPED BY PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO.

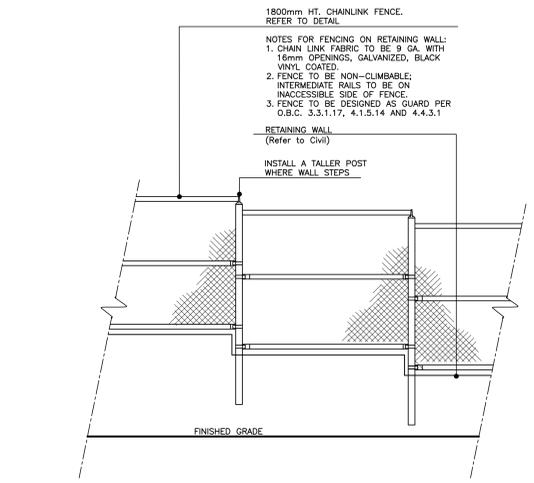
1:10



**NOTE:** TOP OF CURB ELEVATION TO BE LEVEL.

1:10

**RAISED CONCRETE EDGE**



**NOTES:**

- GRouted PORTION OF THE POST MUST BE UNPAINTED. GROUT MANUFACTURER'S SPECIFICATIONS MUST BE ADHERED TO.
- HOLES ARE TO BE CORE DRILLED. USE OF PERCUSSION TYPE INSTRUMENT IS NOT ALLOWED.
- CORE DRILL HOLE TO EXTEND COMPLETELY THROUGH THE SPECIFIED NUMBER OF COURSES TO ALLOW HIGH PRESSURE WATER JET TO CLEAN HOLD OF DUST AND DEBRIS PRIOR TO GROUTING.
- O/D OF CORE DRILL HOLE TO NOT EXCEED 100mm; CORE DRILL O/D TO EXCEED POST O/D BY MIN. 25mm. CORE DRILL HOLE TO BE CENTERED MIDWAY THROUGH BLOCK AS SHOWN. MIN. 300mm OFFSET TO EITHER END OF BLOCK. CORE DRILL DEPTH TO BE 610mm.
- INSTALLATION MUST TAKE PLACE DURING THE GROUT MANUFACTURER'S RECOMMENDED TEMPERATURE RANGES.
- THE CORE DRILL HOLES MUST BE WET DUN PRIOR TO POURING THE GROUT TO PROMOTE A DAMP CURING ENVIRONMENT.
- THE GROUT MUST BE BROUGHT UP TO JUST ABOVE THE TOP OF THE COPING UNIT AND SLOPED AWAY FROM THE POST TO PREVENT THE FUTURE INFILTRATION OF WATER INTO THE CORE DRILL HOLE. CONTRACTOR MUST ENSURE WATER IS PREVENTED FROM INFILTRATING POST HOLE.
- ALL CONTAMINATED WATER (USED IN CLEANING THE HOLE OR CORE DRILLING) MUST BE WASHED FROM THE FACE OF THE WALL TO PREVENT STAINING.
- ADDITIONAL REQUIREMENTS AND PROVISIONS ARE REQUIRED BY GROUT MANUFACTURER FOR PROPER PERFORMANCE THAN THOSE NOTED HERE.
- INTERMEDIATE RAILS TO BE INSTALLED AT MID POINT AND ON RETAINING WALL SIDE OF FENCE.
- MESH SHALL BE 9 GAUGE 16mmx16mm NON-CLIMBABLE WIRE MESH.

NTS

**CHAIN LINK FENCE ON RETAINING WALL**

**CONIFEROUS TREE PLANTING**

**DECIDUOUS TREE PLANTING**

**SHRUB AND PERENNIAL PLANTING**

**GARBAGE ENCLOSURE GATES**

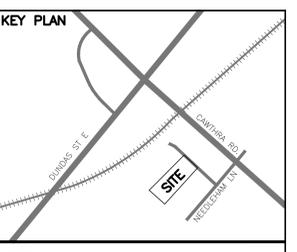
**PRECAST MAINTENANCE EDGE**

**RAISED CONCRETE EDGE**

**CONCRETE FLAG POLE BASE**

**MONOLITHIC CONCRETE CURB AND PAVING**

**CHAIN LINK FENCE ON RETAINING WALL**



**LEGEND**

ADD #1	SEPTEMBER 12, 2024	LA ADD #1
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ISSUE	DATE	REMARKS

LEGAL DESCRIPTION:  
PART OF LOT 11, CONCESSION 1 SOUTH OF DUNDAS STREET, CITY OF MISSISSAUGA, REGIONAL MUNICIPALITY OF PEELE

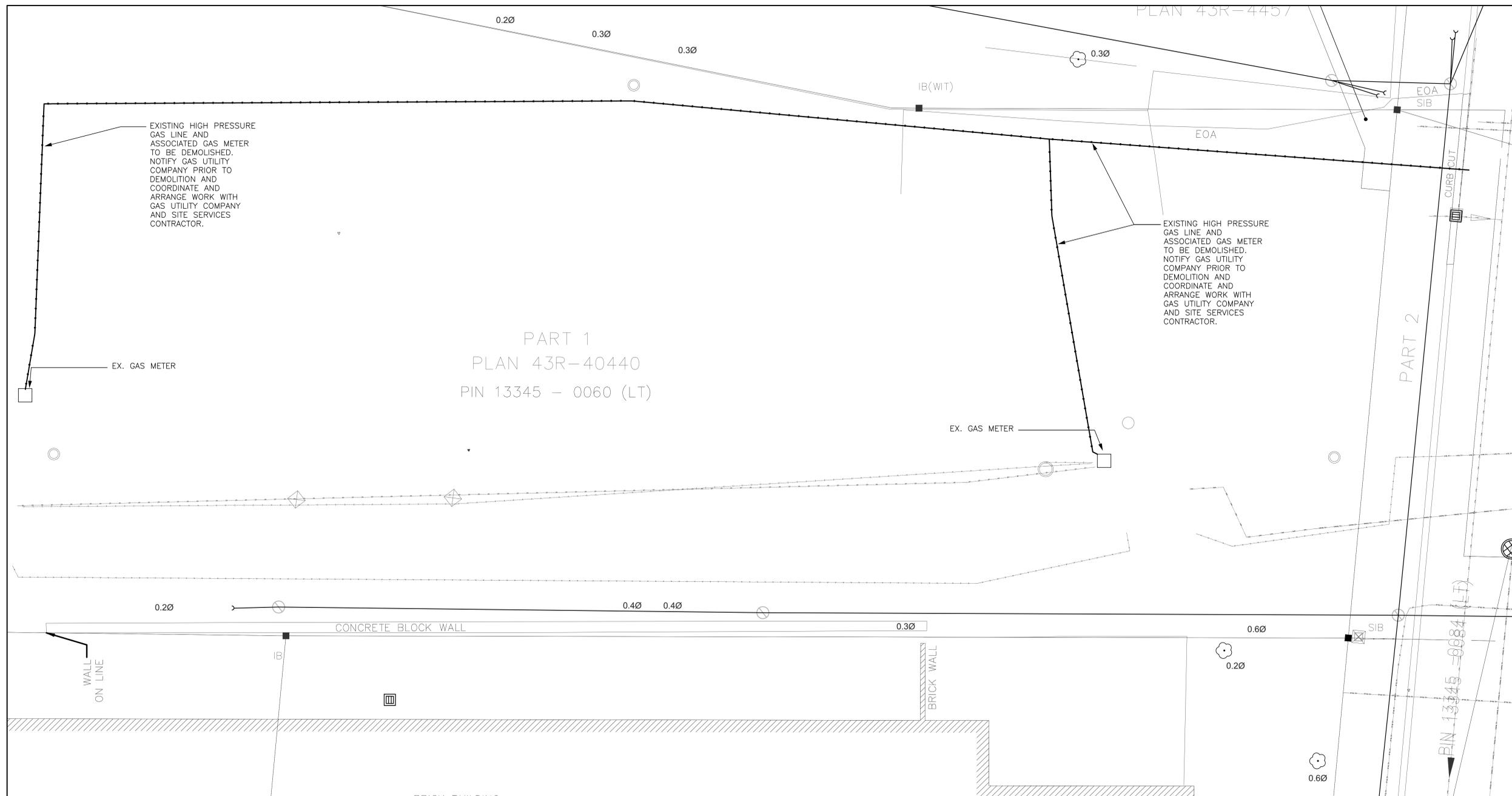
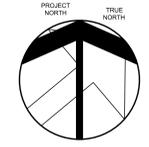
**MISSISSAUGA**  
300 City Centre Drive, Mississauga, Ontario, Canada L5B 3C1  
tel: 905-415-3200

**FRP inc.**  
landscape.architects  
1877 Davenport Road  
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ISSUE	DATE	REMARKS

Project Name:  
**PRC004616 CONSTRUCTION SERVICES FOR NEW FIRE STATION 124**  
2524 CAWTHRA RD.

Drawn:	Design:	Date:
JB	KH	JANUARY 2024
Checked:	Appr'd:	Scale:
BF	KH	AS NOTED
CADD File:	Dwg. No.:	
241553		
Project Number:		<b>L301</b>



**MECHANICAL SERVICES – DEMOLITION SITE PLAN**

SCALE- 1:200

NO.	DESCRIPTION	DATE
7	ADDENDUM #1	09/13/24
6	ISSUED FOR TENDER	08/15/24
5	RE-ISSUED FOR PERMIT COMMENTS	08/05/24
4	ISSUED FOR PERMIT	03/21/24
3	50% REVIEW SET	02/21/24
2	10% REVIEW SET	01/26/24
1	PROGRESS SET	12/20/23

DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE PROJECT AND MUST REPORT ANY DISCREPANCIES TO THE CONSULTANTS BEFORE PROCEEDING WITH THE WORK. THE USE OF THIS DRAWING OR PART THEREOF IS FORBIDDEN WITHOUT THE WRITTEN APPROVAL OF THE CONSULTANTS.

**PRC004616 - Construction Services for New Fire Station 124**

LEGAL DESCRIPTION:  
PART OF LOT 11, CONCESSION 1, SOUTH OF BUNDAS STREET, CITY OF MISSISSAUGA, REGIONAL MUNICIPALITY OF PEELE



**DEMOLITION MECHANICAL SITE PLAN**



SCALE	PROJECT
AS NOTED	ALL-23003797
DATE: 21 March, 2024	
DRAWN: C.M.	DRAWING
CHECKED: W.D.	MD100
PRINT DATE	21 March, 2024