Report to Planning and Environment Committee

To: **Chair and Members**
Planning and Environment Committee
From: **George Kotsifas**
Deputy City Manager, Planning and Economic Development
Subject: **2355440 Ontario Inc. – Application for Brownfield Community Improvement Plan Incentives – 250-272 Springbank Drive**
Date: **October 18, 2021**

Recommendation

That, on the recommendation of the Director, Economic Services and Supports, the following actions be taken with respect to the application of 2355440 Ontario Inc. relating to the property located at 250-272 Springbank Drive:

(a) A total expenditure of up to a maximum of **$2,895,020** in municipal brownfield financial incentives **BE APPROVED AND ALLOCATED** at the Municipal Council meeting on October 26, 2021, under the following two programs in the Community Improvement Plan (CIP) for Brownfield Incentives:

i) Provide a rebate equivalent to up to 50% of the Development Charges that are required to be paid by 2355440 Ontario Inc. on the project, as follows:

i. If development charges are paid in one lump sum amount, the Development Charges Rebate will be issued in three equal annual instalments

ii. If development charges are paid annually over six years, the Development Charges Rebate will be issued in six equal annual instalments, noting that any interest charged by the City of London for deferred development charge payments is not included in the rebate

ii) Provide tax increment equivalent grants on the municipal component of property taxes for up to three years post development.

(b) The applicant **BE REQUIRED** to enter into an agreement with the City of London outlining the relevant terms and conditions for the incentives that have been approved by Municipal Council under the Brownfield CIP.

IT BEING NOTED THAT no grants will be provided until the remediation work is finished, a Record of Site Condition is filed with the Ministry of Environment, Conservation and Parks, and receipts are obtained showing the actual cost of the eligible remediation work.

IT BEING FURTHER NOTED THAT the agreement between the City of London and 2355440 Ontario Inc. will be transferable and binding on any subsequent property owner(s).

Executive Summary

2355440 Ontario Inc. is seeking financial incentives through the Brownfield CIP to cover the cost of remediating the property at 250-272 Springbank Drive to construct new residential units. Municipal Council approval is required for Brownfield CIP financial incentive programs and this approval is required prior to the start of remedial activities.

Purpose and the Effect of Recommended Action
The purpose and effect of the recommended action is to provide a total expenditure of up to a maximum of $2,895,020 in municipal brownfield financial incentives through the Development Charges Rebate Program and Tax Increment Equivalent Grant Program.

Rationale of Recommended Action

1. The development represents a significant investment on Springbank Drive and near the downtown including the construction of 260 new residential units on a fully serviced and remediated site

2. The development includes the creation of 28 of affordable housing units that will help in addressing the growing need for affordable housing in London. The development is in alignment with the Housing Stability Action Plan 2019-2024 and its Strategic Area of Focus 2: Create More Housing Stock

3. The development will eventually generate significant tax revenues over and above the grants that are provided. At full project build out, the municipal portion of the taxes are roughly estimated at $865,000 per year

4. Brownfield incentive applications satisfy the Growing our Economy and the Building a Sustainable City Strategic Areas of Focus in the *Strategic Plan for the City of London 2019 – 2023.* This includes directing growth and intensification to strategic locations and increasing public and private investment in strategic locations

Linkage to the Corporate Strategic Plan

This recommendation supports the following 2019-2023 Strategic Plan Areas of Focus:

Building a Sustainable City
- Direct growth and intensification to strategic locations

Growing our Economy
- Increase public and private investment in strategic locations

Analysis

1.0 Background Information

1.1 Brownfield Community Improvement Plan
The Community Improvement Plan (CIP) for Brownfield Incentives (“Brownfield CIP”) was adopted by Municipal Council on February 20, 2006, and approved by the Province, with modifications, on November 21, 2006.

The purpose of the Brownfield CIP is to remove or reduce the obstacles that hinder brownfield remediation and redevelopment. The financial incentive programs are used to evaluate contaminated properties and encourage the private sector to invest in those properties. There are four incentive programs to encourage the investigation, remediation, and redevelopment of brownfield sites in the City of London.

The Contamination Assessment Study Grant Program assists property owners in conducting a Phase II Environmental Site Assessment and is capped at $10,000 per property. Municipal Council approval is not required for the Study Grant Program.

The remaining three programs: Property Tax Assistance, Development Charge Rebate, and Tax Increment Equivalent Grants require Municipal Council approval, may be significant in terms of financial assistance, and are considered individually based on the evaluation of a business case from the applicant and the availability of program funding.

1.2 Community Improvement Plan Eligibility Requirements

Eligibility requirements for each brownfield incentive program are outlined in the CIP. Municipal Council may consider providing any one incentive or combination of incentives based on the relevant CIP eligibility requirements and merits of each application; however, under the Brownfield incentive programs the cumulative amount of funding that may be provided through the Property Tax Assistance Program, Tax Increment Equivalent Grant Program, and Development Charge Rebate Program cannot exceed the eligible site remediation costs for the subject property.

In addition to the general requirements in Section 2 of the CIP, specific eligibility requirements apply to the three programs. Each application is evaluated on a case-by-case basis to consider the public and economic benefit of providing one or more incentive(s) to a property.

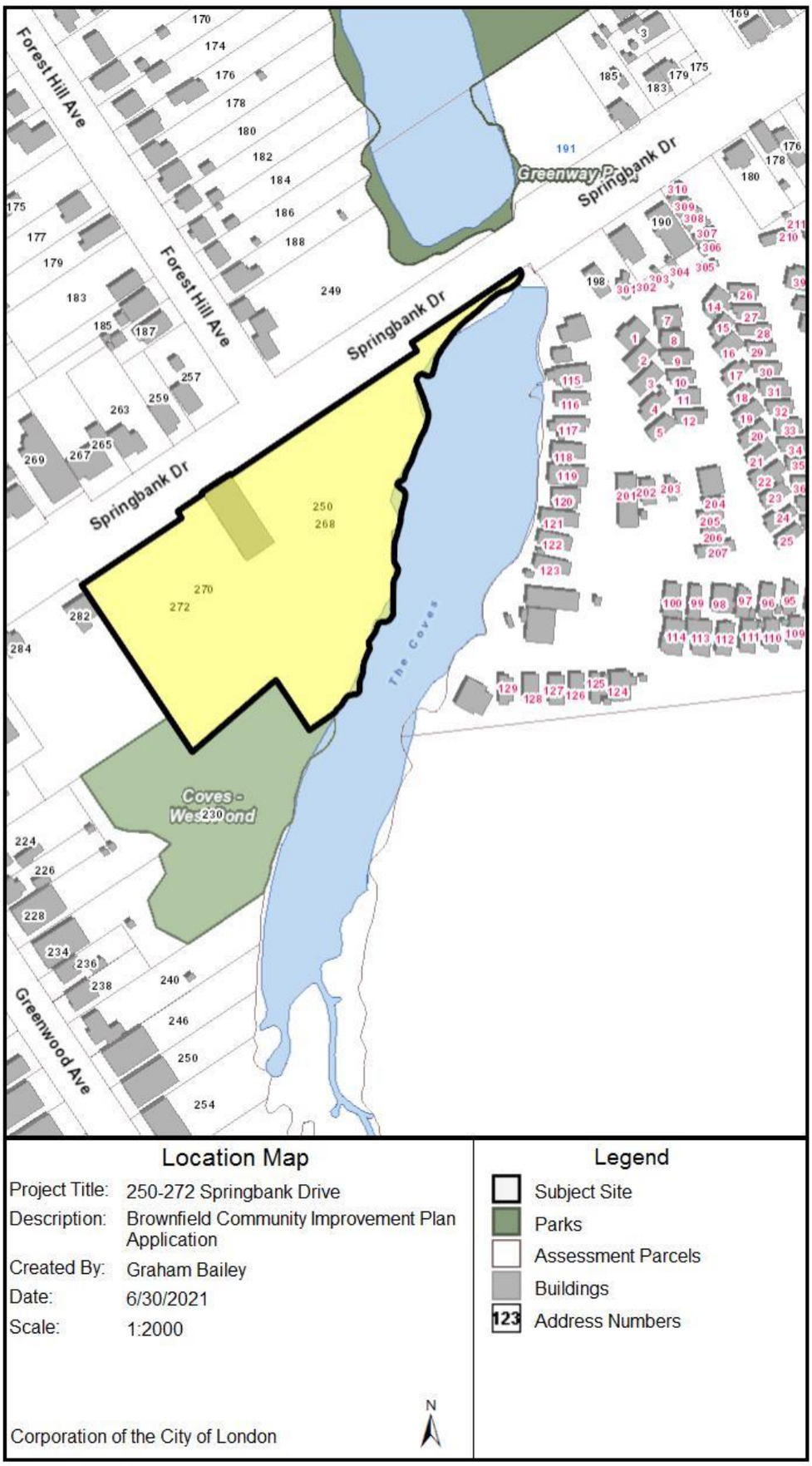
1.3 250-270 Springbank Drive Development Project

The project consists of twin 15-storey residential towers connected by a two-storey podium. A Zoning By-law Amendment application (Z-9310) is active on the subject site and was heard at the September 20, 2021, Planning and Environment Committee. The Zoning By-law Amendment is seeking to continue to permit the two-tower residential development with modifications to the form, as well as changes to the existing Bonus Zone, height, and overall lot coverage maximum.

Additional project details are available in the applicant's business case (Appendix "A"). It should be noted that any project details available during the Brownfield CIP application process should not be used to pre-determine the decision of an existing or future Zoning By-law Amendment application.

Figure 1 – 250-272 Springbank Drive – Renderings (subject to change)

1.4 Location Map – 250-272 Springbank Drive



1.5 Site Remediation Investigations

Under Provincial Regulation, it is mandatory that a Record of Site Condition (RSC) be filed with the Ontario Ministry of Environment, Conservation and Parks (MECP) for contaminated properties if a land use change is proposed that goes to a more sensitive

use, to confirm that the site is ‘clean’, and that the property meets the applicable site condition standards for the intended use.

EXP Services Inc. (“EXP”) completed numerous studies examining the soil and groundwater conditions of the property and to assess the site contaminations identified by the studies. These studies and reports included Environmental Site Assessments (ESA) Phase I and II, Environmental Work Plan, Brownfield Case and Remedial Action Plan, and three Geotechnical Investigations.

Environmental sampling conducted by EXP between 2015 and 2019 identified the presence of petroleum hydrocarbons (PHCs), polycyclic aromatic hydrocarbons (PAHs) and metal contaminants of concern (COCs) in fill materials, which require remediation to support the proposed residential redevelopment and an RSC filing on the MECP’s Brownfields Environmental Site Registry.

The findings of the Phase II ESA update indicated Petroleum Hydrocarbon impact exceeding the 2011 MECP Table 2 and/or Table 8 Site Condition Standards (SCSs) for residential land use for coarse textured soils in a potable groundwater condition at three distinct locations on the property. The analytical results also indicated impact from metals and Polycyclic Aromatic Hydrocarbons (PAHs) across the south half of the property. Site investigations were conducted including the installation of boreholes and groundwater monitoring wells.

Based on the findings, it can be confirmed that the property constitutes a brownfield under the CIP definition and that the remediation of identified contaminants must be undertaken in accordance with Provincial Regulation 153/04 (as amended) before the site can be redeveloped for a residential use.

An RSC cannot be filed with the MECP until such time as the required remediation has been undertaken and the condition of the site confirmed as meeting relevant Provincial standards. The RSC must be submitted to the City of London and filed with the MECP prior to commencing the residential development and the funding being released under the Development Charges Rebate Program and Tax Increment Equivalent Grant Program.

2.0 Considerations for Brownfield Financial Incentives

2.1 Brownfield Community Improvement Plan

The purpose of the Brownfield CIP is to remove or reduce the obstacles that hinder brownfield remediation and redevelopment in the City of London. The incentive programs in the Brownfield CIP assist property owners with bringing a brownfield site up to the same standard as a greenfield site. In other words, to help “level the playing field”.

The applicant is applying for funding under the Brownfield CIP since the site constitutes a brownfield and remediation work is required to meet minimum Provincial environmental standards and to file a Record of Site Condition. Under the Brownfield CIP, incentives can only be provided to compensate property owners for costs that they incur to remediate the property.

Applications for incentives under the Brownfield CIP are not as-of-right but evaluated on a case-by-case basis, to consider the need for remediation, and the public and economic benefit of providing one or more incentives to a property. Incentives under the Brownfield CIP are specifically applied only to eligible site remediation costs as defined in the CIP and the maximum of all grants and tax assistance for eligible brownfield properties cannot exceed the cost of remediating the property. Criteria in the Brownfield CIP provide that approval of the incentive(s) may be recommended where:

a) The landowner/applicant has not contributed to the site contamination
b) There are not outstanding property taxes, municipal orders, or by-law infractions on the subject property
c) All relevant supporting documentation and reports (for example, ESA’s Remedial

Action Plans, Risk Assessments) have been provided to the City
d) Financially supporting the proposal is both cost-effective for the City and in the public interest
e) The incentives are considered necessary to make the remediation and redevelopment on the subject property feasible
f) The amount of available and budgeted municipal funding is sufficient to cover the cumulative cost of all incentives that have been approved
g) Municipal Council deems that the costs associated with providing the program incentives are outweighed by the cumulative benefits of providing the incentive(s)

Eligible remediation costs that are identified in the CIP include 100% of the costs associated with building demolitions, site remediation, rehabilitation of any existing structures, and environmental insurance premiums during the remediation phase. The City is not under any obligation to approve Brownfield CIP incentives for a particular property and each application is evaluated on a case-by-case basis.

If the application is approved by Municipal Council, an agreement is required between the City and the property owner, outlining the terms and conditions that apply to the approved incentive(s). The agreement between the City and the property owner is registered on title and remains in effect until all requirements of the CIP have been satisfied. Upon completion of the site remediation work, the property owner must provide the City with documentation to confirm that the required work has been undertaken in a satisfactory manner and paid for in full.

2.2 Business Case (Appendix "A")

The business case submission from 2355440 Ontario Inc. includes a detailed estimate of site remediation costs based on the findings of the studies. The costs that were identified in the business case submission as potentially being eligible for incentives under the Brownfield CIP are summarized below:

Table 1 – Brownfield Site Remediation Costs for 2355440 Ontario Inc. Project

#	Item	Estimated Cost
1	Phase I Environmental Site Assessment (ESA)	$7,800
2	Phase II ESA and delineation and additional monitoring wells	$49,500
3.1	Remedial Work Plan	$7,120
3.2	Remediation Works	$2,429,200
3.2.4	Construction Dewatering	$236,900
4	Indirect Construction Costs	$124,000
4.6	Indirect Remediation Costs	$40,500
Total Estimated Remediation Cost		**$2,895,020**

The expanded table is available in the attached business case.

A request was made for funding from the three of the Brownfield financial incentive programs to cover environmental remediation costs associated with the project.

Property Tax Assistance Program – Provides tax relief through the cancellation of 25% of current municipal property taxes for up to three years during the site rehabilitation and development period as defined under the CIP. The matching education component which is under the jurisdiction of the Ministry of Finance can also be applied for separately by the City on behalf of 2355440 Ontario Inc.

The potential value of incentive that may be provided under the Property Tax Assistance Program is limited under the CIP to 25% of current property taxes. Based on the current assessment value and property taxes levied in 2021, it is estimated that the total amount of tax assistance provided over a three-year period would be approximately $21,000 (municipal component) and an additional amount of approximately $7,500 if the education component is approved by the Minister of Finance.

As the two other Brownfield CIP grant programs will cover the estimated cost of

remediation and the value of the incentive provided through the Property Tax Assistance Program is minor compared to the overall request for funding, Civic Administration are not recommending the Property Tax Assistance Program to Municipal Council for approval.

Development Charge Rebate Program – Provides a rebate equivalent to up to 50% of the Development Charges (DC) for site remediation.

The language used in the Development Charge Rebate Program requirements can be interpreted to imply the applicant is receiving a rebate on DCs. This is not the case. The rebate is in all practicality a reimbursement of remediation costs from the City's Community Improvement Plan financial incentive funding sources. DCs are used only as a program measuring tool to calculate how much of the remediation costs will be reimbursed.

Table 2 estimates the development charges related to the construction of the twin-tower residential project at 250-272 Springbank Drive. This estimate is more up-to-date and therefore differs from what is presented in the business case:

Table 2 – Estimated Development Charges for 2355440 Ontario Inc. Project

	1 bedroom	**2 bedrooms +**
2021 DC Rate	*$15,108*	*$20,473*
# of Units	130	130
Subtotal	$1,964,040	$2,661,490
Estimated Gross DC Amount	**$4,625,530**	
Demolition Credits (estimated at 2021 commercial DC rate)	$252,015	
Estimated Net DC Amount	**$4,373,515**	

Under the Brownfield CIP up to 50% of the total amount ($4,373,515 x 50% = $2,186,758) may be rebated to cover eligible remediation costs that are incurred by the property owner. This estimate may not reflect the actual DCs for the project. Final determination of DCs will be made by the Chief Building Official (or designate) at the appropriate time.

When and how the applicant decides to pay development charges will affect how the Development Charge Rebate Program is paid. The applicant has confirmed that this project is rental housing (not non-profit), meaning it is a deferred development charge type. For deferred development charge types, owners are required to pay development charges in six annual instalments beginning on the date the building is first occupied and continuing the following five anniversaries of that date; however, the owner may choose to enter into an alternative payment agreement with the City of London and pay development charges in full on the date the building permit is issued (lump sum).

The applicant has yet to decide on when development charges for this project will be paid (instalments or one lump sum). As a result, Civic Administration are recommending the following to Municipal Council:

- If development charges are paid in six instalments, the Development Charge Rebate Program will also be paid in six annual instalments. If interest is charged by the City of London for this option, the interest will not be granted to the applicant through the Development Charges Rebate Program.

- If development charges are paid in one lump sum on the date the building permit is issued, the Development Charge Rebate Program will be paid in three equal annual instalments to help lessen the impact on the Community Improvement Plan Grant Reserve Fund

The property owner must also provide proof of the actual remediation costs and that a Record of Site Condition has been filed with the MECP prior to the grants being issued.

Tax Increment Equivalent Grant Program – Under the Brownfield CIP, the property owner is eligible to apply for up to 100% of the post development municipal property tax increment for up to three years, to cover eligible site remediation costs. The amount of the tax increment equivalent grant is equal to the increase between the pre-development and post-development municipal portion of property taxes after

rehabilitation and development has taken place. Where improvements have been approved by the City, resulting in an increased assessed value of the property and therefore increased taxes, the City will provide a grant equal to the amount of the municipal property tax increase because of the rehabilitation and development for up to a maximum of three years from the date of the increase in assessed value.

It is not possible to precisely estimate the size of the grants that would apply to the site until such time as the project is completed and the post-development assessment value has been established by MPAC. However, based on the preliminary hard construction cost estimates to build the project and assumptions about the applicable tax rates, rough grant values are provided in Table 3 with the estimated year the grant payments would be made based on a draft construction timeline provided by the applicant.

Table 3 – Estimated Brownfield CIP Tax Grants for 2355440 Ontario Inc. Project

Year	Grants
2025	$865,584
2026	$865,854
2027	$865,584
Total	**$2,596,752**

Brownfield CIP – Financial Incentives Summary

Based on the two recommended Brownfield CIP financial incentive programs, the requested grant funding of $2,895,020 can be covered by the Development Charges Rebate and Tax Grant Programs. Table 4 summarizes the estimated grants for the scenario where the property owner pays development charges in one lump sum and the grant is provided back in three annual instalments. Table 5 summaries the estimated grants for the scenario where the property owner pays development charges in six annual instalments and the grant is provided back in six instalments. In both scenarios, the total does not exceed the requested funding of $2,895,020 It is important to remember that Table 4 and 5 represent estimates and may change.

In both Tables only a partial amount of the first Tax Grant payment was required.

The actual grant payments, both the year and the amount, cannot be determined until the amount of development charges have been determined and MPAC has reassessed the property for the improvements made.

Table 4 – Summary – 250-272 Springbank Drive (DC's paid in one lump sum)

Program	2022	2023	2024	2025	2026	2027	Total
DC Rebate	$728,919	$728,919	$728,920				**$2,186,758**
Tax Grant				$708,262			**$708,262**
Total	**$728,919**	**$728,919**	**$728,920**	**$708,262**	**$0**	**$0**	**$2,895,020**

Table 5 – Summary - 250-272 Springbank Drive (DC's paid in six instalments)

Program	2022	2023	2024	2025	2026	2027	Total
DC Rebate	$364,459	$364,459	$364,460	$364,460	$364,460	$364,460	**$2,186,758**
Tax Grant				$708,262			**$708,262**
Total	**$364,459**	**$364,459**	**$364,460**	**$1,072,722**	**$364,460**	**$364,460**	**$2,895,020**

2.3 Evaluation of the Application and Business Case

Civic Administration Comments

The application, business case, and remedial action plan were circulated and reviewed by Civic Administration. Numerous emails between the Civic Administration and the applicant's team to discuss the application and business case occurred. Civic Administration comments and the applicant's responses are available in Appendix B.

Previous Brownfield CIP Applications

Although Brownfield CIP applications are reviewed on a case-by-case basis, a brief review of the previous Brownfield CIP incentive applications helps the Civic Administration ensure the applications are evaluated in a fair and transparent manner. The previous five (of nine total) Brownfield CIP incentive applications that have been approved by Municipal Council are:

- 27 Centre Street (Escalade Property Corp.) – Approved May 4, 2016, for up to $169,500. Site remediation has finished, and a Record of Site Condition was filed with the Province on April 4, 2017. A grant for $169,500 was issued to the applicant in April 2017.

- 100 Fullarton Street, 475-501 Talbot Street, and 93-95 Dufferin Avenue (Rygar Properties Inc.) – Approved May 2, 2017, for up to $2,735,007. 64% of the estimated remediation cost is the disposal of contaminated soil that cannot be sold or reused for a residential, parkland, or institutional (RPI) use. This property was sold to Old Oak and the site remediation is underway.

- 1156 Dundas Street (McCormick Villages Inc.) – Approved May 2, 2017, for up to $2,500,000. Site remediation work began in 2018. As of writing this report, a Record of Site Condition has not been filed. $23,151 in grants was provided over the maximum three-year period through the Property Tax Assistance program.

- 32, 36, and 40 York Street (Tricar Properties Limited) – Approved January 31, 2018, for up to $192,000. Site remediation work began in 2018 and the high-rise apartment building has been constructed. As of writing this report, a Record of Site Condition has not been filed.

- 391 South Street (Medallion Developments) – Approved July 24, 2018, for up to $4,328,520. Site remediation is underway.

For the previous brownfield applications, contaminated soil that was required to be excavated, removed, and disposed of was considered an eligible remediation cost under the Brownfield CIP, even if that soil was located where underground parking, building foundations, and/or basements would be constructed. In these instances, Civic Administration and the applicant ensured only work related to the treatment and removal of contaminated soil was included in the estimates.

Tipping Fees

In the business case, the applicant has indicated a $35/MT brownfield waste tipping fee. This figure is consistent with the tipping fee previously used for the Rygar Properties and McCormick Villages business cases and applications that were approved by Municipal Council.

Civic Administration accepts the $35/MT tipping fee as reasonable.

Further, once the remediation work is completed, receipts are required from 2355440 Ontario Inc. to determine the actual cost of the remediation work including tipping fees.

Similarly, the applicant has indicated a $30/MT excavation and mucking fee. This figure is consistent with previous Brownfield CIP application and business cases. Civic Administration accepts the $30/MT excavation and mucking fee as appropriate.

Refinement of Estimated Remediation Costs

In reviewing the application and business case and recognizing that the requested grant is a significant amount of money, Civic Administration asked the applicant to clarify the estimated remediation costs.

- Civic Administration wanted to confirm that only costs related to the remediation of the site were present in the business case and cost estimate. Further, Civic

Administration wanted to confirm that for work that must be done on a development project of this nature (for example, dewatering), that any cost estimate in the business case represented a pro-rated amount related to site remediation only. Through their comments the applicant provided additional rationale for the cost estimate above what is presented in the business case. Civic Administration accepts this rationale

- There are 20% contingencies built into the business case, which is standard for brownfield remediation. If these contingencies are not required and barring no unforeseen expenses the actual remediation costs will be lower than the maximum grant request

Based on the review of the application and business case, as well as the numerous discussions with the applicant, Civic Administration are recommending a total expenditure of up to a maximum of $2,895,020 in municipal brownfield financial incentives be approved and allocated.

Public and Economic Benefits of Remediation and Redevelopment

Since the Brownfield financial incentives involve the expenditure of public funds, Municipal Council should be satisfied that the public and economic benefits associated with the project outweigh any costs incurred by the City. Several benefits for supporting the remediation effort have been identified, including:

- Remediation of a site that was previously contaminated
- Infill development on a fully serviced site
- The development will eventually generate significant tax revenues over and above the grants that are provided through the Brownfield CIP. It is estimated that the development will generate municipal tax revenue around $865,000 per year when it is completed
- The development will include 260 residential units, providing new accommodations in the area to help:
    - Meet the Housing Stability Action Plan 2019-2024's Strategic Area of Focus 2: Create More Housing Stock by providing 28 units allocated towards affordable housing with a 50-year affordability period at 85% of Average Market Rents
    - Increase foot traffic on Springbank Drive
    - Provide additional "eyes on the street" and an increased presence at night
    - Support businesses on Springbank Drive
    - Provide housing options for employees to live and work near the downtown

Brownfield CIP Criteria Evaluation

In evaluating applications, the Brownfield CIP programs note that approval of the incentive(s) may be recommended where:

a) The landowner/applicant has not contributed to the site contamination.

    - According to the business case, 2355440 Ontario Inc. did not contribute to any contamination since purchasing the site. Civic Administration agree that the landowner/applicant has not contributed to the contaminated site.

b) There are no outstanding property taxes, municipal orders, or by-law infractions on the subject property.

    - This requirement is confirmed prior to issuing a grant. If there are any outstanding property taxes, municipal orders, or by-law infractions on

the property, Civic Administration asks the applicant to clear the outstanding issue(s) prior to the grant cheque being requested.

c) All relevant supporting documentation and reports (i.e., ESA's, RAPs, RAs) have been provided to the City.

- All documents and reports have been provided to the City.

d) Financially supporting the proposal is both cost-effective for the City of London and in the public interest.

- The magnitude of the incentive request is outweighed by the benefits provided by the project including the increase in taxes and its contribution to the development of Springbank Drive.

e) The incentives are considered necessary to make the remediation and redevelopment of the subject property feasible.

- Civic Administration are not party to 2355440 Ontario Inc.'s financial pro forma for the project and must rely on the submitted business case to help determine if the incentives are necessary to make the project feasible. In this instance, the estimated remediation cost is $2,895,020, which is a significant sum of money to spend to primarily dispose of soil that cannot be used for a residential, parkland, or institutional use.

f) The amount of available and budgeted municipal funding is sufficient to cover the cumulative cost of all incentives that have been approved.

- In reviewing site-specific applications for Brownfield incentives, it is important to consider the implications that potential expenditures will have on overall program funding.

- Financial Planning and Policy has reviewed the funding request and confirm that the request can be covered through the Community Improvement Plan Grant Reserve Fund; however, to lessen the impact on the Reserve Fund, Civic Administration are recommended Municipal Council to spread the Development Charges Rebate grants over three years instead of one lump sum payment noting that if the applicant decides to pay development charges in six annual instalments instead of one lump sum, the Development Charges Rebate grants will also be paid in six annual instalments.

g) Municipal Council deems that the costs associated with providing the program incentives are outweighed by the cumulative benefits of providing the incentive(s).

- Municipal Council to decide based on this report, its recommendation, and the applicant's input including the business case.

<u>Evaluation Summary</u>

Overall, the project represents a significant investment on Springbank Drive and should be supported by financial incentives that are targeted for site remediation. The municipal component of the 2021 property taxes on the vacant site is $26,803 per year. At full project build out, the municipal portion of the taxes are estimated at $865,000 per year meaning that the entire estimated grant is recovered after approximately four years of property taxes after the full project build out.

Further, the value of all incentives that are provided under the Brownfield CIP is capped once it reaches the total eligible cost of remediation incurred by the property owner. In the business case, the applicant provided a breakdown of estimated remediation costs that would be eligible for incentives under the Brownfield CIP. These costs are based on

available information and some assumptions about the environmental standards that are applied under existing Provincial regulations.

Conclusion

2355440 Ontario Inc. is proposing a major development on Springbank Drive on a site that is contaminated from past industrial and commercial activity. In addition to the environmental benefits that will result from site remediation, this development will provide substantial public and economic benefits including the provision of new residential units and the generation of significant new tax revenues for the City.

2355440 Ontario Inc. retained the services of EXP to prepare a Phase II Environmental Site Assessment and numerous other studies, which provide information on the existing environmental conditions and confirms that site remediation is required so that the development can satisfy Provincial environmental standards. The application includes a business case outlining the estimated remediation costs of $2,895,020.

The proposed development merits incentives that are specifically targeted to the cost of site remediation to meet Provincial environmental standards. Based on a review of the business case and consideration of available funding under the Brownfield CIP, the following incentives are being recommended to cover eligible site remediation costs associated with the 2355440 Ontario Inc. application up to a maximum amount of $2,895,020:

- Development Charge Rebate Program – a grant to be provided equivalent to up to 50% of the development charges that apply to the development

- Tax Increment Equivalent Grant Program – a grant to be provided for up to three years post development (after the assessed value has increased due to the improvement made to the property).

Prior to the issuance of any incentives an agreement will be executed between 2355440 Ontario Inc. and the City of London outlining the nature of the development proposal and specifying the relevant terms and conditions that apply under the provisions of the Brownfield CIP.

Prepared by:	**Graham Bailey, MCIP, RPP** **Senior Planner, Core Area and Urban Regeneration**
Reviewed by:	**Jim Yanchula, MCIP, RPP** **Manager, Core Area and Urban Regeneration**
Recommended by:	**Mark Henderson** **Director, Economic Services and Supports**
Submitted by:	**George Kotsifas, P. Eng.** **Deputy City Manager, Planning and Economic Development**

Note: The opinions contained herein are offered by a person or persons qualified to provide expert opinion. Further detail with respect to qualifications be obtained from Planning and Economic Development.

October 7, 2021
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Appendix A – Brownfield CIP Business Case

Attached separately

Appendix B – Comments on Brownfield CIP Business Case

The following Civic Administration comments and questions were provided to the applicant. The applicant's response is also included.

Civic Administration comment: On Drawing 2, borehole BH115 SA2 has a lead concentration of 2,400 ug/g. Experience with the black cinder, a level around 2,000 ug/g lead leachate testing would indicate that it was hazardous waste under the Toxicity Characteristic Leaching Procedure. It would narrow down the costs if the leachate testing was done on the two highest lead cinder samples.

Applicant response: There were two areas identified with elevated lead concentrations of 1700 to 2000 ug/g. These boreholes are in the same area and the extent could be approximately 20m x 10m to a depth of 1.5m. It is likely that once these materials are excavated, stockpiled, and retested that the stockpiled soils from this area will be considered as non-hazardous for purposes of disposal. However, for the purposes of the remedial cost estimate we can assume that the roughly 600 estimated tonnes from this area will be considered leachate toxic. The remedial cost estimate can be in the range of $300,000 + HST. The actual conditions will be determined at the time of excavation at which time additional bulk and TCLP testing will be completed. It will likely be determined to be non-hazardous based on our experience with similar site conditions.

Civic Administration comment: It is our understanding that the cost estimate includes the slope area adjacent to the Coves. In the EXP report it states: "The slope area of the property is undevelopable and will be excluded from the RSC submission as it is within the UTRCA regulated zone." The costs in the business case and the EXP report must be aligned to identify the area that is developable. The Brownfield CIP grants only apply to the area that is subject to the RSC. Please revise the cost estimate to remove the remediation of the slope area.

Applicant response: The remedial cost estimate does not include the undevelopable slope area. The impacted area within the undevelopable slope area is shown on the plans but was not included in the quantity estimate. As noted in the costing tables, all soils included in the remedial cost estimate are at least 30 m from the Coves (nearest water body).

Civic Administration comment: The Brownfield CIP grants are not intended to pay for costs that would occur whether the soil was contaminated or not. For example, the work for the garage dewatering "3.2.4.7 Dewatering Contractor, Installation of Dewatering Wells, Equipment $102,500.00". Please revise the costing to ensure only the cost of contaminated soil and treatment for contaminant removal be included but not the actual dewatering for the construction of the basement garage. Please also review the indirect construction costs in Table 1 in the business case to ensure only work related to the contaminated soil is included.

Applicant response: EXP has considered those factors. The figure shown is a portion of the dewatering cost required to achieve the remediation. The total dewatering cost was estimated to be approximately $410,000 to dewater to construct the basement and to reach the subgrade. Due to the proximity of the water body and the water bearing soils, groundwater control is needed to assess the contaminated soils in the lower horizon. Using the site area proportioning, a 25% allowance was used for this estimation at $102,500.

Civic Administration comment: EXP indicated that the cost of remediation as presented in the costing tables is $2,005,200. Table 1 in the business case indicates "Excavation and off-site disposal of contaminated soil" at $1,946,200. Please explain the difference between these two items and costs (we note the cost estimate may change based on the above comments).

Applicant response: It was a mathematic calculation of the sum of Item 1 and Item 2 from the appended Costing Tables less the shoring cost to achieve deep excavation to access contaminated soils. The net figure $1,946,200 is shown in Table 1:

Task	Activity	Estimated Costs
Soil and Groundwater Impact Remediation for metal related parameters – 20,000 tonnes Costing Table Item 1	Remediation of metals and PAHs materials – excavation and disposal to a local landfill facility	$2,005,200
Soil and Groundwater Impact Remediation for volatile organic compounds – 4,000 tonnes Costing Table Item 2	VOC and PHC impacted materials cleanup – excavation and disposal to a licensed landfill	$312,000
Shoring Costs as per Item 3.2.1 in Table 1	Pile, Shoring, Lagging Installation	($371,000)
Total probable Cost Estimate as shown on Item 3.2.2 in Table 1	(HST not included)	$1,946,200

Brownfield Business Case Report

RAND Development
250 to 272 Springbank Drive, London, ON
April 7, 2021

Submitted By:
Knutson Development Consultants Inc.
EXP Services Inc.

1.0 Project Description and Brief Background

The property was acquired in late 2012 with the intention of redeveloping the site from the auto dealership that was located on the east portion of the lands to a multi-family residential use. The total property acquired was 1.4 ha, positioned adjacent to the west pond of the area known as the Coves. The entire property is subject to the regulations of the UTRCA requiring significant geotechnical study relative to the stable slope adjacent to the west cove in order to understand the level of fill and contamination. EXP has been retained throughout the past 9 years of ownership. It is known that significant fill was placed at the site over the past 100 years due to the wide variety of land uses, many of which had the potential to add contamination to the soil.

In accordance to Geotechnical reports and life science inventories, planning approvals were sought out for a residential development with a commercial connection between the twin towers. This plan became a protracted approval process resulting in 2 OMB (Ontario Municipal Board) hearings. The site as then designed was approved by the OMB (2015 & 2017). With the passage of time and greater attention to the Urban Design through the London Plan, this has resulted in the commencement of the project redesign with the input of municipal staff. The objective of this business case is to seek approval for the redesigned development in conjunction with the supporting reports and documents provided.

2.0 Location and Site Description

The study area is located on the southside of Springbank Drive, immediately adjacent to the Coves West Pond. The gross site area is 1.38 ha with an additional net area of 0.85 ha, including the stable slope and access areas. To better understand the scope of the site, please refer to the site image below with regards to the adjacent pond and the Upper Thames River Conservation Authority (UTRCA) site restrictions, as seen in Figure 1.

According to previous records, this site has undergone several alterations. In the past, this site started as a brick yard and later transformed into a repair garage dedicated for the bus/streetcar line that serviced the distant Springbank Park. In addition to the repair garage, a streetcar maintenance yard existed as the designated easterly terminal for the streetcar going towards Springbank Park. And most recently, the records indicate that this site was used as a car parking lot for the sales team at Toyota-Town. Due to these transformations, it is evident that this site has been significantly altered over the years, resulting in the current brownfield condition.

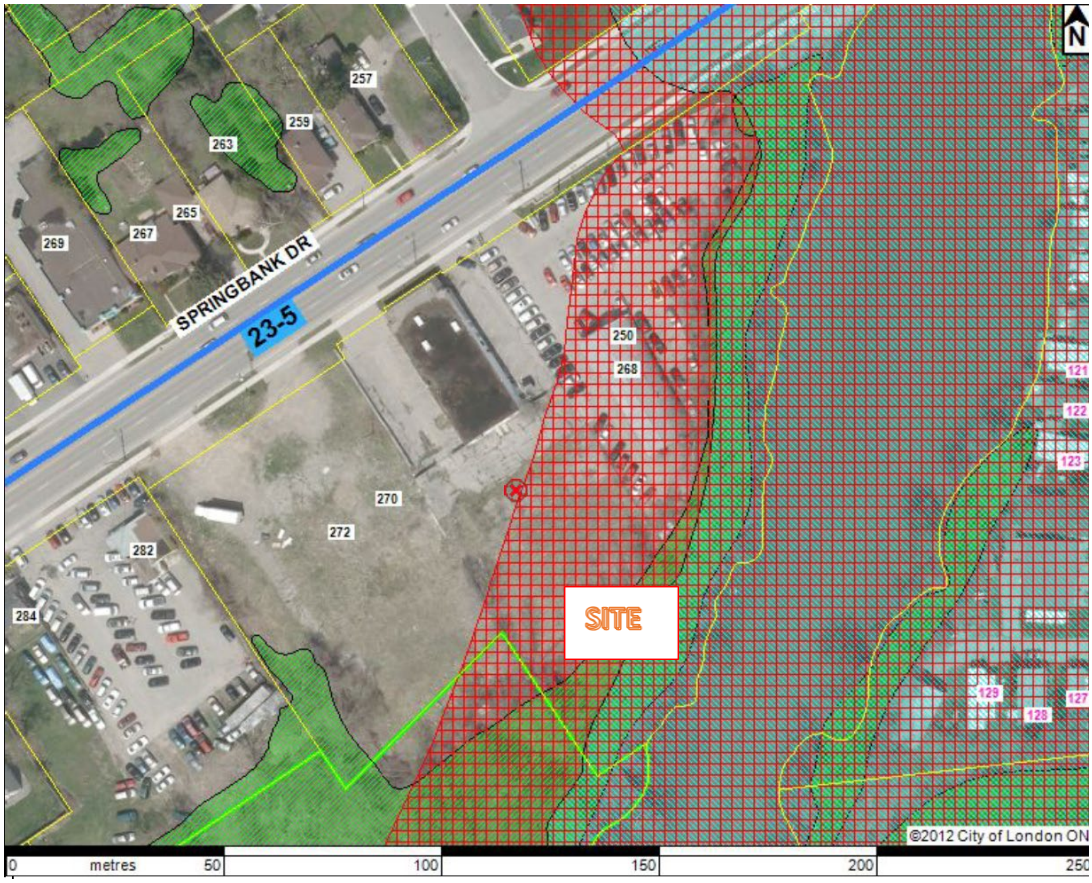


Figure 1. An aerial view of the City of London with red markings to indicate the site of interest, Springbank Drive and the Coves West Pond (City of London Zoning Map 2021).

3.0 Recent Planning History

This site had been previously approved by the LPAT or Local Planning Appeal Tribunal (formerly OMB) for the proposed twin residential towers and the connecting commercial podium, as displayed in Figure 2. However, the developers proposed to redesign the site and the residential towers for reasons related to the commercial adverse reaction towards the commercial component. As seen in Figure 3, the developer reconfigured the twin residential towers and the surrounding area to present a more acceptable and visually appealing development. The two towers are parallel to Springbank Drive with the central podium joining the buildings. In addition, the walking paths leading to the multi-entranced building consists of flourished gardening to further distinguish the central podium from the residential towers. The enhanced landscaping welcomes residents, visitors, and passing traffic to appreciate the environmentally forward development.

Figure 2. The previously approved twin residential towers proposal bridged by the connecting commercial podium.

Figure 3. The newly proposed twin residential towers joined by the central residential podium, enhanced by gardening and landscaping to welcome residents.

4.0 Community Improvement Plan and Brownfield Incentives: Cost

The City of London has defined the township as a Community Improvement Area. As previously mentioned, the current site has undergone significant alterations and contamination through a variety of land use changes over the past century. Specifically, these changes range from the dated brick yard to the bus/streetcar maintenance servicing yard, and the recent Toyota-Town parking lot.

The Brownfield Incentives will allow this site to be newly developed with the building generating a new assessment of approximately $780,000 and development charges in excess of $5,000,000.00.

This site is described as an infill with intensification of the existing service area within London. The final value of the Development Charges (DC) will be finalized based on the number of two (2) plus bedroom units and one (1) bedroom units.

The cost of remediation as presented in the costing tables is $2,005,200.00. Based on 50% of the DC incentive, the cost is fulfilled through the DC's alone. There are no significant claims against the remaining DCs.

5.0 Planning Applications

In February of 2021, the City accepted an application to rezone the site and permit the buildings as depicted in Figure 3 above. One of the requirements that was agreed upon between the developer and the City to allow for the rezoning is to ensure there will be affordable units for consumers (number to be determined). Furthering this planning process, a major change for this development involved the addition of 20 units and the removal of the commercial podium.

Figure 4. Proposed New Concept with Additional Residential Units between the Towers

6.0 Site Contamination and Remediation Requirement

Background

EXP has completed various studies to examine the soil and groundwater conditions, and to assess the site contaminations identified by the investigations. The following studies and reports were referenced:

1. *Proposed Purchase Requirement – Slope Assessment, 250-272 Springbank Drive*, dated August 2012, reference number LON00012078GE
2. Environmental Site Assessment (ESA) Phase I
    a. *Environmental Work Plan, 250-272 Springbank Drive*, dated March 2019, reference number LON00012078EN
    b. *Brownfield Case and Remedial Action Plan, 250, 268, 270, and 272 Springbank Drive*, dated June 2020, reference number LON00012078EN
3. *ESA Phase II – Site Assessment, 250 Springbank Drive*, dated January 2019, reference number LON00012078EN
4. Geotechnical Investigation
    a. *New Development Conformity – Geotechnical and Slope Stability Requirements, 250-272 Springbank Drive*, dated January 2017, reference number LON00012078GE
    b. *Foundation Demolition Plan for Existing Structures, 250-272 Springbank Drive*, dated March 2018, reference number LON00012078GE
    c. *Proposed Residential Development – Geotechnical Investigation, 250-272 Springbank Drive*, dated May 2019, reference number LON00012078GE

Site Remediation Requirement

The environmental site assessment studies identified the contamination of concerns (COC's) included metals and volatile organic compounds (VOC's)

A delineation program was conducted to determine the extent of the impact. The volume required to be remediated is in the order of magnitude of in excess of 10,000 m^3, particularly near the groundwater table.

In order to access the COC's for the horizons, shoring and dewatering efforts must be undertaken. A very intensive remediation program will be required to mitigate the current site conditions to the current environmental standards. In turn, this will be a substantial improvement to the ground condition, and hence will provide the remedy for potential groundwater impact.

Summary of Cost Estimate – Site Remediation and Supporting Services

Based on the graphics provided in this proposal, it is clear that this site has been extensively studied over the past several years. However, the extent of damage on this site is significant due to the amount of filling and spillage that was resolved improperly. Furthermore, it is highly likely that these deleterious substances are still present in the ground.

This necessary remediation will be executed through site excavations to satisfy the Record of Site Conditions. Ultimately, allowing the proposed development to be built on a solid foundation.

The following is a table summarizing the project cost estimates for this work.

Brownfield Site Remediation Related Costs

Table 1: 250 Springbank Drive, London, ON - Remediation Works Cost Estimate

	ITEM	ESTIMATED COST AND FEES
1.	**Phase I Environmental Site Assessment (ESA)**	$7,800.00
2.	**Phase II ESA and Delineation and Additional Monitoring Wells**	$49,500.00
3.	**Environmental Remediation**	
	3.1 Remedial Work Plan	$7,120.00
	3.2 Remediation Works	
	3.2.1 Pile, Shoring, Lagging Installation	$371,000.00
	3.2.2 Excavation and Off-Site Disposal of Contaminated Soil	$1,946,200.00
	3.2.3 Monitoring/Testing	$112,000.00
	3.2.4 Construction Dewatering	
	3.2.4.1 Permit to Take Water Application	$15,000.00
	3.2.4.2 Hydrogeological Assessment Report and Dewatering Plan	$23,500.00
	3.2.4.3 Temporary Sewer Discharge Application	$8,400.00
	3.2.4.4 Field Monitoring	$31,500.00
	3.2.4.5 Analytical	$29,000.00
	3.2.4.7 Dewatering Contractor, Installation of Dewatering Wells, Equipment	$102,500.00
	3.2.4.8 Sewer Surcharges	$27,000.00
4.	**Indirect Construction Costs**	
	4.1 Labour & Associated Costs Related to Excavation, Shoring, Dewatering	$70,000.00
	4.2 Reinstate Sidewalk (Removed to Install Dewatering System)	$10,000.00
	4.3 Grubbing & Clearing	$8,000.00
	4.4 Temporary Road Construction & Fencing/Barricades	$25,000.00
	4.5 Mud Slab and Excavator Mats	$11,000.00
	4.6 Indirect Remediation Costs	
	4.6.1 Insurance Fees	$10,000.00
	4.6.2 Financial Fees	$5,000.00
	4.6.3 Legal Fees	$7,500.00
	4.6.4 Record of Site Condition Filing and Consultation	$18,000.00
	Total	$2,895,020.00

7.0 Brownfield Grant Application Request

As noted, the total of the grant and rebates cannot exceed the Brownfield site remediation cost which is presently estimated at $2,895,020 (taxes not included).

8.0 Closing

The total DCs are anticipated to be in excess of $5,000,000.00 based on the 260 units and a rate of $20,473.00 per unit charge. Similar to the increase in DCs, the tax base will be increased by more than $780,000 in assessed value. Moreover, the 260 units will likely generate approximately $500,000.00 in new annual tax revenue.

Referencing to the City of London's Brownfield Incentives Requirements, we confirm the following:

- The current owner, Mr. Randy MacKay of RAND Developments did not contribute to the site contamination as identified by EXP Services Inc.
- It is our understanding that there are no outstanding taxes, municipal orders or by-law infractions on the subject property.
- Detailed environmental site assessments and delineation program have been conducted.
- In order to make the remediation and redevelopment on the subject property feasible, the incentives are considered necessary.
- The proposal from RAND Developments will create a new and vibrant development in this area, which is sensitive to its neighbours, addresses the major street frontage and promotes on improved environment by emphasizing attractive community design.
- The Consultant team believes this development meets the objectives of design and intensification and request your support for the costs required for remediation under the Brownfield program.

We trust this submission meets your current requirements. Should you have any questions regarding our information, please contact the consultant team.

Respectfully submitted,

Knutson Development Consultants Inc

Ric Knutson
Principal

EXP Services Inc.

Scott Aziz, P.Eng., QP
Senior Project Manager and Team Leader

Botel Chiu, M.Eng., P.Eng., QP
Vice President, Earth &

Attachments:
Appendix A - Brownfield Business Case and Remedial Action Plan
Appendix B - Drawings and Sections
Appendix C - Soil Remediation Costing Tables

Appendix A:

Brownfield Business Case and Remedial Action Plan

EXP Services Inc.
15701 Robin's Hill Road
London, ON N5V 0A5
Telephone: (519) 963-3000
Facsimile: (519) 963-1152

June 27, 2020

LON-00012078-EN

2355440 Ontario Inc.
371 Dundas Street
London, Ontario
N6V 1B5

Attention: Mr. Randy MacKay

Re: Brownfield Business Case and Remedial Action Plan
250, 268, 270, 272 Springbank Drive
London, Ontario

Dear Mr. MacKay:

EXP Services Inc (EXP) was engaged by 2355440 Ontario Inc. to prepare a remedial work plan to address environmental contamination related to the proposed re-development of the property located at 250, 268, 270, and 272 Springbank Drive in London, Ontario (hereinafter referred to as the Site). The Site is located on the south side of Springbank Drive, west of Wharncliffe Road in London, Ontario. The Site encompasses Municipal numbers 250, 268, 270 and 272 Springbank Drive. The West Cove, a small body of water (an abandoned oxbow pond formed by the meandering Thames River) borders the south limits of the Site. The Site was recently occupied by two businesses with two separate 1-storey buildings and paved parking. The south side of the Site along the West Cove is vegetated by mature trees and shrubbery. Environmental sampling conducted by EXP between 2015 and 2019 identified the presence of petroleum hydrocarbons (PHCs), polycyclic aromatic hydrocarbons (PAHs) and Metals contaminants of concern (COCs) in Site fill materials, which require remediation to support the proposed residential re-development and a Record of Site Condition (RSC) filing on the Ministry of the Environment Conservation and Parks (MECP's) Brownfields Environmental Site Registry. The remedial work plan presented herein outlines and describes the activities that are to be undertaken to manage the environmental contamination found at the Site.

1.0 Historical Land Use

A Phase I Environmental Site Assessment was completed by others in 2005. Based on a review of the historical records it was determined that the property was initially developed as a brick yard between around 1900 and the 1940's and was also occupied by an ice block company during the 1920s. Subsequently the property was occupied by a boat builder and a bus line operator between the 1940's to the 1960's and beginning in the 1970's the eastern portion of the Site had been occupied by a series of automotive sales and service businesses.

2.0 Site Contamination and Remediation Summary

2.1 Petroleum Impact

The findings of the Phase II Environmental Site Assessment update indicated Petroleum Hydrocarbon impact exceeding the 2011 MECP Table 2 and/or Table 8 Site Condition Standards (SCSs) for Residential land use for coarse textured soils in a potable groundwater condition at three distinct locations on the Site. Petroleum impact was identified east of the Quonset hut in Boreholes 3 and 106 in a thin layer near 2.3 to 4.6 metres bgs. Deeper samples tested from Boreholes 104 and 106 did not identify evidence of petroleum impact. In addition the horizontal delineation boreholes (ie. Boreholes 101, 102, 105 and 107) did not identify evidence of petroleum impact.

A second area of petroleum impact was identified near the northwest corner of the property in Boreholes 9 (2012) and 123 to a maximum depth of about 5.0 metres bgs. The deeper sample tested from Borehole 123 showed a marginal exceedance for Benzene (ie. Benzene concentration of 0.24 ppm vs. Table 2 SCS of 0.21 ppm). Soil samples tested from the horizontal delineation boreholes (ie. Boreholes 118, 119, 120, 121 and 122) did not identify evidence of petroleum impact with the exception of an F4G exceedance in the surface sample from BH118 which is likely attributed to asphalt in the sample.

A third area of petroleum impact was identified near the southwest corner of the property in Borehole 112 to a maximum depth of about 2.3 metres bgs. The deeper sample tested from Borehole 112 did not identify evidence of petroleum impact. This area was identified during the drilling program and the extent has not be delineated at this time however no suspected petroleum impact was noted in the boreholes drilled in the vicinity of Borehole 112 (ie. Boreholes 110, 113, 114, 115 and 117).

A minor exceedance of Petroleum Hydrocarbons (F3 Range) was also detected at BH117/MW (ie. PHC F3 concentration of 540 ug/l vs. Table 2 SCS of 500 ug/l).

Supplementary Soil Sampling and Analysis

EXP completed a drilling program on April 1, 5 and 16, 2019 for the purposes of delineating the vertical and lateral extent of petroleum impacted soil and groundwater on the Site. The general findings of the report area as follows:

A total of ten (10) additional boreholes were advanced at the Site by Direct Environmental Drilling of which four (4) were instrumented as groundwater monitoring wells. Boreholes were advanced to completion depths of approximately 3.5 to 9.6 metres (11.5 to 31.5 feet) below ground surface (bgs). A total of fifteen (15) soil samples collected from the boreholes/augerholes were submitted for chemical analysis of Metals, Polycyclic Aromatic Hydrocarbons (PAHs), Volatile Organic Compounds (VOCs), and/or Petroleum Hydrocarbons.

Four (4) of the newly advanced boreholes were instrumented as monitoring wells (i.e., BH201/MW, BH207/MW, BH208/MW and BH210/MW). In addition, previously installed monitoring wells BH3/MW, BH9/MW, BH103/MW and BH117/MW were located and found to be in good condition. Groundwater

samples were recovered from BH3/MW, BH9/MW, BH103/MW and BH117/MW for analysis of VOC/PHC, metals and/or PAHs.

The 2011 MECP Table 2 Site Condition Standards (SCSs) for Residential Property Use with coarse textured soil were deemed appropriate for areas of the Site located at least 30 metres from The Coves (nearest water body) as depicted as Area 1 on Figure 3 – Table 2 SCS vs. Table 8 SCS Areas. The 2011 MECP Table 8 Site Condition Standards (SCSs) for Residential Property Use were deemed appropriate for areas of the Site located within 30 metres from The Coves (nearest water body) as depicted as Area 2 on Figure 3.

Eleven (11) soil samples recovered from the new boreholes were evaluated for Petroleum Hydrocarbons (PHCs) Fractions 1-4 and Volatile Organic Compounds (VOCs), including Benzene, Toluene, Ethylbenzene, Xylene (BTEX) as described in the table above. All parameter concentrations in the soil samples tested were measured at levels below the 2011 MECP Table 2 SCSs or Table 8 SCS, where applicable.

Groundwater monitoring wells were installed in Boreholes 201, 202, 207, 208 and 210 at the Site. The monitoring wells were installed in general accordance with the Ontario Water Resources Act - R.R.O. 1990, Regulation 903 - Amended to O. Reg. 128/03 and were installed by a licensed well contractor (“Direct Environmental Drilling”).

The monitoring wells installed in Boreholes 201, 202, 207, 208 and 210 (ie. BH201/MW, BH202/MW, BH207/MW, BH208/MW and BH210/MW) were initially developed on April 22, 2019 using dedicated bailers and sampled on April 24 and 25, 2019 using low flow sampling technology. Existing monitoring wells BH3/MW, BH9/MW, BH103/MW and BH117/MW were also sampled during the April 24 & 25, 2019 sampling event. Water samples obtained from the monitoring wells were generally clear, colourless and odourless with no light non-aqueous phase liquid present with the exception of the water sample from BH3/MW which exhibited a strong petroleum odour.

Groundwater samples were collected, placed into laboratory-supplied glass jars, immediately placed in a clean ice packed cooler and submitted under chain of custody procedures to Bureau Veritas for analysis of PHCs (Fractions F1-F4), and volatile organic compounds (VOCs).

Discussion - Petroleum Impacted Areas

The findings of the Supplementary Investigation indicate that the areas of petroleum impact on the Site are localized and do not appear to have migrated off-Site to the south towards the Coves. The boreholes and monitoring wells installed in the vicinity of the previously identified petroleum impacted areas (ie. BH3/MW, BH9/MW and BH112/MW) and in downgradient locations did not identify evidence of significant Petroleum Hydrocarbon impact exceeding the 2011 MECP Table 2 and/or Table 8 Site Condition Standards (SCSs) for Residential land use for coarse textured soils in a potable groundwater condition.

2.2 PAH and Metals Impact

A total of twenty-six (26) boreholes were advanced on November 7 and 8, 2018 for the purposes of delineating the vertical and lateral extent of impacted soil on the Site. A total of twenty-nine (29) soil samples (including two (2) duplicate samples) collected from the boreholes were submitted for chemical analysis of pH, Metals, Polycyclic Aromatic Hydrocarbons (PAHs), Volatile Organic Compounds (VOCs), and/or Petroleum Hydrocarbons. The analytical results indicated impact from metals and PAHs across the south half of the Site.

3.0 Assessment of Slope Areas

The slope area of the property is undevelopable and will be excluded from the RSC submission as it is within the UTRCA regulated zone. Bulk samples were recovered from the slope area using hand auger equipment on June 17, 2019 and submitted for analysis of Metals and PAHs. The results were similar to the fill material across the Site which is impacted with various metals and PAHs.

4.0 Remedial Action Plan

Environmental sampling conducted by EXP between 2015 and 2019 identified the presence of petroleum hydrocarbons (PHCs), polycyclic aromatic hydrocarbons (PAHs) and Metals contaminants of concern (COCs) in Site fill materials, which require remediation to support the proposed residential re-development and a Record of Site Condition (RSC) filing on the Ministry of the Environment Conservation and Parks (MECP's) Brownfields Environmental Site Registry. The remedial work plan presented herein outlines and describes the activities that are to be undertaken to manage the environmental contamination found at the Site.

4.1 Site Stratigraphy and Subsurface Conditions

Subsurface conditions beneath the Site were assessed by EXP Between 2015 and 2019 as part of a Phase Two Environmental Site Assessment (ESA) undertaken to support a future RSC filing.

The general stratigraphy at the Site, as observed in the boreholes, consisted of a thin layer of asphalt (eastern portion of the Site) or a thin layer of gravel (western portion of the Site, overlying various fill materials overlying native clayey silt and/or clayey silt till to termination.

Granular fill (sand and gravel) was encountered at the surface of Boreholes 107, 109, 110, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 125, 126 and below the asphalt in Boreholes 102, 108, and 111 to depths of 0.1 to 1.5 metre below ground surface (m bgs). The sand and gravel fill material was generally brown and moist. Cinders and/or building debris (i.e., brick/concrete fragments) were noted within the sand and gravel fill materials in Boreholes 102, 111, 113, 116, 117, 120, 122, 125, and 126.

Silty sand to clayey silt fill materials were encountered at the surface, beneath the asphalt, and/or beneath the sand and gravel fill in Boreholes 101, 103, 104, 105, 106, 107, 108, 112, 118, 119, 120, 121, 123, 124, 125, and 126 to a depth of 0.7 to 3.8 m bgs. The silty sand to clayey silt fill materials showed varying amounts of building debris such as brick fragments and/or cinder inclusions. The sand fill encountered in Borehole 123 at a depth of 1.5 to 1.8 m bgs also exhibited black staining and petroleum odours.

A distinct layer of fill materials containing a greater amount of building debris and cinders/cindery sand was encountered beneath the above listed materials in Boreholes 101, 103, 109, 110, 115, and 117 extending to a depth of 0.7 to 6.1 m bgs. These deposits were generally dark brown or black in colour. Black staining and petroleum odours were noted within this fill layer in Borehole 103 at a depth of 4.6 to 4.9 m bgs.

A secondary layer of silty sand containing some shell fragments etc. was encountered beneath the cindery fill layer in Borehole 101 at a depth of 6.1 to 7.7 m bgs. The deposit was dark brown/black, moist and loose. No petroleum odours were noted within this fill layer.

Native clay, clayey silt, and/or silty clay was encountered beneath the various fill layers in Boreholes 102, 104. 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124 , 125, and 126 extending to a depth of 1.5 to 3.8 m bgs. The deposit was generally very moist to wet with occasional sand seams. Petroleum odours and/or black staining were associated with clayey silt/silty clay samples recovered from Boreholes 112, 119, 121, 122, 123, and 124.

Native silty sand was encountered beneath the various fill materials in Borehole 101 to termination at 9.1 m bgs. The deposit was medium grained, brown and wet. No petroleum odours or staining were associated with the native silty sand encountered in the borehole.

Native sand or sand and gravel was encountered beneath the clay/clayey silt/silty clay deposit in Boreholes 104, 106 extending to depths of 3.2 to 4.3 m bgs. The deposits were generally wet. Black staining and petroleum odours were noted within the sand deposit in Borehole 106.

Native till (sandy silt till to clayey silt till) was encountered beneath the fill materials and/or clay/clayey silt/silty clay and sand deposits in Boreholes 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 113, 115, 116, 117, 118, 119, 120, 121, and 123 to termination. The till deposits generally contained some gravel, occasional wet sand seams and were moist and compact to stiff. Petroleum odours were associated with the upper till samples in Boreholes 103 (above 5.3 m bgs) and 123 (above 4.3 m bgs). No evidence of petroleum impact (i.e., staining or odours) were associated with till samples recovered from other boreholes.

4.2 Proposed Residential Re-development

The Site is proposed for residential re-development consisting of a multi storey apartment building with underground parking. The proposed parking garage footprint is to extend across most of the Site. The lower elevation of the parking garage is to extend below the shallowest measured depth of the groundwater table beneath the Site. Thus, excavation works including the removal and disposal of the impacted fill materials are required to facilitate the construction of the underground parking garage and apartment building.

4.3 Remedial Work Plan

The objective of the remedial work plan is to excavate and dispose of the PHC, Metals and PAH COC containing fill materials off- Site to support the construction of the proposed residential apartment building and underground parking garage. The remedial works are to be conducted in such a manner to control and minimize potential COCs releases to other environmental media including soil and groundwater. The remedial work plan is to consist of the following activities:

- Installation of Temporary Excavation Shoring, if required
- Excavation of Contaminated Fill Materials
- Excavation Dewatering

The proposed remedial works activities are described in further detail below.

4.4 Temporary Excavation Shoring

To facilitate the excavation of the impacted fill materials and the construction of the building foundation and underground parking garage, temporary excavation shoring may be installed along the Site perimeter at the east and south end of the Site where the fill depths are significant. The temporary shoring is to be constructed following a design prepared by the project shoring engineer in accordance with all relevant codes and standards.

4.5 Excavation of the Impacted Fill Materials

Based on the proposed underground parking garage design, fill materials impacted with metals and PAHs are to be excavated across the full areal extent of the Site and to depths ranging from 1.0 to 2.0 m bgs for most of the property area. The fill at the east end of the Site extends to a maximum depth of about 8.0 m bgs and excavation depths in this area will depend on the development plans for the Site and the proposed RSC boundary. In addition to the impacted fill materials there are three areas of petroleum impact. The anticipated excavation depths in the petroleum impacted areas are estimated at 2.3 to 4.6m bgs at BH3 and 106, 5.0 m bgs at BH9 and 123 and 2.3 m bgs at BH112. Related activities are as follows:

- Excavation and Disposal
- Monitoring and Material Tracking
- Soil Management/Decontamination
- Sampling

4.6 Excavation and Soil Disposal.

Contaminated fill materials are to be excavated and removed off-Site for disposal.

Contaminated fill materials are to be excavated by a belt/tracked excavator and placed in dump trucks operated by MECP licensed haulers for off-Site disposal. All trucks hauling contaminated soil materials are to be equipped with tarps or covers to prevent potential spillage or wind entrainment of such materials.

Excavated fill materials are to be disposed of at an MECP licensed facility approved to receive materials with the same waste classification designation. The waste classification of the fill materials is to be determined by the toxicity characteristic leachate procedure (TCLP) parameter analysis and assessment of TCLP parameter results in reference to the Schedule 4 Leachate Quality Criteria, Ontario Regulation

(O.Reg.) 558/00. Samples submitted for TCLP analysis are to be assessed for metals, PAH and PHC parameters.

Fill material excavated to a depth of least 1.0 m bg across the entirely of the Site is be excavated for off-Site disposal. In the approximate east quadrant, fill material for off-Site disposal may be excavated to a maximum depth of 8 m bgs depending on the development plans for the Site and the proposed RSC boundary. Excavation depths for off-Site material disposal are to be determined from visual observations and confirmatory soil sampling. Final excavation depths will be determined by confirmatory sampling results.

If not placed in a dump truck for immediate off-Site disposal, contaminated fill materials are to be segregated from non-contaminated fill materials in one or more temporary stockpiles. Temporary stock piles locations are to be prepared with tarpaulin or plastic sheeting of suitable thickness to minimize potential mixing of impacted and non-impacted materials chemical leaching and pore water runoff. Stockpiles are to be constructed and sloped in such a fashion to minimized potential erosion.

4.7 Monitoring and Material Tracking

Excavation and movement of contaminated fill materials is to be monitored and tracked. Observations related to the excavation progress, material movement and stockpile creation and movement are to be documented on a daily basis. All measures taken for decontamination and dust control are to be documented. A trip ticket system is to be implemented to track the off-Site movement of materials noting vehicle departure and arrival times, licensed or vehicle numbers etc. Copies of all weight bills/manifests are to be provided to reconcile with vehicle tracking data and field observations. Field monitoring activities are to be directed and overseen by Qualified Person for environmental site assessments (QP_{ESA}) as defined by O.Reg 153/04.

Decontamination measures are to be implemented to minimize the potential for extraneous releases of contaminated soil materials. A decontamination area is to be set up to collect and remove contaminated soil material, which may have adhered to clothing and equipment and to collect disposable personnel protective equipment such as gloves. Decontamination protocols are to be implemented for the cleaning of equipment such as trawls used to recover confirmatory soil samples. Sampling equipment is to be decontaminated by washing with phosphate free detergent/municipal water mixture followed by rinses with de-ionized water and methanol. All decontamination wash fluids are to be collected and containerized.

4.8 Confirmatory Soil Sampling

Confirmatory soil sampling is to be conducted to delineate the vertical extent of the remedial excavation works. As the excavation is to extend to the Site perimeter, lateral confirmatory samples may not be required for the large excavation however wall samples will be required for the smaller and deeper excavations for the removal of petroleum hydrocarbons. The number of confirmatory soil samples required to be collected from the base and walls of the remedial excavations will be based on the excavation sizes and the requirements set out in Table 3, Schedule 3, Part XV.1, O.Reg 153/04 (as amended).

Quality assurance/quality control (QA/QC) measures are to be taken to ensure the reliability and quality of the confirmatory sample results. Confirmatory soil samples will be collected into pre-cleaned –

laboratory supplied – test group specific containers for analysis of metals, PAH and PHC parameters. Containerized samples are to be place in ice -chilled coolers to minimize the potential for chemical activity and will submitted under Chain of Custody protocols to the receiving contractual laboratory. Quality assurance procedures taken to minimize the potential for sample cross contamination will include the use of new disposal nitrile gloves and sampling implement decontamination between locations. Quality control measures will include the collection of one duplicate for every 10 field samples or per sample day event to evaluate the precision and reproducibility of the field sampling.

Soil samples are to be analyzed by a CALA (Canada Association for Laboratory Accreditation) or SCC (Standards Council of Canada) accredited laboratory in accordance with ISO/IEC17025:2005. Analyses are to be performed in accordance with the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (MOECC, as amended 2011) and are to incorporate QA/QC measures demonstrating acceptable precision, accuracy, selectivity and specificity. Laboratory QC results are to reviewed and confirmed by a $QP_{ESA.}$

4.9 Post Remediation Groundwater Sampling

It is intended to remediate the limited areas of petroleum impacted groundwater during the excavation process. Following successful remediation of the petroleum impacted areas the affected groundwater monitoring wells will be resampled for analysis of VOC/PHCs. It is a requirement of O.Reg 153/04 (as amended) that following the remediation of groundwater using excavation techniques that at least two quarterly groundwater sampling events be completed where the COC parameter concentrations are below the applicable MECP SCS.

4.10 Evaluation of Confirmatory Sample Results.

The assessment criteria (Site Condition Standards (SCSs) applicable to a given site in Ontario are established under subsection 168.4(1) of the Environmental Protection Act. Tabulated generic criteria are provided in "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" ("the SGWS Standards"), Ministry of the Environment, Conservation and Parks (MECP), effective July 1, 2011. These criteria are based on site sensitivity (sensitive or non-sensitive), ground water use (potable or non-potable), property use (residential, parkland, institutional, commercial, industrial, community and agricultural/other), soil type (coarse or medium/fine textured) and restoration depth (full or stratified restoration). In addition, site specific criteria may be established on the basis of the findings of a Risk Assessment carried out in accordance with Part IX and Schedule C of Ontario Regulation 153/04 (O.Reg.) 153/04), as amended

In the specific case of the Site, the selection of the Table 2 SCS was based on its location in an area of possible potable groundwater use, the proposed residential re-development and the coarse textured soil conditions.

4.11 Dewatering

As overall excavation works may extend to a depth below the existing groundwater table found beneath the Site, construction dewatering may be implemented. Construction dewatering, if required, is to be carried out by a dewatering contractor and is likely to consist of a series of extraction wells installed in

conjunction with the shoring works. Pumped groundwater may be discharged to the City of London sanitary or storm sewer system pending approval from the City of London. The pumped groundwater is to be monitored for potential contaminants of concern and contingency measures implemented should concentrations of parameters sampled in groundwater exceed the allowable discharge limits.

Closure

We trust that this information satisfies your current requirements. Should you have any comments or concerns, please contact the undersigned.

Yours truly,
EXP Services Inc.

Scott Aziz, P.Eng, QP_{ESA}
Senior Project Manager and Team Leader
Environmental Services

Botel Chiu, P.Eng, QP_{ESA}
London Branch Manager

Appendix B:

Drawings and Sections

Drawing 1: Samples with Exceedances - VOCs, BTEX and PHCs

Sample I.D.:	**BH3 S4**
Depth:	2.3 - 3.0 m bgs
Sampling date:	28/08/2012

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
PHC Fraction 1	**280**	55
PHC Fraction 2	**970**	98
PHC Fraction 3	**610**	300

Sample I.D.:	**BH9 S1**
Depth:	0 - 0.8 m bgs
Sampling date:	28-Aug-12

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
PHC Fraction 1	**66**	55
PHC Fraction 2	**300**	98
PHC Fraction 3	**430**	300

Sample I.D.:	**BH9 S2**
Depth:	0.8 - 1.5 m bgs
Sampling date:	28-Aug-12

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
PHC Fraction 2	**140**	98

Sample I.D.:	**BH106 SA4**
Depth:	2.3 - 3.0 m bgs
Sampling date:	7-Nov-18

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
PHC Fraction 2	**320**	98

Sample I.D.:	**BH112 SA2**
Depth:	0.8 - 1.5 m bgs
Sampling date:	7-Nov-18

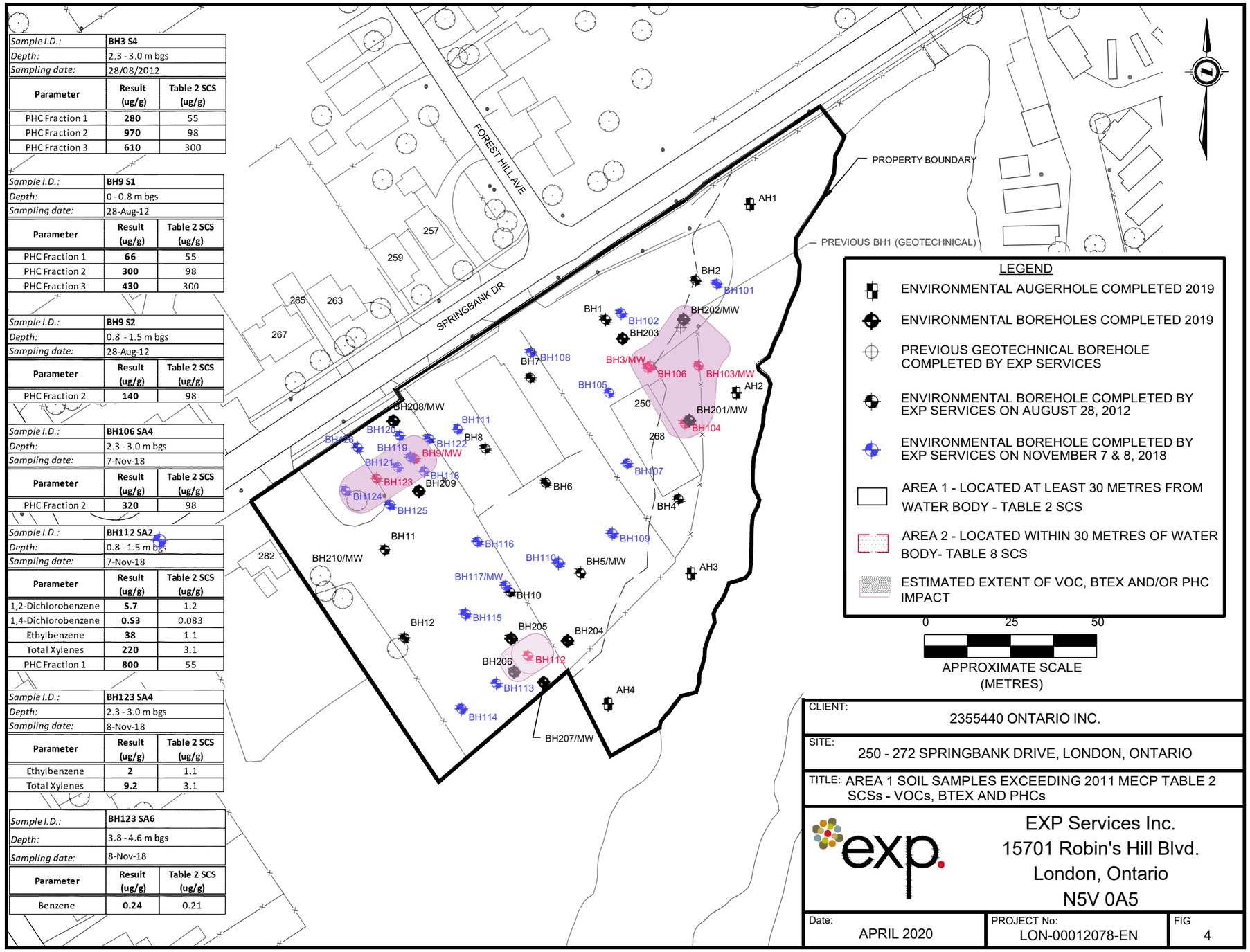
Parameter	Result (ug/g)	Table 2 SCS (ug/g)
1,2-Dichlorobenzene	**5.7**	1.2
1,4-Dichlorobenzene	**0.53**	0.083
Ethylbenzene	**38**	1.1
Total Xylenes	**220**	3.1
PHC Fraction 1	**800**	55

Sample I.D.:	**BH123 SA4**
Depth:	2.3 - 3.0 m bgs
Sampling date:	8-Nov-18

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Ethylbenzene	**2**	1.1
Total Xylenes	**9.2**	3.1

Sample I.D.:	**BH123 SA6**
Depth:	3.8 - 4.6 m bgs
Sampling date:	8-Nov-18

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Benzene	**0.24**	0.21



CLIENT: 2355440 ONTARIO INC.

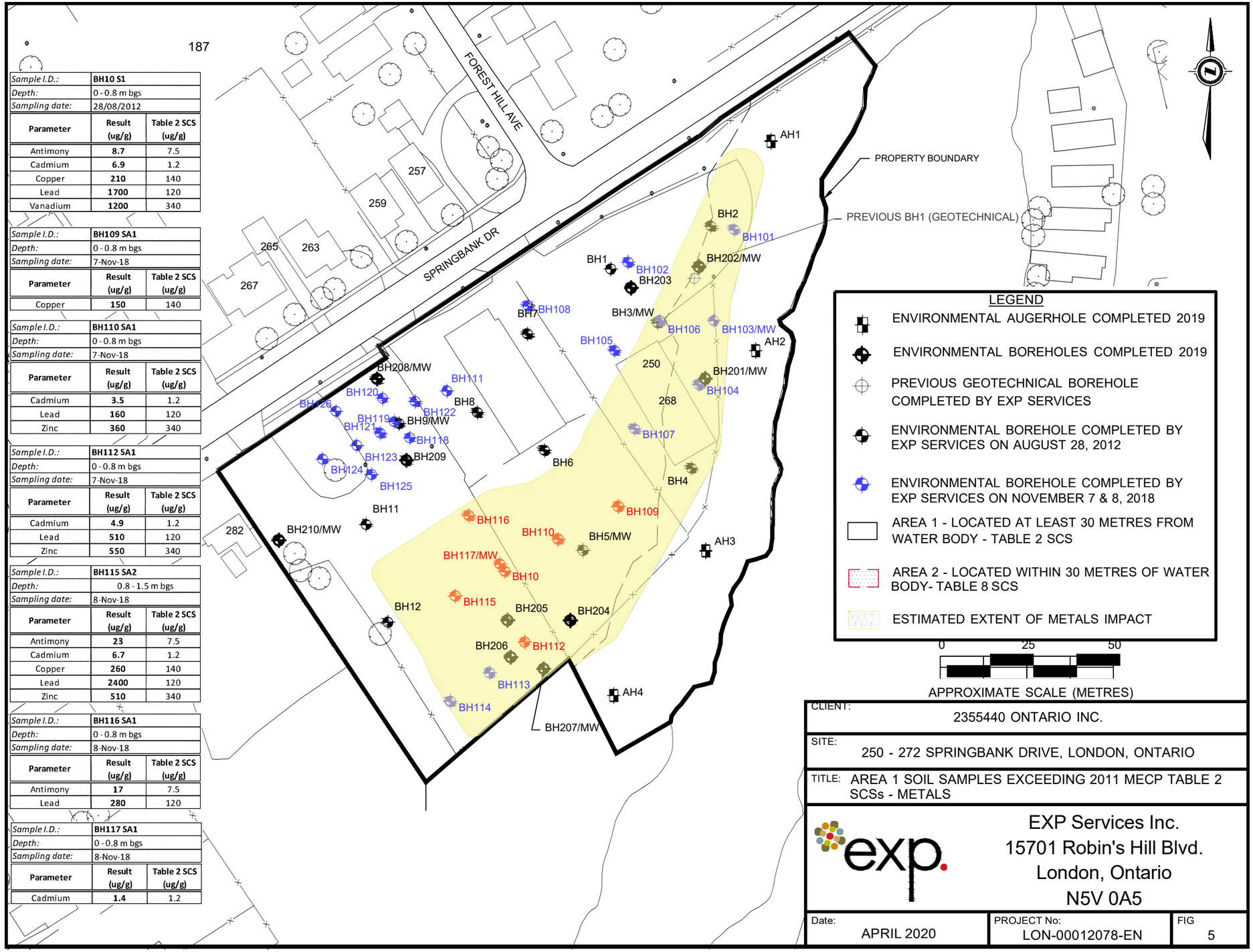
SITE: 250 - 272 SPRINGBANK DRIVE, LONDON, ONTARIO

TITLE: AREA 1 SOIL SAMPLES EXCEEDING 2011 MECP TABLE 2 SCSs - VOCs, BTEX AND PHCs

EXP Services Inc.
15701 Robin's Hill Blvd.
London, Ontario
N5V 0A5

Date:	PROJECT No:	FIG
APRIL 2020	LON-00012078-EN	4

Drawing 2: Samples with Exceedances - Metals



Sample I.D.:	**BH10 S1**	
Depth:	0 - 0.8 m bgs	
Sampling date:	28/08/2012	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Antimony	**8.7**	7.5
Cadmium	**6.9**	1.2
Copper	**210**	140
Lead	**1700**	120
Vanadium	**1200**	340

Sample I.D.:	**BH109 SA1**	
Depth:	0 - 0.8 m bgs	
Sampling date:	7-Nov-18	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Copper	**150**	140

Sample I.D.:	**BH110 SA1**	
Depth:	0 - 0.8 m bgs	
Sampling date:	7-Nov-18	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Cadmium	**3.5**	1.2
Lead	**160**	120
Zinc	**360**	340

Sample I.D.:	**BH112 SA1**	
Depth:	0 - 0.8 m bgs	
Sampling date:	7-Nov-18	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Cadmium	**4.9**	1.2
Lead	**510**	120
Zinc	**550**	340

Sample I.D.:	**BH115 SA2**	
Depth:	0.8 - 1.5 m bgs	
Sampling date:	8-Nov-18	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Antimony	**23**	7.5
Cadmium	**6.7**	1.2
Copper	**260**	140
Lead	**2400**	120
Zinc	**510**	340

Sample I.D.:	**BH116 SA1**	
Depth:	0 - 0.8 m bgs	
Sampling date:	8-Nov-18	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Antimony	**17**	7.5
Lead	**280**	120

Sample I.D.:	**BH117 SA1**	
Depth:	0 - 0.8 m bgs	
Sampling date:	8-Nov-18	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Cadmium	**1.4**	1.2

CLIENT: 2355440 ONTARIO INC.

SITE: 250 - 272 SPRINGBANK DRIVE, LONDON, ONTARIO

TITLE: AREA 1 SOIL SAMPLES EXCEEDING 2011 MECP TABLE 2 SCSs - METALS

EXP Services Inc.
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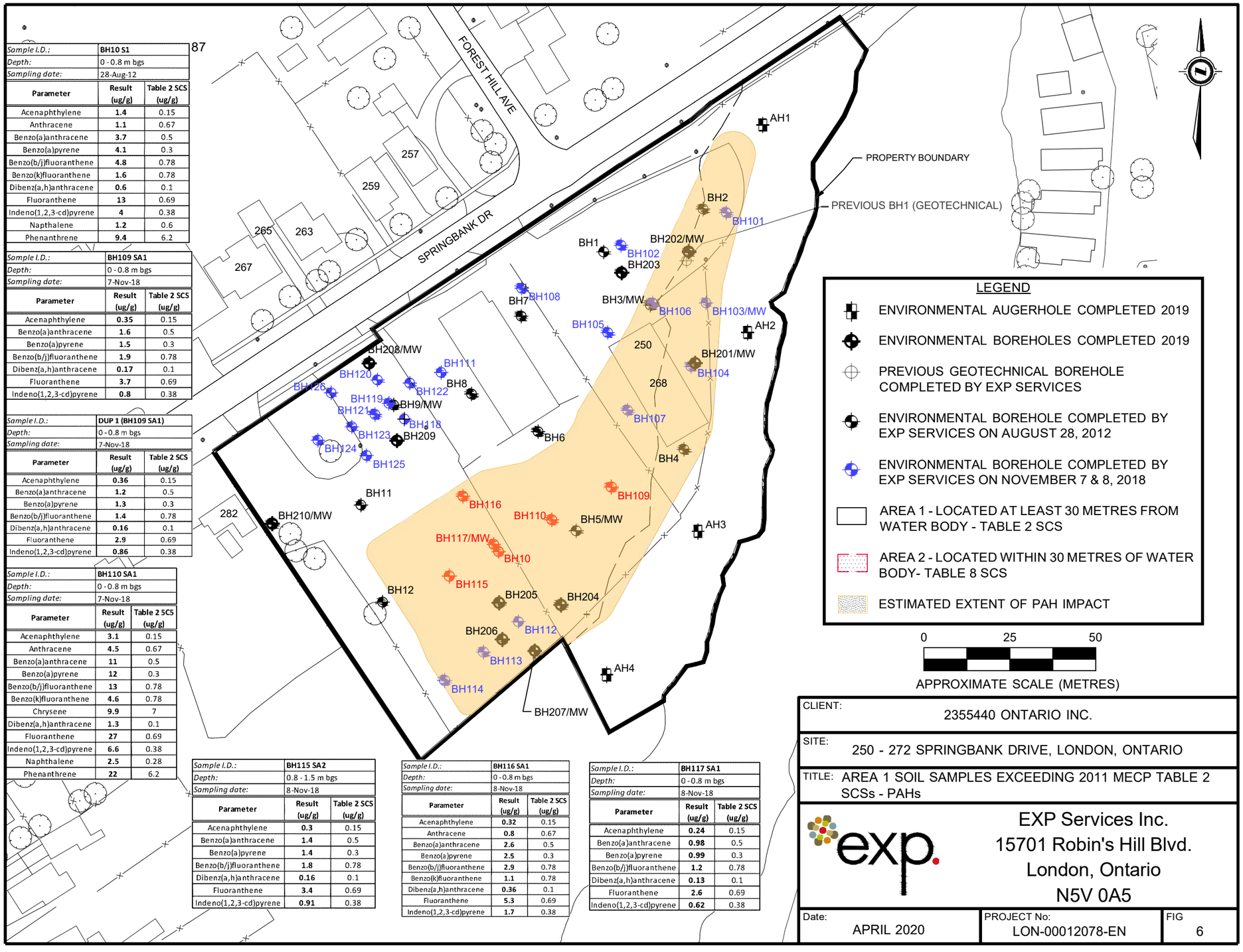
London, Ontario
N5V 0A5

Date:	PROJECT No:	FIG
APRIL 2020	LON-00012078-EN	5

Drawing 3: Samples with Exceedances - PAHs



Sample I.D.:	BH10 S1	
Depth:	0 - 0.8 m bgs	
Sampling date:	28-Aug-12	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Acenaphthylene	**1.4**	0.15
Anthracene	**1.1**	0.67
Benzo(a)anthracene	**3.7**	0.5
Benzo(a)pyrene	**4.1**	0.3
Benzo(b/j)fluoranthene	**4.8**	0.78
Benzo(k)fluoranthene	**1.6**	0.78
Dibenz(a,h)anthracene	**0.6**	0.1
Fluoranthene	**13**	0.69
Indeno(1,2,3-cd)pyrene	**4**	0.38
Napthalene	**1.2**	0.6
Phenanthrene	**9.4**	6.2

Sample I.D.:	BH109 SA1	
Depth:	0 - 0.8 m bgs	
Sampling date:	7-Nov-18	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Acenaphthylene	**0.35**	0.15
Benzo(a)anthracene	**1.6**	0.5
Benzo(a)pyrene	**1.5**	0.3
Benzo(b/j)fluoranthene	**1.9**	0.78
Dibenz(a,h)anthracene	**0.17**	0.1
Fluoranthene	**3.7**	0.69
Indeno(1,2,3-cd)pyrene	**0.8**	0.38

Sample I.D.:	DUP 1 (BH109 SA1)	
Depth:	0 - 0.8 m bgs	
Sampling date:	7-Nov-18	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Acenaphthylene	**0.36**	0.15
Benzo(a)anthracene	**1.2**	0.5
Benzo(a)pyrene	**1.3**	0.3
Benzo(b/j)fluoranthene	**1.4**	0.78
Dibenz(a,h)anthracene	**0.16**	0.1
Fluoranthene	**2.9**	0.69
Indeno(1,2,3-cd)pyrene	**0.86**	0.38

Sample I.D.:	BH110 SA1	
Depth:	0 - 0.8 m bgs	
Sampling date:	7-Nov-18	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Acenaphthylene	**3.1**	0.15
Anthracene	**4.5**	0.67
Benzo(a)anthracene	**11**	0.5
Benzo(a)pyrene	**12**	0.3
Benzo(b/j)fluoranthene	**13**	0.78
Benzo(k)fluoranthene	**4.6**	0.78
Chrysene	**9.9**	7
Dibenz(a,h)anthracene	**1.3**	0.1
Fluoranthene	**27**	0.69
Indeno(1,2,3-cd)pyrene	**6.6**	0.38
Naphthalene	**2.5**	0.28
Phenanthrene	**22**	6.2

Sample I.D.:	BH115 SA2	
Depth:	0.8 - 1.5 m bgs	
Sampling date:	8-Nov-18	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Acenaphthylene	**0.3**	0.15
Benzo(a)anthracene	**1.4**	0.5
Benzo(a)pyrene	**1.4**	0.3
Benzo(b/j)fluoranthene	**1.8**	0.78
Dibenz(a,h)anthracene	**0.16**	0.1
Fluoranthene	**3.4**	0.69
Indeno(1,2,3-cd)pyrene	**0.91**	0.38

Sample I.D.:	BH116 SA1	
Depth:	0 - 0.8 m bgs	
Sampling date:	8-Nov-18	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Acenaphthylene	**0.32**	0.15
Anthracene	**0.8**	0.67
Benzo(a)anthracene	**2.6**	0.5
Benzo(a)pyrene	**2.5**	0.3
Benzo(b/j)fluoranthene	**2.9**	0.78
Benzo(k)fluoranthene	**1.1**	0.78
Dibenz(a,h)anthracene	**0.36**	0.1
Fluoranthene	**5.3**	0.69
Indeno(1,2,3-cd)pyrene	**1.7**	0.38

Sample I.D.:	BH117 SA1	
Depth:	0 - 0.8 m bgs	
Sampling date:	8-Nov-18	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
Acenaphthylene	**0.24**	0.15
Benzo(a)anthracene	**0.98**	0.5
Benzo(a)pyrene	**0.99**	0.3
Benzo(b/j)fluoranthene	**1.2**	0.78
Dibenz(a,h)anthracene	**0.13**	0.1
Fluoranthene	**2.6**	0.69
Indeno(1,2,3-cd)pyrene	**0.62**	0.38

LEGEND

- ENVIRONMENTAL AUGERHOLE COMPLETED 2019
- ENVIRONMENTAL BOREHOLES COMPLETED 2019
- PREVIOUS GEOTECHNICAL BOREHOLE COMPLETED BY EXP SERVICES
- ENVIRONMENTAL BOREHOLE COMPLETED BY EXP SERVICES ON AUGUST 28, 2012
- ENVIRONMENTAL BOREHOLE COMPLETED BY EXP SERVICES ON NOVEMBER 7 & 8, 2018
- AREA 1 - LOCATED AT LEAST 30 METRES FROM WATER BODY - TABLE 2 SCS
- AREA 2 - LOCATED WITHIN 30 METRES OF WATER BODY- TABLE 8 SCS
- ESTIMATED EXTENT OF PAH IMPACT

0 25 50

APPROXIMATE SCALE (METRES)

CLIENT: 2355440 ONTARIO INC.

SITE: 250 - 272 SPRINGBANK DRIVE, LONDON, ONTARIO

TITLE: AREA 1 SOIL SAMPLES EXCEEDING 2011 MECP TABLE 2 SCSs - PAHs

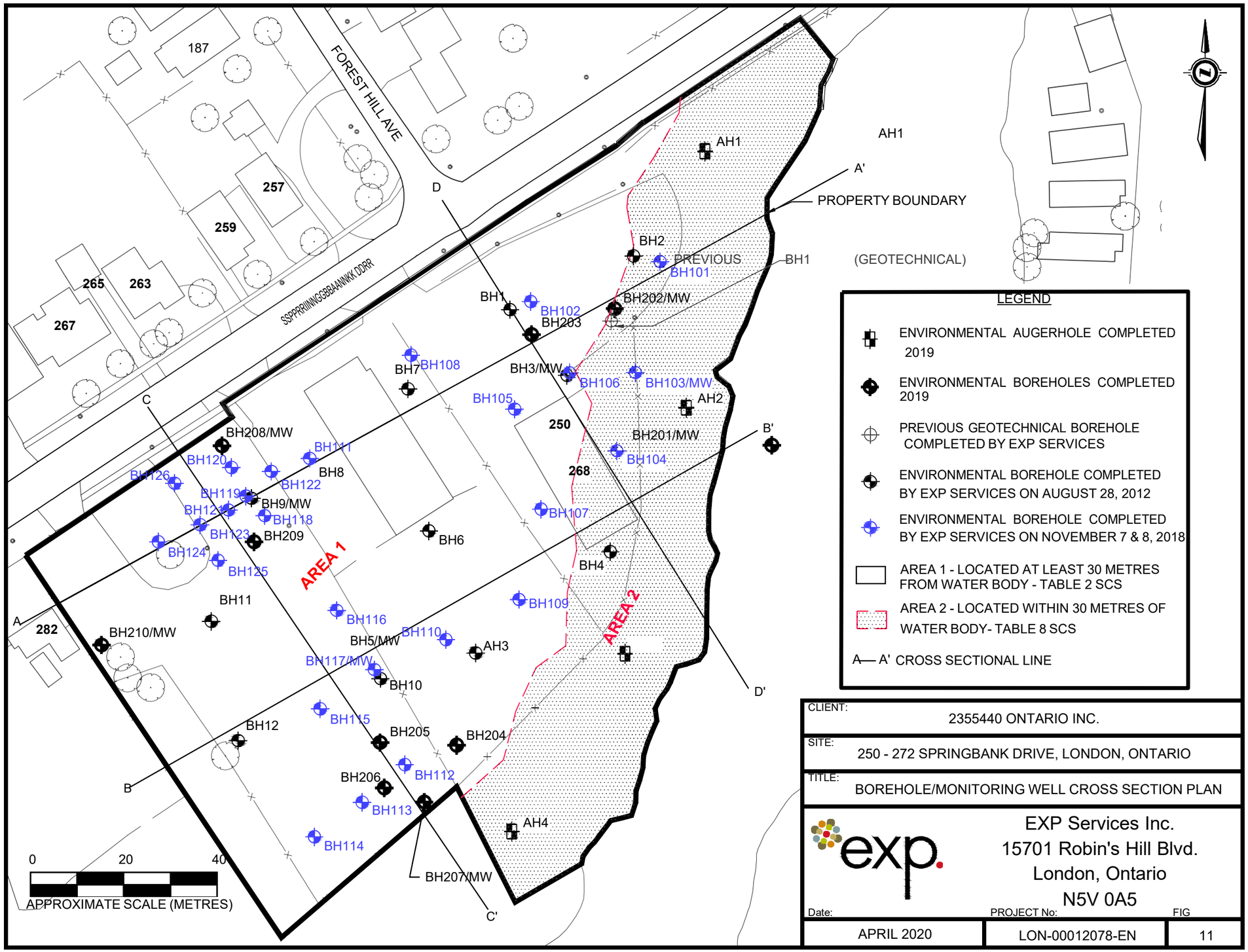
EXP Services Inc.
15701 Robin's Hill Blvd.
London, Ontario
N5V 0A5

Date: APRIL 2020

PROJECT No: LON-00012078-EN

FIG 6

Drawing 4: Cross Section Plan - Borehole and Monitoring Well



CLIENT:	2355440 ONTARIO INC.
SITE:	250 - 272 SPRINGBANK DRIVE, LONDON, ONTARIO
TITLE:	BOREHOLE/MONITORING WELL CROSS SECTION PLAN

EXP Services Inc.
15701 Robin's Hill Blvd.
London, Ontario
N5V 0A5

Date:	PROJECT No:	FIG
APRIL 2020	LON-00012078-EN	11

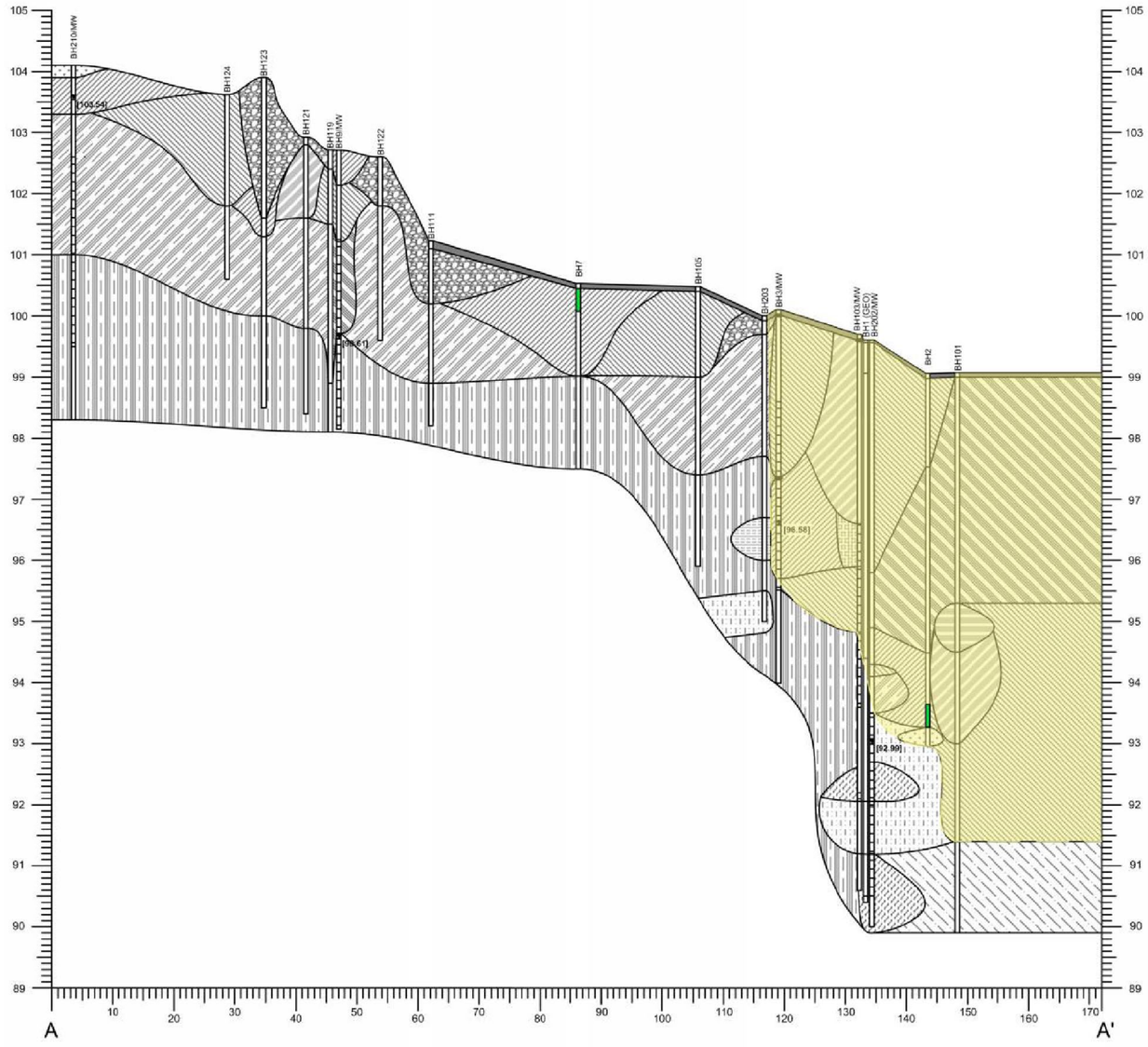
Drawing 5: Pre-Remediation Distribution - Metal and/or Organic COCs

STRATIGRAPHY LEGEND:

- ASPHALT
- TOPSOIL
- FILL - Sand
- FILL - Sand & Gravel
- FILL - Sand & Brick
- FILL - Sand & Cinders
- FILL - Silty Sand/Sandy Silt
- FILL - Silty Clay/Clayey Silt
- FILL - Clayey Silt & Cinders
- CLAYEY SILT
- CLAYEY SILT TILL
- SILT
- SANDY SILT TILL
- SILTY SAND
- SILT TILL
- SAND AND GRAVEL

LEGEND:

- Green signifies where Metals and/or Inorganics were sampled and detected in soil at concentrations below the MECP (2011) Table 2 or 8 SCS
- Yellow highlighted areas signify the estimated extent of Metals and/or Inorganic impact in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well
- [xx.xx] Groundwater elevation
- ug/g Micrograms per gram
- m bgs Metres below ground surface



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CLIENT:	2355440 ONTARIO INC.
SITE:	250-272 SPRINGBANK DRIVE, LONDON, ONTARIO
TITLE:	GEOLOGICAL CROSS-SECTION A-A' PRE REMEDIATION DISTRIBUTION OF METAL AND/OR INORGANIC COCs IN SOIL
DATE:	APRIL 2020
PROJECT No:	LON-00012078-EN
FIG	12a

Drawing 6: Pre-Remediation Distribution - PAH COCs

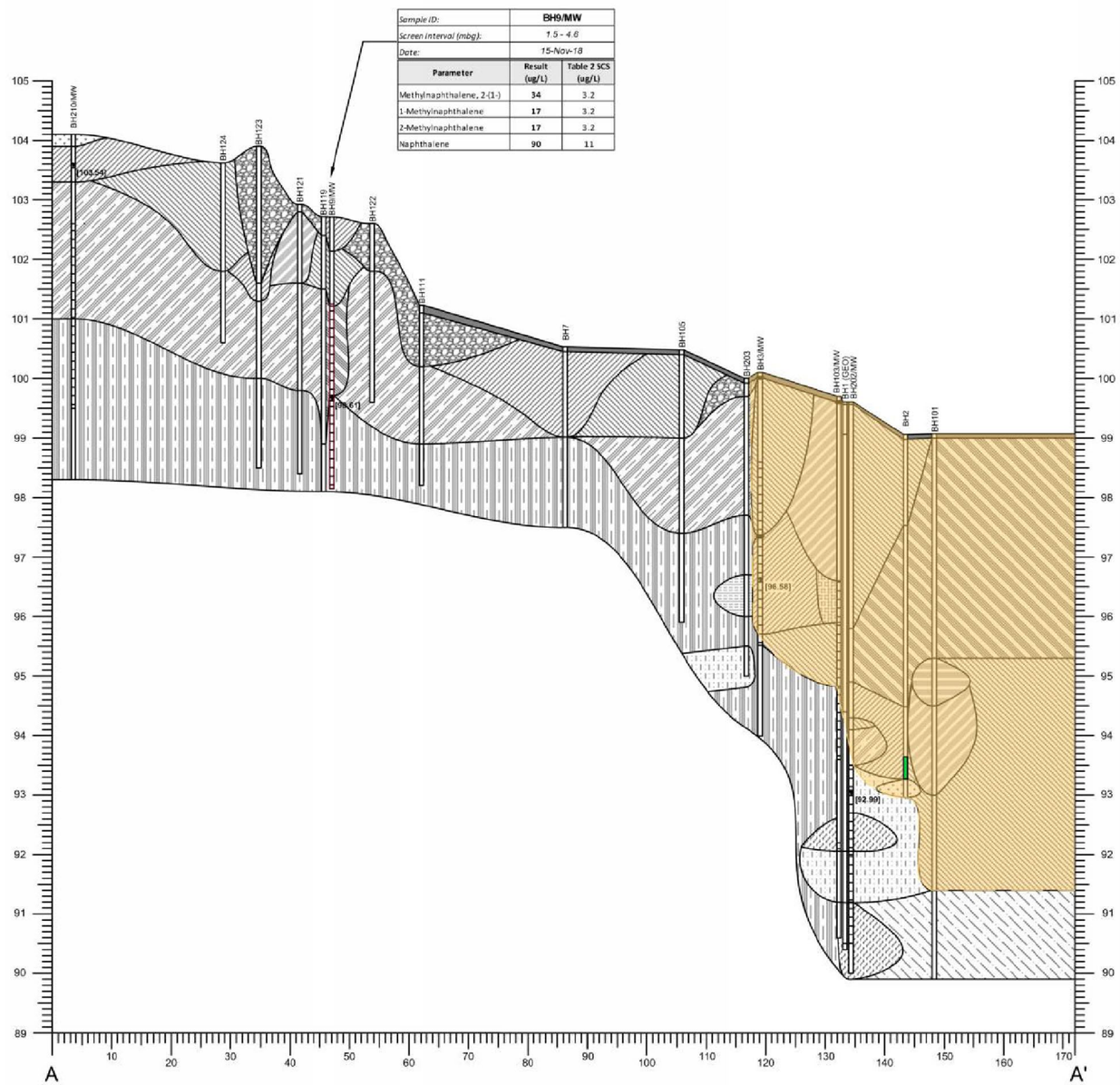
STRATIGRAPHY LEGEND:

- ASPHALT
- TOPSOIL
- FILL - Sand
- FILL - Sand & Gravel
- FILL - Sand & Brick
- FILL - Sand & Cinders
- FILL - Silty Sand/Sandy Silt
- FILL - Silty Clay/Clayey Silt
- FILL - Clayey Silt & Cinders
- CLAYEY SILT
- CLAYEY SILT TILL
- SILT
- SANDY SILT TILL
- SILTY SAND
- SILT TILL
- SAND AND GRAVEL

LEGEND:

- Green signifies where PAHs were sampled and detected in soil at concentrations below the MECP (2011) Table 2 or 8 SCS
- Orange highlighted areas signify the estimated extent of PAH impact in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where PAHs were sampled and detected in water at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well
- [xx.xx] Groundwater elevation
- ug/g Micrograms per gram
- m bgs Metres below ground surface

Sample ID:	BH9/MW	
Screen interval (mbg):	1.5 - 4.6	
Date:	15-Nov-18	
Parameter	Result (ug/L)	Table 2 SCS (ug/L)
Methylnaphthalene, 2-(1-)	34	3.2
1-Methylnaphthalene	17	3.2
2-Methylnaphthalene	17	3.2
Naphthalene	90	11



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CLIENT:	2355440 ONTARIO INC.
SITE:	250-272 SPRINGBANK DRIVE, LONDON, ONTARIO
TITLE:	GEOLOGICAL CROSS-SECTION A-A' PRE REMEDIATION DISTRIBUTION OF PAH COCs IN SOIL
DATE:	APRIL 2020
PROJECT No:	LON-00012078-EN
FIG	12b

Drawing 7: Pre-Remediation Distribution - VOC, BTEX and/or PHC COCs

STRATIGRAPHYLEGEND:

- ASPHALT
- TOPSOIL
- FILL - Sand
- FILL - Sand & Gravel
- FILL - Sand & Brick
- FILL - Sand & Cinders
- FILL - Silty Sand/Sandy Silt
- FILL - Silty Clay/Clayey Silt
- FILL - Clayey Silt & Cinders
- CLAYEY SILT
- CLAYEY SILT TILL
- SILT
- SANDY SILT TILL
- SILTY SAND
- SILT TILL
- SAND AND GRAVEL

LEGEND:

- Red signifies where VOCs, BTEX and/or PHCs were detected in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Green signifies where VOCs, BTEX and/or PHCs were sampled and detected in soil at concentrations below the MECP (2011) Table 2 or 8 SCS
- Pink highlighted areas signify the estimated extent of VOCs, BTEX and/or PHC impact in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where VOCs, BTEX and/or PHCs were detected in water at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where VOCs, BTEX and/or PHCs were sampled and detected in water at concentrations below the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where VOCs, BTEX and/or PHCs were sampled and detected in water at concentrations below the MECP (2011) Table 2 or 8 SCS

[xx.xx] Groundwater elevation
ug/g Micrograms per gram
m bgs Metres below ground surface

Sample I.D.:	BH123 SA4	
Depth:	2.3 - 3.0 m bgs	
Sampling date:	8-Nov-18	
Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Ethylbenzene	2	1.1
Total Xylenes	9.2	3.1

Sample I.D.:	BH123 SA6	
Depth:	3.8 - 4.6 m bgs	
Sampling date:	8-Nov-18	
Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Benzene	0.24	0.21

Sample I.D.:	BH9 S1	
Depth:	0 - 0.8 m bgs	
Sampling date:	28-Aug-12	
Parameter	Result (ug/g)	Table 2 SCS (ug/g)
PHC Fraction 1	66	55
PHC Fraction 2	300	98
PHC Fraction 3	430	300

Sample I.D.:	BH9 S2	
Depth:	0.8 - 1.5 m bgs	
Sampling date:	28-Aug-12	
Parameter	Result (ug/g)	Table 2 SCS (ug/g)
PHC Fraction 2	140	98

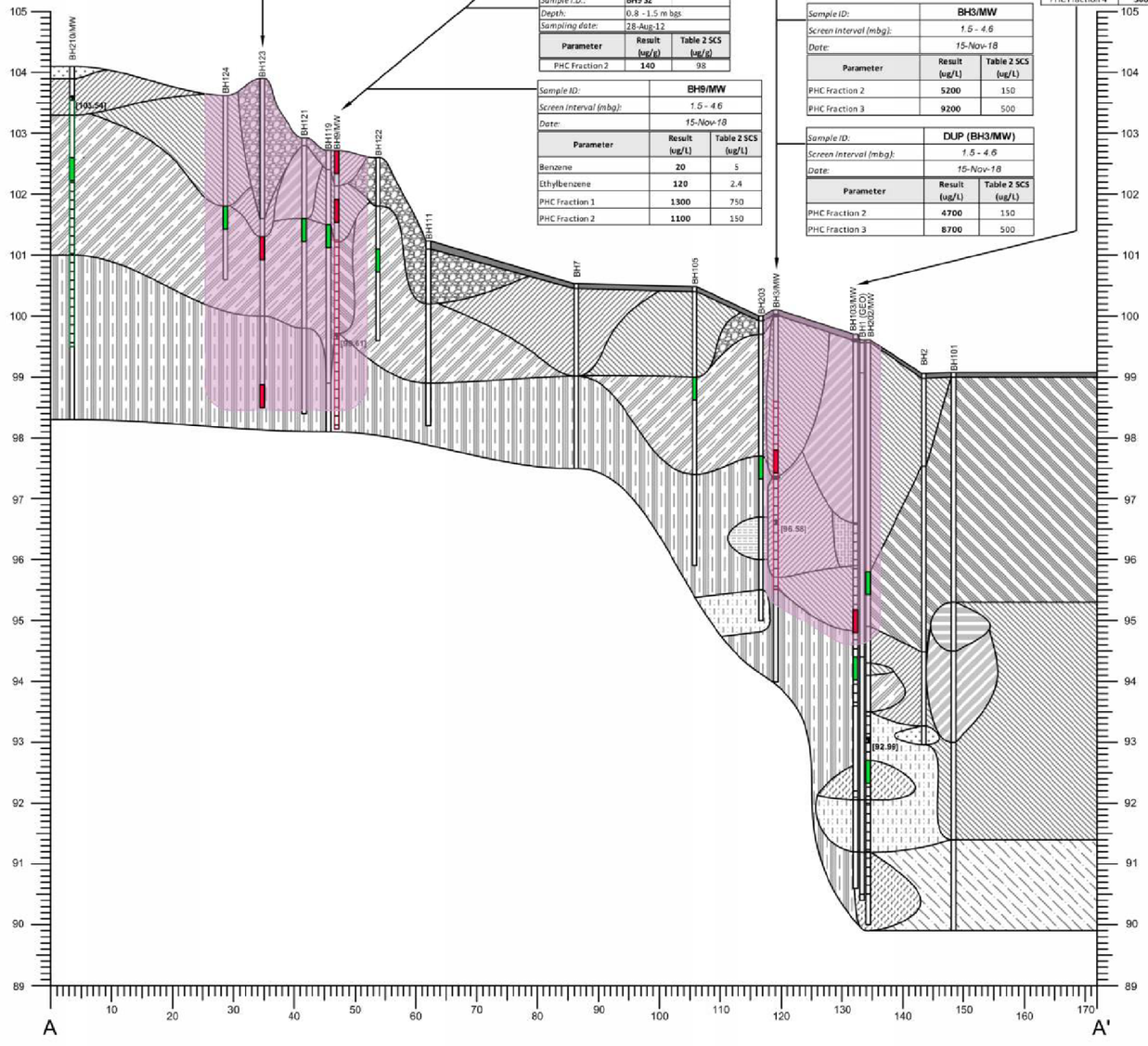
Sample ID:	BH9/MW	
Screen Interval (mbg):	1.5 - 4.6	
Date:	15-Nov-18	
Parameter	Result (ug/L)	Table 2 SCS (ug/L)
Benzene	20	5
Ethylbenzene	120	2.4
PHC Fraction 1	1300	750
PHC Fraction 2	1100	150

Sample I.D.:	BH3 S4	
Depth:	2.3 - 3.0 m bgs	
Sampling date:	28/08/2012	
Parameter	Result (ug/g)	Table 2 SCS (ug/g)
PHC Fraction 1	280	55
PHC Fraction 2	970	98
PHC Fraction 3	610	300

Sample ID:	BH3/MW	
Screen Interval (mbg):	1.5 - 4.6	
Date:	15-Nov-18	
Parameter	Result (ug/L)	Table 2 SCS (ug/L)
PHC Fraction 2	5200	150
PHC Fraction 3	9200	500

Sample ID:	DUP (BH3/MW)	
Screen Interval (mbg):	1.5 - 4.6	
Date:	15-Nov-18	
Parameter	Result (ug/L)	Table 2 SCS (ug/L)
PHC Fraction 2	4700	150
PHC Fraction 3	8700	500

Sample I.D.:	BH103 SA6	
Depth:	3.8 -4.6 m bgs	
Sampling date:	28/07/2012	
Parameter	Result (ug/g)	Table 8 SCS (ug/g)
Benzene	0.032	0.02
Total Xylnes	0.14	0.05
PHC Fraction 2	140	10
PHC Fraction 3	960	240
PHC Fraction 4	300	120



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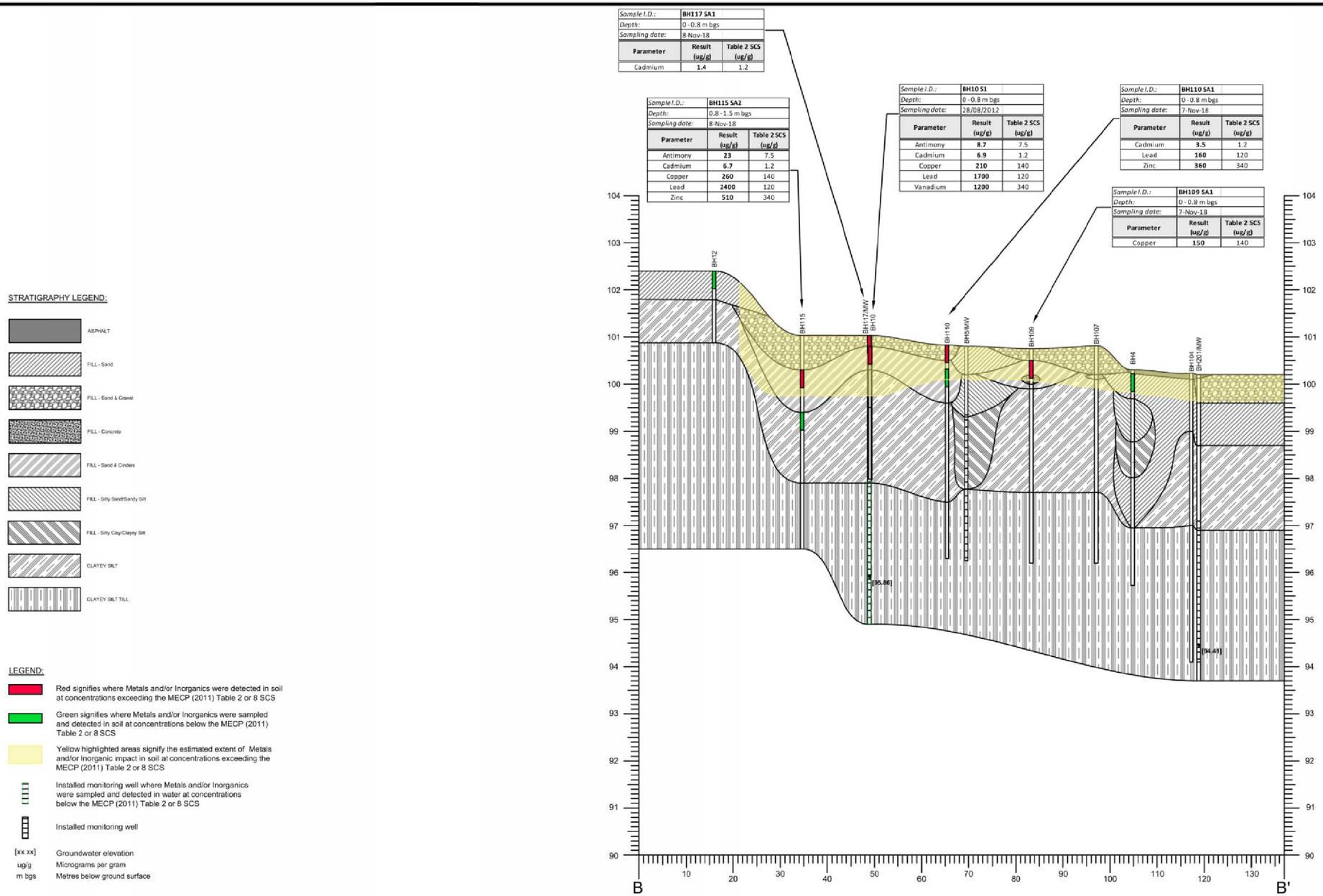
15701 Robin's Hill Blvd
London, Ontario
N5V 0A5

CLIENT:	2355440 ONTARIO INC.
SITE:	250-272 SPRINGBANK DRIVE, LONDON, ONTARIO
TITLE:	GEOLOGICAL CROSS-SECTION A-A' PRE REMEDIATION DISTRIBUTION OF VOC, BTEX AND/OR PHC COCs IN SOIL
DATE:	APRIL 2020
PROJECT No:	LON-00012078-EN
FIG	12c

Drawing 8: Pre-Remediation Distribution - Metal and/or Organic COC



EXP Services Inc. 15701 Robin's Hill Blvd London, Ontario N5V 0A5	CLIENT: 2355440 ONTARIO INC.		
	SITE: 250-272 SPRINGBANK DRIVE, LONDON, ONTARIO		
	TITLE: GEOLOGICAL CROSS-SECTION B-B' PRE REMEDIATION DISTRIBUTION OF METAL AND/OR INORGANIC COCs IN SOIL		
	DATE: APRIL 2020	PROJECT No: LON-00012078-EN	FIG 13a

Drawing 9: Pre-Remediation Distribution - PAH COCs

Sample I.D.:	**BH115 SA2**
Depth:	0.8 -1.5 m bgs
Sampling date:	8-Nov-18

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Acenaphthylene	**0.3**	0.15
Benzo(a)anthracene	**1.4**	0.5
Benzo(a)pyrene	**1.4**	0.3
Benzo(b/j)fluoranthene	**1.8**	0.78
Dibenz(a,h)anthracene	**0.16**	0.1
Fluoranthene	**3.4**	0.69
Indeno(1,2,3-cd)pyrene	**0.91**	0.38

Sample I.D.:	**BH117 SA1**
Depth:	0 - 0.8 m bgs
Sampling date:	8-Nov-18

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Acenaphthylene	**0.24**	0.15
Benzo(a)anthracene	**0.98**	0.5
Benzo(a)pyrene	**0.99**	0.3
Benzo(b/j)fluoranthene	**1.2**	0.78
Dibenz(a,h)anthracene	**0.13**	0.1
Fluoranthene	**2.6**	0.69
Indeno(1,2,3-cd)pyrene	**0.62**	0.38

Sample I.D.:	**BH10 S1**
Depth:	0 - 0.8 m bgs
Sampling date:	28-Aug-12

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Acenaphthylene	**1.4**	0.15
Anthracene	**1.1**	0.67
Benzo(a)anthracene	**3.7**	0.5
Benzo(a)pyrene	**4.1**	0.3
Benzo(b/j)fluoranthene	**4.8**	0.78
Benzo(k)fluoranthene	**1.6**	0.78
Dibenz(a,h)anthracene	**0.6**	0.1
Flucranthene	**13**	0.69
Indeno(1,2,3-cd)pyrene	**4**	0.38
Napthalene	**1.2**	0.6
Phenanthrene	**9.4**	6.2

Sample I.D.:	**BH110 SA1**
Depth:	0 - 0.8 m bgs
Sampling date:	7-Nov-18

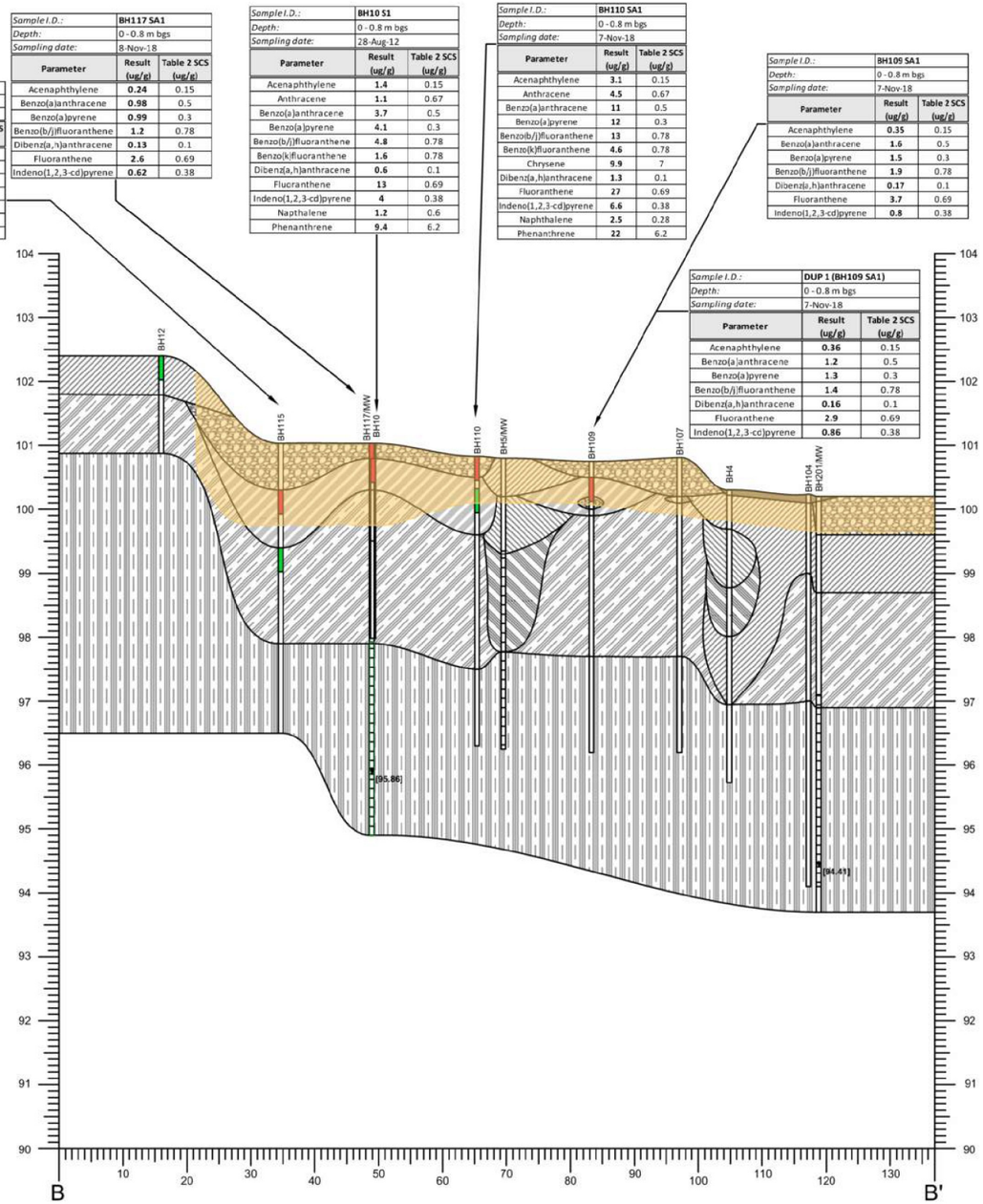
Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Acenaphthylene	**3.1**	0.15
Anthracene	**4.5**	0.67
Benzo(a)anthracene	**11**	0.5
Benzo(a)pyrene	**12**	0.3
Benzo(b/j)fluoranthene	**13**	0.78
Benzo(k)fluoranthene	**4.6**	0.78
Chrysene	**9.9**	7
Dibenz(a,h)anthracene	**1.3**	0.1
Fluoranthene	**27**	0.69
Indeno(1,2,3-cd)pyrene	**6.6**	0.38
Naphthalene	**2.5**	0.28
Phenanthrene	**22**	6.2

Sample I.D.:	**BH109 SA1**
Depth:	0 - 0.8 m bgs
Sampling date:	7-Nov-18

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Acenaphthylene	**0.35**	0.15
Benzo(a)anthracene	**1.6**	0.5
Benzo(a)pyrene	**1.5**	0.3
Benzo(b/j)fluoranthene	**1.9**	0.78
Dibenz(a,h)anthracene	**0.17**	0.1
Fluoranthene	**3.7**	0.69
Indeno(1,2,3-cd)pyrene	**0.8**	0.38

Sample I.D.:	**DUP 1 (BH109 SA1)**
Depth:	0 - 0.8 m bgs
Sampling date:	7-Nov-18

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Acenaphthylene	**0.36**	0.15
Benzo(a)anthracene	**1.2**	0.5
Benzo(a)pyrene	**1.3**	0.3
Benzo(b/j)fluoranthene	**1.4**	0.78
Dibenz(a,h)anthracene	**0.16**	0.1
Fluoranthene	**2.9**	0.69
Indeno(1,2,3-cc)pyrene	**0.86**	0.38



STRATIGRAPHY LEGEND:

- ASPHALT
- FILL - Sand
- FILL - Sand & Gravel
- FILL - Concrete
- FILL - Sand & Cinders
- FILL - Silty Sand/Sandy Silt
- FILL - Silty Clay/Clayey Silt
- CLAYEY SILT
- CLAYEY SILT TILL

LEGEND:

- Red signifies where PAHs were detected in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Green signifies where PAHs were sampled and detected in soil at concentrations below the MECP (2011) Table 2 or 8 SCS
- Orange highlighted areas signify the estimated extent of PAH impact in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where PAHs were sampled and detected in water at concentrations below the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well
- [xx.xx] Groundwater elevation
- ug/g Micrograms per gram
- m bgs Metres below ground surface

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15701 Robin's Hill Blvd
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CLIENT:	2355440 ONTARIO INC.
SITE:	250-272 SPRINGBANK DRIVE, LONDON, ONTARIO
TITLE:	GEOLOGICAL CROSS-SECTION B-B' PRE REMEDIATION DISTRIBUTION OF PAH COCs IN SOIL
DATE:	APRIL 2020
PROJECT No:	LON-00012078-EN
FIG	13b

Drawing 10: Pre-Remediation Distribution - VOC, BTEX and/or PHC COCs

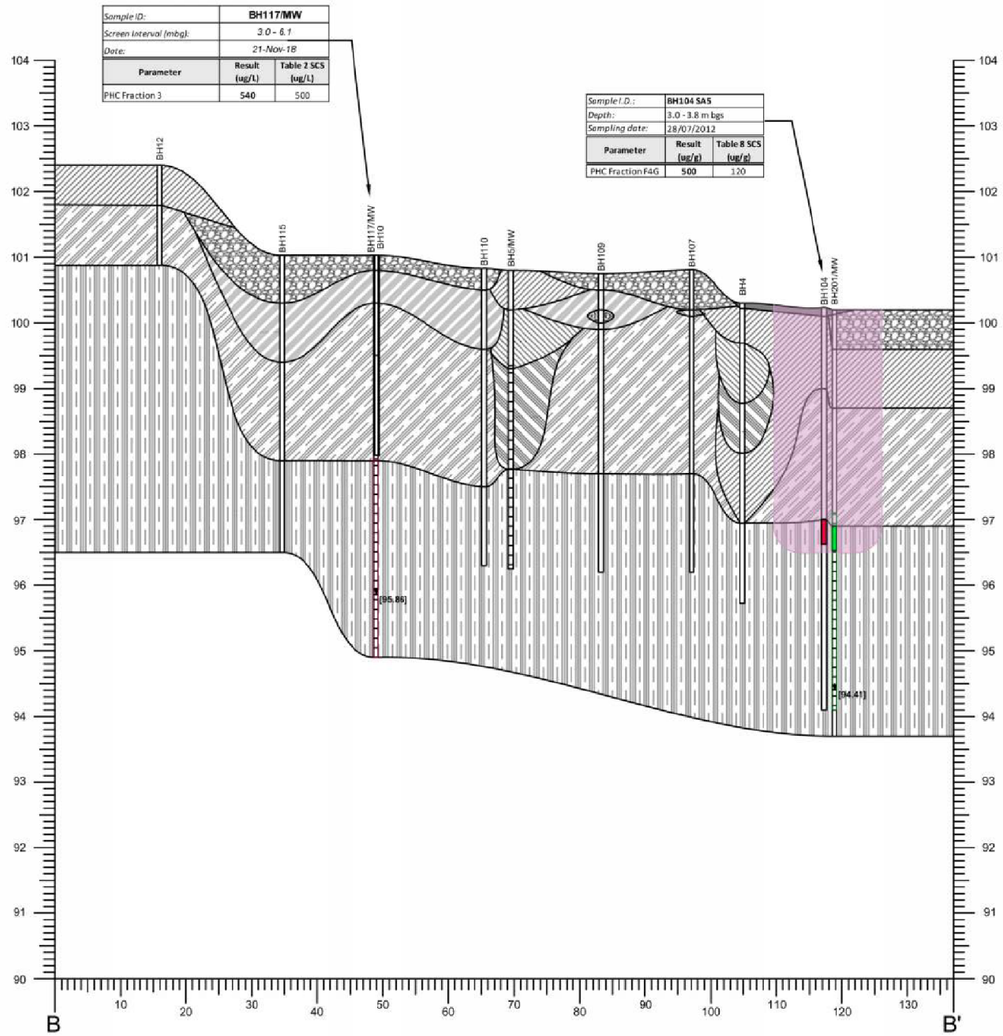
STRATIGRAPHY LEGEND:

- ASPHALT
- FILL - Sand
- FILL - Sand & Gravel
- FILL - Concrete
- FILL - Sand & Cinders
- FILL - Silty Sand/Sandy Silt
- FILL - Silty Clay/Clayey Silt
- CLAYEY SILT
- CLAYEY SILT TILL

LEGEND:

- Red signifies where VOCs, BTEX and/or PHCs were detected in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Green signifies where VOCs, BTEX and/or PHCs were sampled and detected in soil at concentrations below the MECP (2011) Table 2 or 8 SCS
- Pink highlighted areas signify the estimated extent of VOCs, BTEX and/or PHC impact in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where VOCs, BTEX and/or PHCs were detected in water at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where VOCs, BTEX and/or PHCs were sampled and detected in water at concentrations below the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where VOCs, BTEX and/or PHCs were sampled and detected in water at concentrations below the MECP (2011) Table 2 or 8 SCS

[xx.xx] Groundwater elevation
ug/g Micrograms per gram
m bgs Metres below ground surface



EXP Services Inc.
15701 Robin's Hill Blvd
London, Ontario
N5V 0A5

CLIENT: 2355440 ONTARIO INC.		
SITE: 250-272 SPRINGBANK DRIVE, LONDON, ONTARIO		
TITLE: GEOLOGICAL CROSS-SECTION B-B' PRE REMEDIATION DISTRIBUTION OF VOC, BTEX AND/OR PHC COCs IN SOIL		
DATE: APRIL 2020	PROJECT No: LON-00012078-EN	FIG 13c

Drawing 11: Pre-Remediation Distribution - Metal and/or Inorganic COCs

STRATIGRAPHY LEGEND:

- ASPHALT
- TOPSOIL
- FILL - Sand
- FILL - Sand & Gravel
- FILL - Sand & Cinders
- FILL - Silty Sand/Sandy Silt
- FILL - Silty Clay/Clayey Silt
- FILL - Clayey Silt & Cinders
- CLAYEY SILT
- CLAYEY SILT TILL
- SILT
- SILT TILL
- SANDY SILT TILL
- SILTY SAND/SANDY SILT

LEGEND:

- Red signifies where Metals and/or Inorganics were detected in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Green signifies where Metals and/or Inorganics were sampled and detected in soil at concentrations below the MECP (2011) Table 2 or 8 SCS
- Yellow highlighted areas signify the estimated extent of Metals and/or Inorganic impact in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where Metals and/or Inorganics were sampled and detected in water at concentrations below the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well
- [xx.xx] Groundwater elevation
- ug/g Micrograms per gram
- m bgs Metres below ground surface

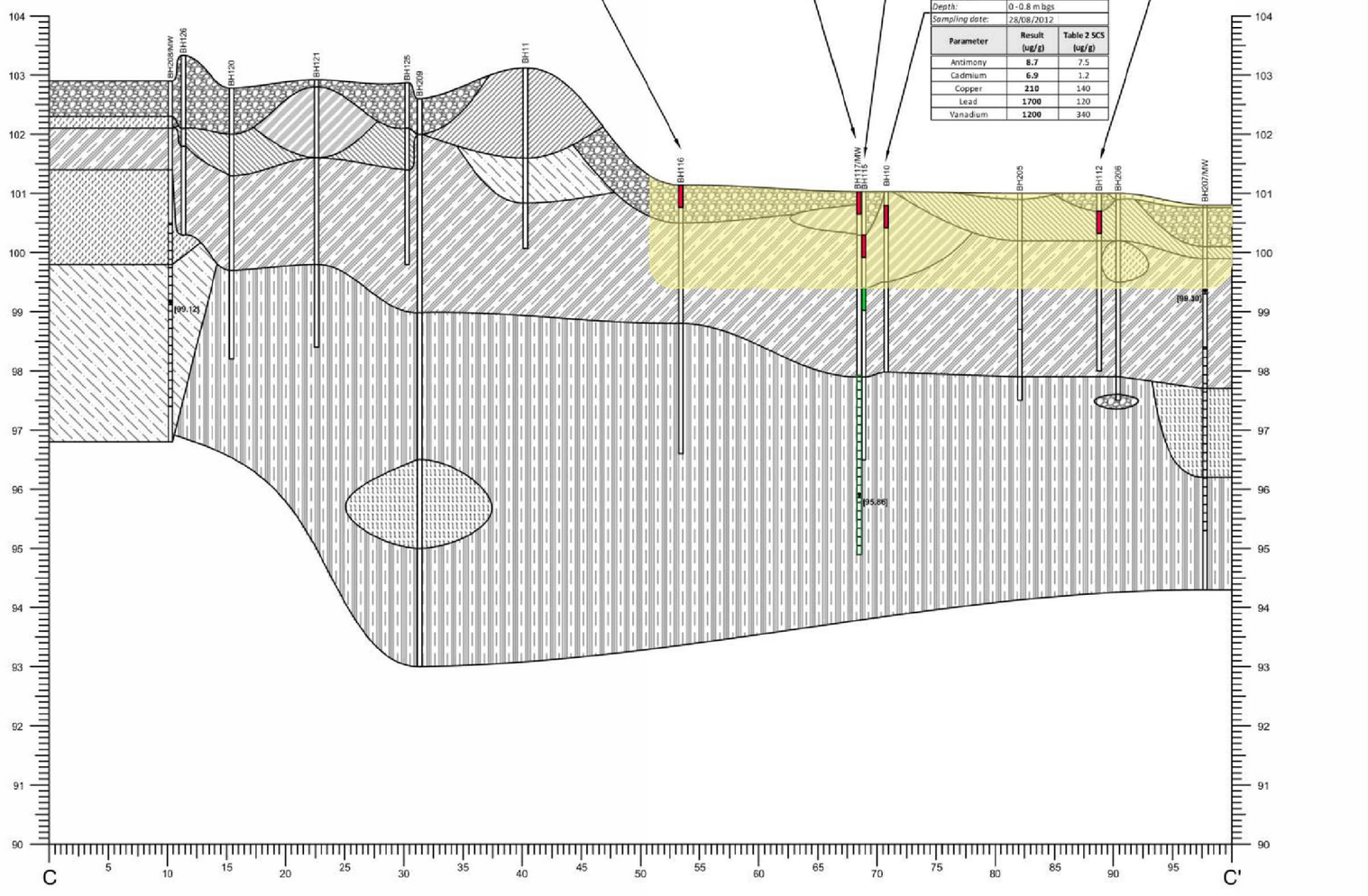
Sample I.D.:	BH116 SA1	
Depth:	0 - 0.8 m bgs	
Sampling date:	8-Nov-18	
Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Antimony	17	7.5
Lead	280	120

Sample I.D.:	BH117 SA1	
Depth:	0 - 0.8 m bgs	
Sampling date:	8-Nov-18	
Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Cadmium	1.4	1.2

Sample I.D.:	BH115 SA2	
Depth:	0.8 - 1.5 m bgs	
Sampling date:	8-Nov-18	
Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Antimony	23	7.5
Cadmium	6.7	1.2
Copper	260	140
Lead	2400	120
Zinc	510	340

Sample I.D.:	BH10 S1	
Depth:	0 - 0.8 m bgs	
Sampling date:	28/08/2012	
Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Antimony	8.7	7.5
Cadmium	6.9	1.2
Copper	210	140
Lead	1700	120
Vanadium	1200	340

Sample I.D.:	BH112 SA1	
Depth:	0 - 0.8 m bgs	
Sampling date:	7-Nov-18	
Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Cadmium	4.9	1.2
Lead	510	120
Zinc	550	340



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CLIENT: 2355440 ONTARIO INC.		
SITE: 250-272 SPRINGBANK DRIVE, LONDON, ONTARIO		
TITLE: GEOLOGICAL CROSS-SECTION C-C' PRE REMEDIATION DISTRIBUTION OF METAL AND/OR INORGANIC COCs IN SOIL		
DATE: APRIL 2020	PROJECT No: LON-00012078-EN	FIG 14a

Drawing 12: Pre-Remediation Distribution - PAH COCs

STRATIGRAPHY LEGEND:

- ASPHALT
- TOPSOIL
- FILL - Sand
- FILL - Sand & Gravel
- FILL - Sand & Cinders
- FILL - Silty Sand/Sandy Silt
- FILL - Silty Clay/Clayey Silt
- FILL - Clayey Silt & Cinders
- CLAYEY SILT
- CLAYEY SILT TILL
- SILT
- SILT TILL
- SANDY SILT TILL
- SILTY SAND/SANDY SILT

LEGEND:

- Red signifies where PAHs were detected in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Green signifies where PAHs were sampled and detected in soil at concentrations below the MECP (2011) Table 2 or 8 SCS
- Orange highlighted areas signify the estimated extent of PAH impact in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where PAHs were sampled and detected in water at concentrations below the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well
- [xx.xx] Groundwater elevation
- ug/g Micrograms per gram
- m bgs Metres below ground surface

Sample I.D.:	BH116 SA1
Depth:	0 - 0.8 m bgs
Sampling date:	8-Nov-18

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Acenaphthylene	**0.32**	0.15
Anthracene	**0.8**	0.67
Benzo(a)anthracene	**2.6**	0.5
Benzo(a)pyrene	**2.5**	0.3
Benzo(b/j)fluoranthene	**2.9**	0.78
Benzo(k)fluoranthene	**1.1**	0.78
Dibenz(a,h)anthracene	**0.36**	0.1
Fluoranthene	**5.3**	0.69
Indeno(1,2,3-cd)pyrene	**1.7**	0.38

Sample I.D.:	BH117 SA1
Depth:	0 - 0.8 m bgs
Sampling date:	8-Nov-18

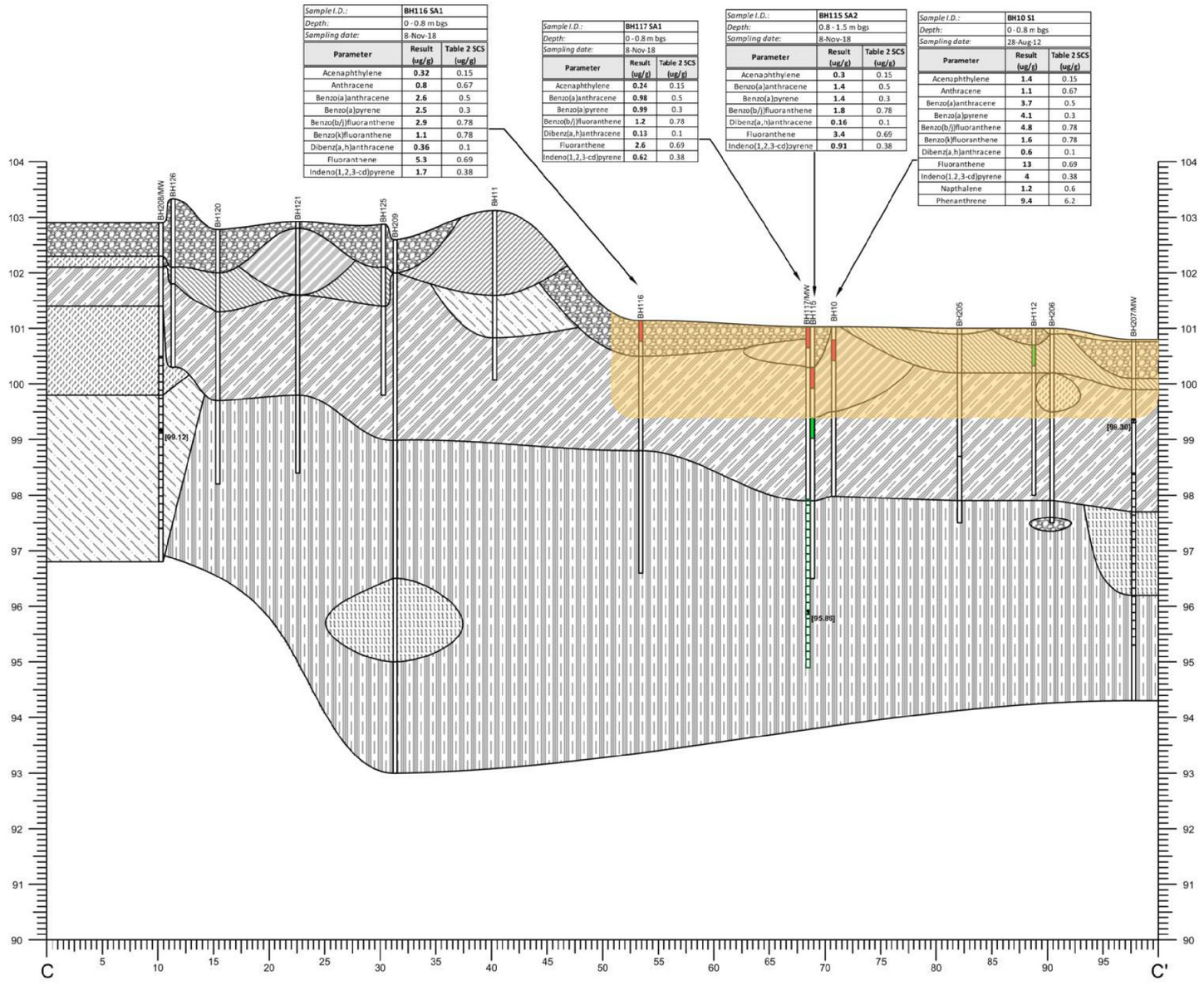
Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Acenaphthylene	**0.24**	0.15
Benzo(a)anthracene	**0.98**	0.5
Benzo(a)pyrene	**0.99**	0.3
Benzo(b/j)fluoranthene	**1.2**	0.78
Dibenz(a,h)anthracene	**0.13**	0.1
Fluoranthene	**2.6**	0.69
Indeno(1,2,3-cd)pyrene	**0.62**	0.38

Sample I.D.:	BH115 SA2
Depth:	0.8 - 1.5 m bgs
Sampling date:	8-Nov-18

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Acenaphthylene	**0.3**	0.15
Benzo(a)anthracene	**1.4**	0.5
Benzo(a)pyrene	**1.4**	0.3
Benzo(b/j)fluoranthene	**1.8**	0.78
Dibenz(a,h)anthracene	**0.16**	0.1
Fluoranthene	**3.4**	0.69
Indeno(1,2,3-cd)pyrene	**0.91**	0.38

Sample I.D.:	BH10 S1
Depth:	0 - 0.8 m bgs
Sampling date:	28-Aug-12

Parameter	Result (ug/g)	Table 2 SCS (ug/g)
Acenaphthylene	**1.4**	0.15
Anthracene	**1.1**	0.67
Benzo(a)anthracene	**3.7**	0.5
Benzo(a)pyrene	**4.1**	0.3
Benzo(b/j)fluoranthene	**4.8**	0.78
Benzo(k)fluoranthene	**1.6**	0.78
Dibenz(a,h)anthracene	**0.6**	0.1
Fluoranthene	**13**	0.69
Indeno(1,2,3-cd)pyrene	**4**	0.38
Napthalene	**1.2**	0.6
Phenanthrene	**9.4**	6.2



EXP Services Inc.
15701 Robin's Hill Blvd
London, Ontario
N5V 0A5

CLIENT: 2355440 ONTARIO INC.		
SITE: 250-272 SPRINGBANK DRIVE, LONDON, ONTARIO		
TITLE: GEOLOGICAL CROSS-SECTION C-C' PRE REMEDIATION DISTRIBUTION OF PAH COCs IN SOIL		
DATE: APRIL 2020	PROJECT No: LON-00012078-EN	FIG 14b

Drawing 13: Pre-Remediation Distribution - VOC, BTEX and/or PHC COCs

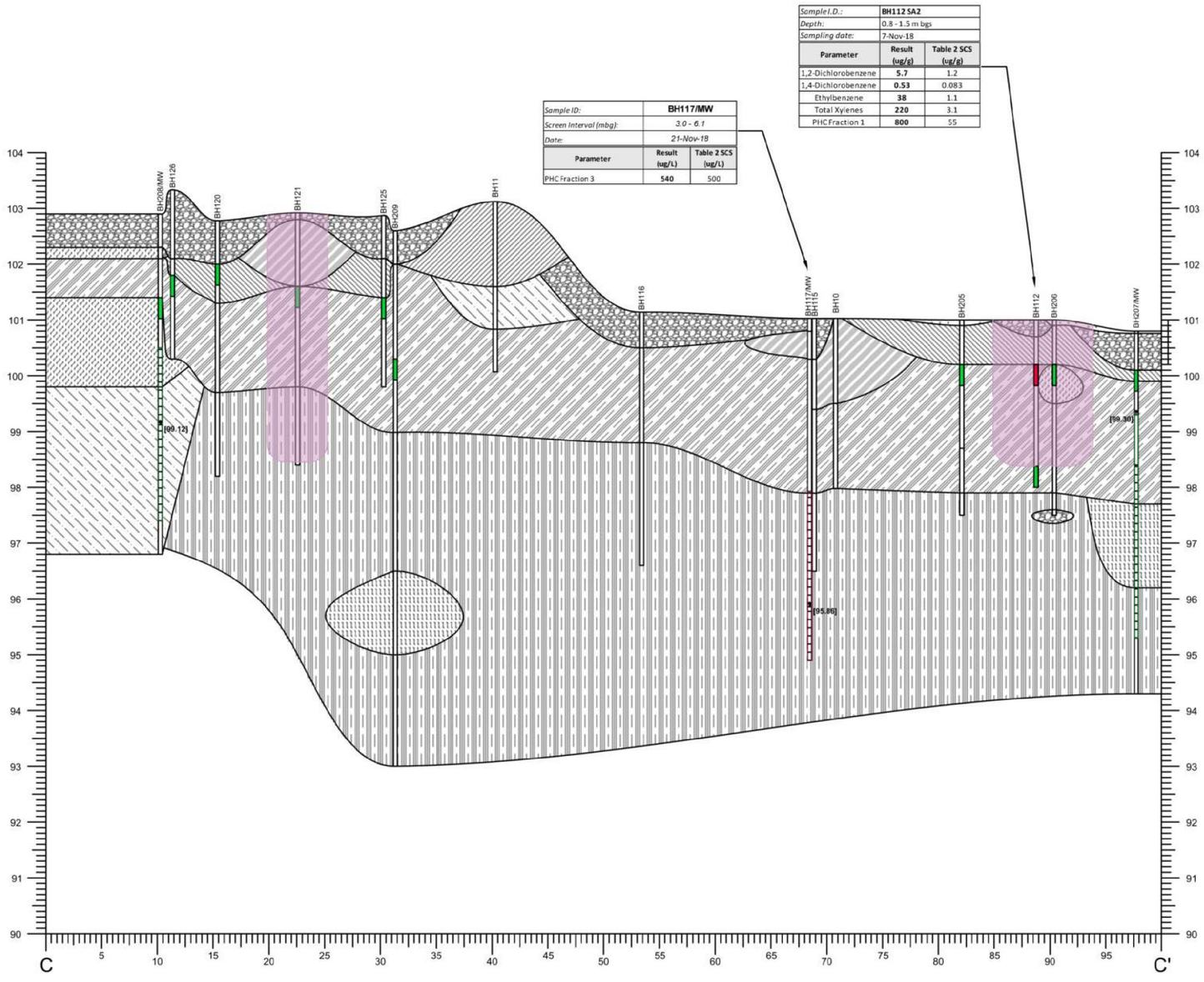
STRATIGRAPHY LEGEND:

- ASPHALT
- TOPSOIL
- FILL - Sand
- FILL - Sand & Gravel
- FILL - Sand & Cinders
- FILL - Silty Sand/Sandy Silt
- FILL - Silty Clay/Clayey Silt
- FILL - Clayey Silt & Cinders
- CLAYEY SILT
- CLAYEY SILT TILL
- SILT
- SILT TILL
- SANDY SILT TILL
- SILTY SAND/SANDY SILT

LEGEND:

- Red signifies where VOCs, BTEX and/or PHCs were detected in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Green signifies where VOCs, BTEX and/or PHCs were sampled and detected in soil at concentrations below the MECP (2011) Table 2 or 8 SCS
- Pink highlighted areas signify the estimated extent of VOCs, BTEX and/or PHC impact in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where VOCs, BTEX and/or PHCs were detected in water at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where VOCs, BTEX and/or PHCs were sampled and detected in water at concentrations below the MECP (2011) Table 2 or 8 SCS

[xx.xx] Groundwater elevation
ug/g Micrograms per gram
m bgs Metres below ground surface



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15701 Robin's Hill Blvd
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N5V 0A5

CLIENT:	2355440 ONTARIO INC.
SITE:	250-272 SPRINGBANK DRIVE, LONDON, ONTARIO
TITLE:	GEOLOGICAL CROSS-SECTION C-C' PRE REMEDIATION DISTRIBUTION OF VOC, BTEX AND/OR PHC COCs IN SOIL
DATE:	APRIL 2020
PROJECT No:	LON-00012078-EN
FIG	14c

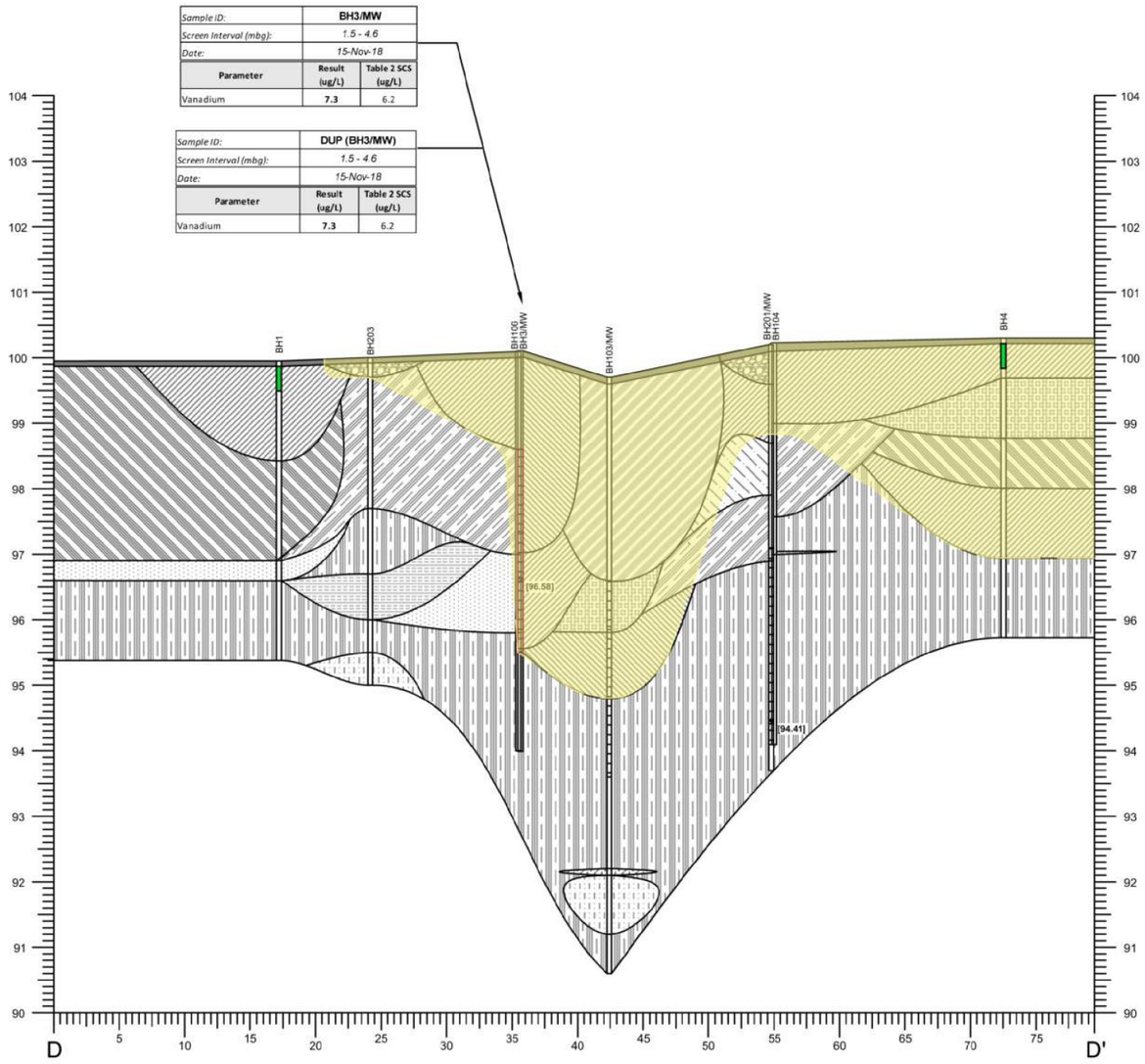
Drawing 14: Pre-Remediation Distribution - Metal and/or Inorganic COCs

STRATIGRAPHY LEGEND:

- ASPHALT
- TOPSOIL
- FILL - Sand
- FILL - Sand & Brick
- FILL - Sand & Gravel
- FILL - Sand & Cinders
- FILL - Silty Sand/Sandy Silt
- FILL - Silty Clay/Clayey Silt
- FILL - Clayey Silt & Cinders
- CLAYEY SILT
- CLAYEY SILT TILL
- SILT
- SILT TILL
- SANDY SIL" TILL
- SILTY SAND/SANDY SILT
- SAND
- SAND AND GRAVEL

LEGEND:

- Green signifies where Metals and/or Inorganics were sampled and detected in soil at concentrations below the MECP (2011) Table 2 or 8 SCS
- Yellow highlighted areas signify the estimated extent of Metals and/or Inorganic impact in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where Metals and/or Inorganics were sampled and detected in water at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well
- [xx.xx] Groundwater elevation
- ug/g Micrograms per gram
- m bgs Metres below ground surface



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15701 Robin's Hill Blvd
London, Ontario
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CLIENT:	2355440 ONTARIO INC.
SITE:	250-272 SPRINGBANK DRIVE, LONDON, ONTARIO
TITLE:	GEOLOGICAL CROSS-SECTION D-D' PRE REMEDIATION DISTRIBUTION OF METAL AND/OR INORGANIC COCs IN SOIL
DATE:	APRIL 2020
PROJECT No:	LON-00012078-EN
FIG	15a

Drawing 15: Pre-Remediation Distribution - PAH COCs

STRATIGRAPHY LEGEND:

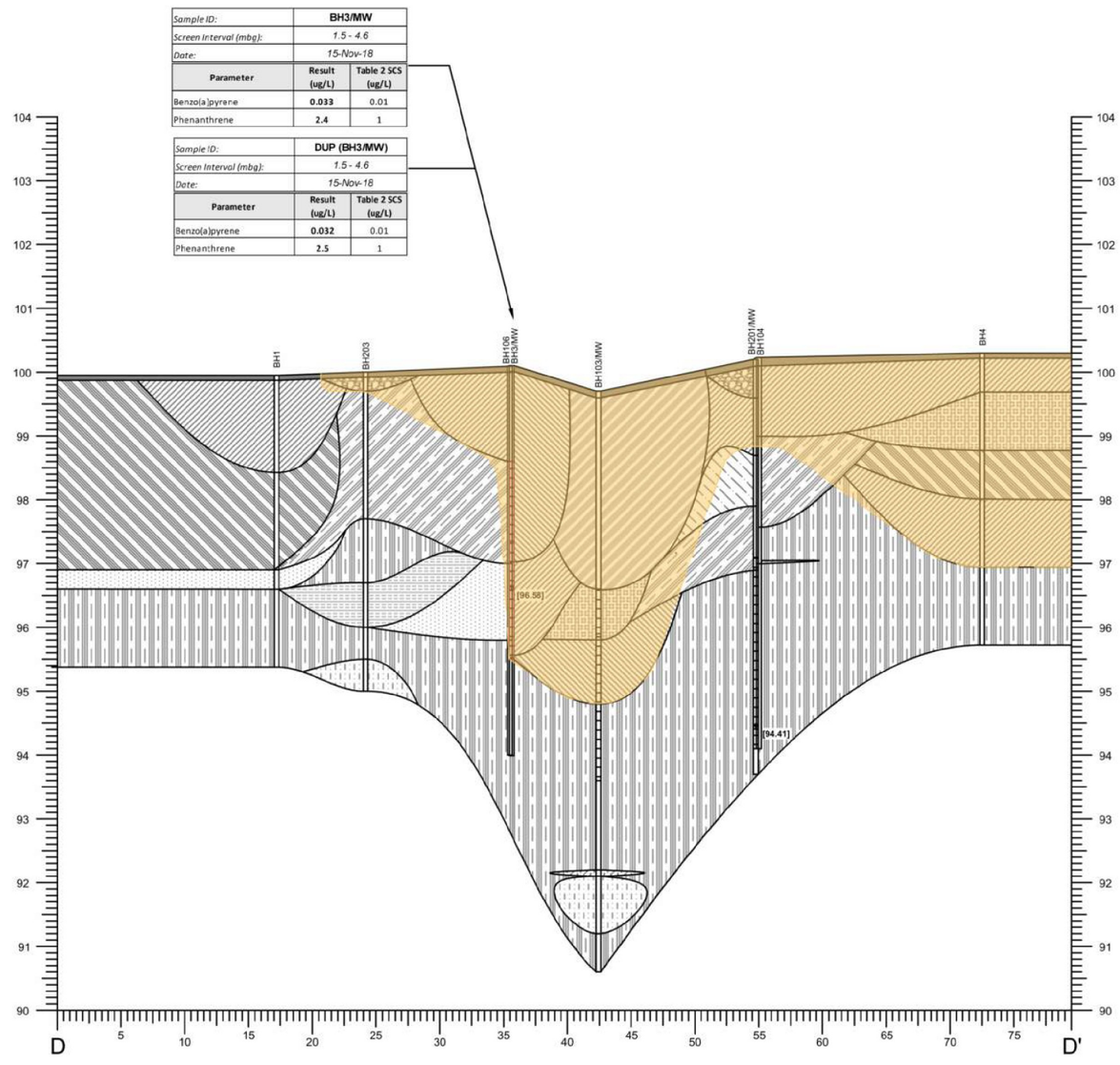
- ASPHALT
- TOPSOIL
- FILL - Sand
- FILL - Sand & Brick
- FILL - Sand & Gravel
- FILL - Sand & Cinders
- FILL - Silty Sand/Sandy Silt
- FILL - Silty Clay/Clayey Silt
- FILL - Clayey Silt & Cinders
- CLAYEY SILT
- CLAYEY SILT TILL
- SILT
- SILT TILL
- SANDY SILT TILL
- SILTY SAND/SANDY SILT
- SAND
- SAND AND GRAVEL

LEGEND:

- Orange highlighted areas signify the estimated extent of PAH impact in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where PAHs were sampled and detected in water at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well
- [xx.xx] Groundwater elevation
- ug/g Micrograms per gram
- m bgs Metres below ground surface

Sample ID:	BH3/MW
Screen Interval (mbg):	1.5 - 4.6
Date:	15-Nov-18
Parameter	**Result (ug/L)** / **Table 2 SCS (ug/L)**
Benzo(a)pyrene	**0.033** / 0.01
Phenanthrene	**2.4** / 1

Sample ID:	DUP (BH3/MW)
Screen Interval (mbg):	1.5 - 4.6
Date:	15-Nov-18
Parameter	**Result (ug/L)** / **Table 2 SCS (ug/L)**
Benzo(a)pyrene	**0.032** / 0.01
Phenanthrene	**2.5** / 1



EXP Services Inc.
15701 Robin's Hill Blvd
London, Ontario
N5V 0A5

CLIENT:	2355440 ONTARIO INC.
SITE:	250-272 SPRINGBANK DRIVE, LONDON, ONTARIO
TITLE:	GEOLOGICAL CROSS-SECTION D-D' PRE REMEDIATION DISTRIBUTION OF PAH COCs IN SOIL
DATE:	APRIL 2020
PROJECT No:	LON-00012078-EN
FIG	15b

Drawing 16: Pre-Remediation Distribution - VOC, BTEX and/or PHC COCs

STRATIGRAPHY LEGEND:

- ASPHALT
- TOPSOIL
- FILL - Sand
- FILL - Sand & Brick
- FILL - Sand & Gravel
- FILL - Sand & Cinders
- FILL - Silty Sand/Sandy Silt
- FILL - Silty Clay/Clayey Silt
- FILL - Clayey Silt & Cinders
- CLAYEY SILT
- CLAYEY SILT TILL
- SILT
- SILT TILL
- SANDY SILT TILL
- SILTY SAND/SANDY SILT
- SAND
- SAND AND GRAVEL

LEGEND:

- Red signifies where VOCs, BTEX and/or PHCs were detected in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Green signifies where VOCs, BTEX and/or PHCs were sampled and detected in soil at concentrations below the MECP (2011) Table 2 or 8 SCS
- Pink highlighted areas signify the estimated extent of VOCs, BTEX and/or PHC impact in soil at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where VOCs, BTEX and/or PHCs were detected in water at concentrations exceeding the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where VOCs, BTEX and/or PHCs were sampled and detected in water at concentrations below the MECP (2011) Table 2 or 8 SCS
- Installed monitoring well where VOCs, BTEX and/or PHCs were sampled and detected in water at concentrations below the MECP (2011) Table 2 or 8 SCS

[xx.xx] Groundwater elevation
ug/g Micrograms per gram
m bgs Metres below ground surface

Sample ID:	BH3/MW	
Screen interval (mbg):	1.5 - 4.6	
Date:	15-Nov-18	
Parameter	**Result (ug/L)**	**Table 2 SCS (ug/L)**
PHC Fraction 2	**5200**	150
PHC Fraction 3	**9200**	500

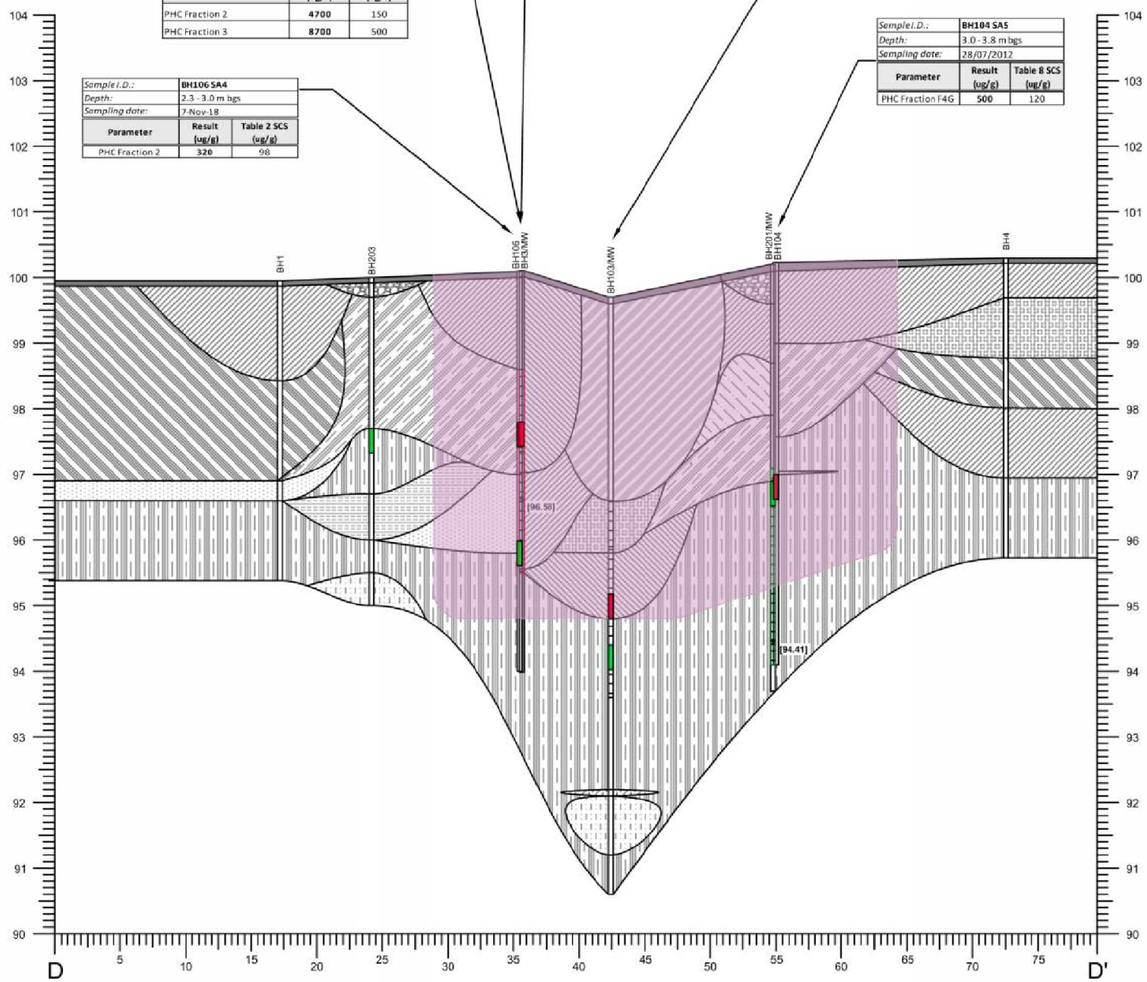
Sample ID:	DUP (BH3/MW)	
Screen interval (mbg):	1.5 - 4.6	
Date:	15-Nov-18	
Parameter	**Result (ug/L)**	**Table 2 SCS (ug/L)**
PHC Fraction 2	**4700**	150
PHC Fraction 3	**8700**	500

Sample I.D.:	BH106 SA4	
Depth:	2.3 - 3.0 m bgs	
Sampling date:	7-Nov-18	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
PHC Fraction 2	**320**	98

Sample I.D.:	BH3 S4	
Depth:	2.3 - 3.0 m bgs	
Sampling date:	28/08/2012	
Parameter	**Result (ug/g)**	**Table 2 SCS (ug/g)**
PHC Fraction 1	**280**	55
PHC Fraction 2	**970**	98
PHC Fraction 3	**610**	300

Sample I.D.:	BH103 SA6	
Depth:	3.8 - 4.6 m bgs	
Sampling date:	28/07/2012	
Parameter	**Result (ug/g)**	**Table 8 SCS (ug/g)**
Benzene	**0.032**	0.02
Total Xylnes	**0.14**	0.05
PHC Fraction 2	**140**	10
PHC Fraction 3	**960**	240
PHC Fraction 4	**300**	120

Sample I.D.:	BH104 SA5	
Depth:	3.0 - 3.8 m bgs	
Sampling date:	28/07/2012	
Parameter	**Result (ug/g)**	**Table 8 SCS (ug/g)**
PHC Fraction F4G	**500**	120



EXP Services Inc.
15701 Robin's Hill Blvd
London, Ontario
N5V 0A5

CLIENT: 2355440 ONTARIO INC.		
SITE: 250-272 SPRINGBANK DRIVE, LONDON, ONTARIO		
TITLE: GEOLOGICAL CROSS-SECTION D-D' PRE REMEDIATION DISTRIBUTION OF VOC, BTEX AND/OR PHC COCs IN SOIL		
DATE: APRIL 2020	PROJECT No: LON-00012078-EN	FIG 15c

Appendix C:

Soil Remediation Costing Tables

ITEM #1: Metals and PAH Impacted Soils and Groundwater			
Item	**Description of Work**	**Methodology**	**Cost**
Based on a review of EXP Phase II ESA reports completed in 2018 and 2019, the following sample locations had parameter concentrations which exceed the 2011 MECP Table 2 Site Condition Standards (SCSs) for Residential Property Use with coarse textured soil for areas of the Site located at least 30 metres from The Coves (nearest water body). • BH10 S1 (0 – 0.8) – Antimony,Cadmium, Copper, Lead, Vanadium, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b/j)fluoranthene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene • BH109 SA1 (0 – 0.8) – Copper, Acenaphthylene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b/j)fluoranthene, Dibenz(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene • BH110 SA1 (0 – 0.8) – Cadmium, Lead, Zinc, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b/j)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Naphthalene, Phenanthrene • BH112 SA1 (0 – 0.8) – Cadmium, Lead, Zinc • BH115 SA2 (0.8 – 1.5) – Antimony, Cadmium, Copper, Lead, Zinc, Acenaphthylene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b/j)fluoranthene,	Removal of metals and PAH impacted soil on the southern half of the property to an approximate depth of 1.5m at the west end of the property and a maximum depth of 8m at the east end of the property. Some fill material is non-impacted and would be separated and tested during excavation. The preliminary estimate of the amount of metals and PAH impacted soils based on the available borehole information is 10,000 cubic metres or 20,000 tonnes.	For estimating purposes, the south half of the site area was used, including areas previously below the buildings as impact may have occurred prior to these buildings being constructed. Of this total area and based on the 1.5 — 8m approximate depth, the following allocation of impacted soil was assumed: -100% of the soil exceeding the MECP, Table 2 limit and requiring removal as waste -$35/ t tipping fee x 20,000 tonnes -$30/t for excavation and mucking x 20,000 tonnes For estimating purposes approximate bulk density of 2.0Tonne/m3 is assumed for impacted soil. -shoring costs for removal of impacted soils along south and east property limits – assume 25% of shoring required for impacted soil removal using contractor quote (25% of $1,484.000 = $371,000). -20% contingency added	Based on methodology noted, total estimated cost is: **$2,005,200.00**

Dibenz(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene • BH116 SA1 (0 – 0.8) – Antimony, Lead, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene Benzo(b/j)fluoranthene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene • BH117 SA1 (0 – 0.8) - Cadmium , Acenaphthylene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b/j)fluoranthene, Dibenz(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene			
Based on a review of EXP Phase II ESA reports the following sample locations had parameter concentrations which exceed the 2011 MECP Table 2 Site Condition Standards (SCSs) for Residential Property Use with coarse textured soil for areas of the Site located at least 30 metres from The Coves (nearest water body). • BH3/MW – Methylnaphthalene, 2-(1-), Phenanthrene	Removal of metals and PAH impacted groundwater on the southern half of the property will be completed during excavation for impacted soils. Groundwater monitoring wells will be installed post-remediation and will be monitored for at least 6 months to verify results.		

ITEM #2: VOC and PHC Impacted Soils and Groundwater			
Item	**Description of Work**	**Methodology**	**Cost**
Based on a review of EXP Phase II ESA reports completed in 2018 and 2019, the following sample locations had parameter concentrations which exceed the 2011 MECP Table 2 Site Condition Standards (SCSs) for Residential Property Use with coarse textured soil for areas of the Site located at least 30 metres from The Coves (nearest water body). • BH3 S4 (2.3 – 3.0) PHC Fraction 1, PHC Fraction 2, PHC Fraction 3 • BH9 S1 (0 – 0.8) - PHC Fraction 1, PHC Fraction 2, PHC Fraction 3 • BH9 S2 (0.8 – 1.5) - PHC Fraction 2 • BH106 SA4 (2.3 – 3.0) - PHC Fraction 2 • BH112 SA2 (0.8 – 1.5) - 1,2-Dichlorobenzene, 1,4-Dichlorobenzene, Ethylbenzene, Total Xylenes, PHC Fraction 1 • BH123 SA4 (2.3 – 3.0) – Ethylbenzene, Total Xylenes • BH123 SA6 (3.8 – 4.6) – Benzene • BH103 SA6 (3.8-4.6) - PHC Fraction 3	Removal and disposal of additional soil impacted by petroleum hydrocarbons (PHCs) to approximate 1.5m to 8.0m depth in the vicinity of Boreholes BH9 and BH123, BH3 and BH106 and BH112. The preliminary estimate of the amount of PHC impacted soils based on the available borehole information is 2,000 cubic metres or 4,000 tonnes.	For estimating purposes, the areas around BH9 and BH123, BH3 and BH106 and BH112 were used. Of this total area and based on the 1.5 — 8m approximate depth, the following allocation of impacted soil was assumed: -100% of the soil exceeding the MECP, Table 2 limit and requiring removal as waste -$35/ t tipping fee x 4,000 tonnes -$30/t for excavation and mucking x 4,000 tonnes -20% contingency added For estimating purposes approximate bulk density of 2.0Tonne/m3 is assumed for impacted soil -shoring costs for removal of petroleum impacted soils along south and east property limits included in Item #1	Based on methodology noted, total estimated cost is: **$312,000.00**
Based on a review of EXP Phase II ESA reports the following sample locations had parameter concentrations which exceed the 2011 MECP Table 2 Site Condition Standards (SCSs) for Residential Property Use with coarse textured soil for areas of the Site located at least 30 metres from The Coves (nearest water body). • BH3/MW - PHC Fraction 2, PHC Fraction 3 • BH9/MW - Benzene, Ethylbenzene, PHC Fraction 1, PHC Fraction 2 • BH117/MW - PHC Fraction 3	Removal of PHC impacted groundwater on the property will be completed during excavation for impacted soils. Groundwater monitoring wells will be installed post-remediation and will be monitored for at least 6 months to verify results.		

ITEM #3: Environmental Consultant Fees			
Item	**Description of Work**	**Methodology**	**Cost**
Estimated costs associated with environmental consultant fees and laboratory fees required as part of the Brownfield Remediation work to verify the site conditions.	Site review for impacted soil and groundwater removal. Recover post remedial soil and groundwater samples for analysis. Recover confirmatory soil samples from limits of remedial excavations for testing of metals, PAHs, PHCs and VOCs to confirm completeness of Brownfield remediation and file Record of Site Condition on the MECP website.	The following estimates are provided based on costs for Environmental Consultant review and costs incurred for Laboratory analysis as part of the consultant review and confirmation (disbursements required as part of the review process): Review Consultant • Coordination of Brownfield process for owner and review Environmental Consultant • Drilling Contractor – drilling for post remedial monitoring, installation of monitoring wells in areas where groundwater impact had been identified $15,000.00 • Fieldwork – Monitoring of excavation of petroleum, metals and PAH impacted soils and groundwater. $40,000.00 • Record of Site Condition, Preparation of Conceptual Site Modal (CSM). $10,000.00 • Reporting – including preparation of remediation report, cross-sections and submission report to City of London $15,000.00 Laboratory Costs • Water analytical testing from monitoring wells for	Based on methodology noted, total estimated cost is: **$130,000.00**

		VOC/PHCs, Metals, PAHs (at least 2 sampling events) $20,000.00 • Confirmatory Soil Analytical testing for metals and PAHs following remedial excavation (including QA/QC samples and duplicates) $20,000.00 • Confirmatory Soil Analytical testing for VOCs and PHCs following remedial excavation (including QA/QC samples and duplicates) $10,000.00	