



REQUEST FOR TENDER No. 21-073

Jack Bagley Community Park Redevelopment

Addendum 1

28 pages

Issued: October 19, 2021

**Revised Closing Date & Time: on or before 3:00 PM Pacific Time on
November 15, 2021**

This addendum shall be read in conjunction with and considered as an integral part of the Request for Tender. Revisions supersede the information contained in the original Tender or previously issued Addendum. No consideration will be allowed for any extras due to any Vendor not being familiar with the contents of this Addendum. All other terms and conditions remain the same.

Tender Addendum:

Delete: Closing Date & Time: on or before 3:00 PM Pacific Time on October 29, 2021

Add: **Closing Date & Time: on or before 3:00 PM Pacific Time on November 15, 2021**

Attachments:

1. The October 13, 2021 non-mandatory site meeting attendee list (1 page).
2. RFI questions and responses (1 page).
3. Photo of pumphouse interior (1 page).
4. Tsolum & Tsable Environmental Ltd - Pumphouse Hazardous Materials Survey Report (24 pages).

Clarifications:

1. Existing port-a-potties on site will be removed by RDN.
2. Existing garbage bins on site will be removed by others.

Reminder:

Bidders must supply with their Tenders a **verifiable digital Bid Bond (e-bond)** and a **verifiable digital Consent of Surety** as defined by the Surety Association of Canada. Scanned copies are not acceptable. <https://suretycanada.com/SAC/Surety-Bonds/E-Bonding.aspx>

End of Addendum 1

RFI Questions:

1. Please clarify if Panel A is the same as DPB-100.
2. Please clarify location of service entry panel as it seems to conflict with irrigation plans IR-01.
3. How far from the building do the 2x2" stubs need to extend towards the "future post lights"?
4. How far from the building does the irrigation pipe for control need to extend from the building?

Responses:

1. Panel A is same as DPB-100.
2. Use service entry panel location as shown on electrical drawings for bidding purposes.
3. Provide concrete junction box as per MMCD detail E2.2 (see page 3) within 3m of building foundation, for terminating future spare conduits.
4. See attached IFT Irrigation Plan Detail 1. The electrical contractor is to extend the 50mm DB2 irrigation wire conduit 1.9m total away from the building (1.6m under the pathway and another 300mm beyond the pathway).



STYRO
EXTRU
TYRENE F
insule
CAUTION
CMHC

irrigation up

Tsolum & Tsable Environmental Ltd.



Hazardous Materials Survey

2535 Powder Point Road, Nanoose, BC

File No: Z0002-1142.01

May 3rd, 2021

Prepared For:

Peter Williams

Regional District of Nanaimo

Nanoose, BC

1.0 Introduction

Tsolum & Tsable Environmental Ltd. (TTE) was retained by Peter Williams (the Client) to conduct a hazardous materials survey on a building located at 2535 Powder Point Road in Nanoose, British Columbia (the site).

This hazardous materials survey was completed in accordance with Section 20.112 of the Occupational Health and Safety Regulation (B.C. Reg 296/97).

The purpose of this hazardous materials survey was to identify which materials, if any, contain asbestos and or other hazardous materials. This report includes a list of building materials that are confirmed or suspected of containing hazardous materials.

Hazardous materials are summarized in the table below.

Table 1.0 Hazardous Materials Summary

Hazardous Material	Type and Location
Asbestos (observed)	→ No asbestos containing materials were observed.
Asbestos (potentially concealed)	→ <i>Materials commonly found to contain asbestos were observed or are suspected to be present (not sampled) including: Electrical cables, buried asbestos cement pipes, bell and spigot piping gaskets, incandescent light fixtures. (heat shields)</i>
Lead (observed)	→ No sampled paints contain over 90 mg/kg of lead.
Lead (potentially concealed)	→ <i>Elemental lead assumed to be present in seals on bell and spigot piping joints seals, solder on wiring and copper pipe joints, and roof vents and flashings.</i>
Mercury	→ <i>Fluorescent lighting tubes were noted in the workspace.</i>
PCBs	→ <i>Fluorescent lighting fixtures were observed in renovations area.</i>
Radioactive Materials	→ No radioactive materials were observed in areas of planned works.
AST/UST	→ No AST/UST was observed or suspected in the subject area.
ODS	→ No sources of ODS are to be disturbed.
Hantavirus / Rodent Droppings	→ Rodent droppings were not observed.
Mould	→ Mould was not observed in the renovation area.
Arsenic	→ Suspect CCA treated wood was not observed in the work area.
UFFI	→ No UFFI was observed.

Silica	→ Present in concrete, and other cementitious materials
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Where hazardous materials were found, they can be presumed to be found in similar materials throughout the building.

Recommendations for each material are outlined in section 3.0.

Copies of the analytical reports are provided in Appendix B.

2.0 Scope of Work

We attended the site on April 22, 2021. The scope of work was limited to:

- A visual inspection of the building for the presence of hazardous substances, including (but not limited to) asbestos containing materials (ACM), arsenic, lead based paints (LBP), lead containing products, radioactive materials, mould, rodent droppings and other sources of biological hazards, mercury, polychlorinated biphenyls (PCBs), ozone depleting substances (ODS), petroleum and controlled products.
- Bulk sampling and analysis of suspected ACM and LBP for the presence of asbestos and lead, respectively; and
- Make recommendations for further actions to take place prior to continued renovation.

As described by client, the water pump house will be demolished, the full building was considered in the scope of this survey.

2.1 Sampling Methodology

- A walk through the space to determine locations of possible asbestos containing materials (ACM).
- Inspection and bulk sampling of building materials, as follows:
 - o The building is less than 200 sq ft.
 - o The building consisted of wood walls on a concrete slab with a metal roof.
 - o No sampling necessary as no materials were observed that were suspected of containing asbestos.

Table 2.1.1 Building Details

Building	Water Pump Shed
Subject Area	Full Demo
Age	Unknown
Construction	Typical wood frame
HVAC	None
Basement / Crawlspace detail	Slab on Grade

Interior Finish	None
Interior Flooring	Concrete
Exterior Finish	Wood with metal roofing
Insulation	None

2.2 Regulatory Criteria

As per WorkSafeBC requirements, the subject area was surveyed for the presence of hazardous materials, including:

- Polychlorinated biphenyls (PCBs)
- Asbestos
- Mercury
- Arsenic
- Ozone depleting substances (ODS)
- Urea formaldehyde foam insulation (UFFI)
- Radioactive materials
- Above- or under- ground storage tanks (AST/UST)
- Lead
- Hantavirus – rodent droppings
- Silica
- Mould

Regulatory information for each material is provided in Appendix D.

3.0 Results and Recommendations

If any material suspected of containing asbestos or any other hazardous material not identified in the initial scope of work is disturbed, all work must cease immediately until the area is contained, and the hazard is evaluated by a qualified professional and the hazardous materials, if present, is safely managed by a qualified contractor.

Notification

The Client has been made aware of the results of this survey and instructed to have the items removed in accordance with regulations prior to continued renovation of the structure. This report must be posted onsite, and site personnel need to have read and understood the content of this report prior to the commencement of work.

Hidden Hazardous Materials

Although every effort was made to collect samples of all potentially hazardous materials, they may be present at the subject site but, were not visible or available for inspection during the survey and are, therefore, not described in this report.

If any suspect hazardous materials that are not described in this report are encountered during additional renovation activities, all work must cease and the materials must be presumed to be hazardous and handled as such until testing determines the presence or absence of asbestos or other hazardous components, or the material is otherwise appropriately evaluated, and appropriate controls for the protection of workers and the public are put into place.

Recommendations

The following conclusions and recommendations have been based on the survey findings:

Prior to any additional renovation activities, TTE recommends the following actions:

1. Provide copies of this report to site personnel, including contractors. A copy of the survey must be immediately available at the site whenever workers are present.
2. The contractor must have an exposure control plan in place for each hazardous substance identified in this report as being in way of the planned work.
3. Work must stop if additional suspect materials are encountered during the move. These suspect materials must be left undisturbed until testing determines the presence or absence of asbestos or other hazardous materials. In addition, work must also stop in the event these suspect materials are disturbed inadvertently.

A qualified person should be retained and present on site during any additional demolition to identify any previously unidentified hazardous building materials should they be discovered.

Respecting Lead, Arsenic, Mercury, and other heavy metals, please note that the local landfill authority may require additional Toxicity Characteristic Leaching Procedure (TCLP) data before accepting material as 'Non-Hazardous Waste' as defined by the BC Hazardous Waste Regulations.

The recommendations pertaining to each of the identified hazardous materials within the subject building are presented in the sub-sections below.

3.1 Asbestos

No potentially asbestos containing material was observed.

All procedures must be in accordance with BC Occupational Health and Safety Regulation (B.C. Reg 296/97), as exemplified in WorkSafeBC Publication BK27, 'Safe Work Practices for Handling Asbestos'.

If any materials suspected to be asbestos containing are discovered during the renovation, all work must stop until samples can be analyzed. If the materials are found to be asbestos containing, they must be removed by a qualified asbestos abatement contractor before any further work is carried out.

Prior to any work that may disturb any ACM, it is a regulatory requirement that a qualified person perform a Risk Assessment, in compliance with the Occupational Health & Safety Regulation Part 6 "Substance Specific Requirements". Identified ACMs must be removed and

disposed of in accordance with the requirements of BC Reg. 296/97, by an experienced asbestos abatement contractor.

Suspected ACMs deemed visually similar to ACMs identified in this report and inaccessible ACMs not identified during this assessment should be considered asbestos containing and handled as such, unless proved otherwise, through analytical testing.

Ensure asbestos containing waste is handled, stored, and disposed of in accordance with the requirements of the Federal Transportation of Dangerous Goods Regulation and the BC Hazardous Waste Regulation (BC Reg 63/88).

If the building is not renovated/demolished in the short term, ACMs in good condition can be managed in place. Damaged ACMs should be addressed in accordance with the requirements of BC Reg. 296/97, as soon as possible.

3.2 Lead

No paint containing more than 90 mg/kg lead was found.

Surface coatings which contain more than 90 mg/kg lead may pose a potential risk to workers. Materials with over 100 ppm lead must undergo additional TCLP testing prior to disposal to determine if they should be handled as hazardous waste.

Lead results are summarized in the table below. Any untested painted surfaces are presumed to be lead containing.

Table 3.2.1 Summary of Lead Results

Material	Location	Lead Concentration (mg/kg)	TCLP Results (mg/L)
Yellow Field	Exterior Trim	11	NR
Brown Field	Exterior	21.4	NR

NR=Not Required NT=Not Tested

Elemental lead may be present in seals on bell and spigot piping joints seals, solder on wiring or plumbing systems, and in other fixtures such as flashings or roof vents.

Workers must be provided with appropriate PPE for the work they will be conducting.

Materials with leachable lead must be sorted from general construction waste and disposed of according to Regulations.

Demolition, corrective action, or remedial work on paint applications containing any concentration of lead should be undertaken in a manner to avoid generating fine particulate matter or dust (i.e.: avoid sanding). The use of personal protective equipment is recommended to reduce the potential for over-exposure to lead dust.

When identified or suspected lead-containing materials (i.e.: paint, solder, caulking on bell fittings) within the subject building are to be removed prior to renovation activities, ensure compliance with the following:

- Surface Coating Materials Regulations SOR/2016-193
- The occupational exposure control requirements of BC Reg 296/97
- The disposal requirements of BC Reg. 63/88
- The transportation requirements of the Federal Transportation of Dangerous Goods Regulation.

If known or suspected lead-based paint will be disturbed (e.g.: by scraping, burning, sanding, etc.) the paint shall be removed in accordance with the WorkSafeBC Occupational Health & Safety Regulation to prevent worker exposure to lead dust. Some samples collected during this survey were found to have lead concentrations below WorkSafeBC criteria however other paints have higher lead content.

If the subject building is not renovated/demolished in the short term, lead-containing material can be managed in place.

3.3 Mercury

Fluorescent lighting was observed.

No mercury containing thermostats are present.

Mercury containing materials must be removed prior to demolition activities and kept intact to prevent exposure to mercury fumes. They must be separated from general demolition waste and disposed of according to regulations. Workers should be protected with a half mask with a mercury vapour cartridge and chemical resistant gloves when handling or working near broken light tubes.

They should be removed, packaged for storage and transport or disposal/destruction at a licensed facility.

If the building is not renovated/demolished, mercury-containing materials identified within the subject building can be managed in place. No further action is currently required.

3.4 PCBs

Fluorescent lighting was observed.

Fixtures must be removed prior to demolition activities and set aside and checked for PCB content prior to disposal.

Non-PCB containing ballasts must have a label affixed which states they do not contain PCBs. It may also be possible to determine PCB content by using guidelines in Environment Canada's document, "Identification of Light Ballasts Containing PCBs" (EPS 2/CC/2). ***If no determination can be made the ballasts must be assumed to contain PCBs. If they are determined to contain PCB's they must be disposed of in accordance with the BC Ministry of Environment guidelines at an approved disposal facility.***

If the subject building is not renovated/demolished, PCB containing ballasts can be managed in place, where they are operating and in good condition. No further action is currently required until such time that demolition activities are to be conducted, or until 2025 when PCB-containing items will require removal and disposal.

3.5 Radioactive Components

Smoke detectors were not observed.

They must be removed prior to demolition activities and treated as if they contain radioactive materials unless additional information (i.e.: labels) prove otherwise.

Radioactive components that are identified for removal should be transported and disposed of in accordance with the following:

- The federal Transportation of Dangerous Goods Act
- The Nuclear Safety and Control Act (1997, c.9), Nuclear Substances and Radiation Devices Regulations (SOR/2000-207)

If the building is not renovated/demolished, radioactive components of the fire / smoke detection system can be managed in place. No further action is currently necessary.

3.6 Petroleum and Controlled Products

No AST was seen or suspected.

No USTs will be part of the planned works.

Any stored and abounded chemicals and controlled products must be removed and disposed of prior to work, in accordance with the BC Ministry of Environment Hazardous Waste Regulation (Environmental Management Act).

If USTs are discovered & part of planned works, it is also recommended that a site investigation be commissioned for contaminated soils.

3.7 ODSs

No sources of ODS are to be disturbed.

Sources of ODS should be removed from the work area prior to demolition activities commencing. If slated for disposal it must be degassed by a licensed technician.

When ODS containing materials within the subject building are removed and disposed of, ODSs must be handled, recycled, stored, and/or disposed of in accordance with the requirements of the Federal Halocarbon Regulations (2003). If waste is to be disposed of in British Columbia, it must be disposed of in accordance with the British Columbia Waste Management Act – Ozone Depleting Substances and other Halocarbons Regulation (BC Reg. 387/99). These regulations require that all ODS must be collected, stored, and recycled, or collected and disposed by a qualified technician.

ODS-containing equipment can be managed in place and must be serviced by licensed refrigeration technicians.

3.8 Hantavirus – Bird and Rodent Droppings

Rodent droppings were not observed.

Workers should be notified of the presence of feces and be provided with respiratory protection and/or other personal protective equipment (PPE) as deemed necessary for the work that they will be conducting.

3.9 Mould

Mould was not observed.

May be present on hidden building materials & fabrics.

Workers should be notified of the presence of mould and be provided with respiratory protection and/or other personal protective equipment (PPE) as deemed necessary for the work that they will be conducting.

If renovations/demolition do not proceed in the short-term, identified mould and/or moisture-impacted building materials should be removed in accordance with applicable guidelines and procedures for safe work (i.e.: CCA 82).

When renovation/demolition of the subject building proceeds, building materials hidden from the initial hazardous materials survey should also be inspected as removed for the presence of fungal activity. During demolition, workers should be notified of the potential presence of mould and be provided with respiratory protection and/or other personal protective equipment (PPE) as deemed necessary for the work that they will be conducting).

3.10 Arsenic

Treated wood was not observed.

Although wood and wood dusts contaminated with arsenical pesticides do not require specialized disposal in BC, care must be exercised to minimize the potential for worker exposure to these materials through direct skin contact or through inhalation of dusts and fumes. Caution must be taken to ensure this material is not burned or composted if removed during demolition activities.

3.11 UFFI

No UFFI was observed during the investigation.

3.12 Crystalline Silica

When silica-containing materials (i.e.: concrete, and cement materials etc.) within the subject building are to be removed or affected during renovation activities, workers should use caution to avoid creating airborne silica dust such that airborne silica dust concentrations do not exceed the exposure limit as stipulated by BC Reg 396/97 (0.025 mg/m³).

This would include, but not be limited to, the following:

- Providing workers with respiratory protection
- Wetting the surface of the materials to prevent dust emissions and/or HEPA equipped extraction systems attached to drills and other power equipment.
- Providing workers with facilities to properly wash prior to exiting the work area.

If the building is not renovated/demolished, silica-containing materials identified with the subject building can be managed in place. No further action is currently required.

4.0 Closure

This report has been prepared by TTE exclusively for the Client and is intended to provide a survey of the potential for the presence of hazardous materials on the site. The conclusions made in this report reflect TTEs best judgment in light of the information available at the time of preparation. No other warranty, expressed or implied, is made. This report may not be relied upon by any other person or entity without the express written consent of TTE and the Client. Any use that a third party makes of this report, or any reliance on decisions to be made based on it, is the responsibility of such third parties. TTE accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The findings of this report are based solely on data collected on site during this survey and on the conditions of the site during the completing of the work. TTE has relied on good faith on information proved by individuals and sources noted in the report. No other warranty, expressed or implied, is made.

If any conditions become apparent that differ significantly from our understanding of conditions as presented in this report, we request that we be notified immediately to reassess the conclusions provided herein.

This report is not intended for use as a scope of work for removal or as a specification section for inclusion in Tender Documents. Any unauthorized use of this report in that fashion is at the sole discretion and liability of the Owner.

We trust that the report meets your current requirements. Should you have any questions or concerns regarding the above, please do not hesitate to contact the undersigned.

Respectfully Submitted,

TSOLUM & TSABLE ENVIRONMENTAL LTD.

Prepared by:

Reviewed by:



Jana Child, Environmental Consultant
AHERA Building Inspector #3508-20-C15-30610
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Appendix A – Sample Logs

Appendix B – Analytical Results



Environmental

CERTIFICATE OF ANALYSIS

Work Order : **VA21A7739**
Client : **Tsolum & Tsable Environmental Ltd.**
Contact : Jana Child
Address : 800A 8th Street
Courtenay BC Canada V9N 1N9
Telephone : ----
Project : Z0002-1142
PO : Z0002-1142
C-O-C number : ----
Sampler : Jana Child
Site : 2535 Power Point Road, Nanaimo
Quote number : Q75819 - Water, Soil and Paint Sample Analyses
No. of samples received : 2
No. of samples analysed : 2

Page : 1 of 2
Laboratory : Vancouver - Environmental
Account Manager : Edward Ngai
Address : 8081 Lougheed Highway
Burnaby BC Canada V5A 1W9
Telephone : +1 604 253 4188
Date Samples Received : 23-Apr-2021 08:55
Date Analysis Commenced : 25-Apr-2021
Issue Date : 30-Apr-2021 13:44

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
 LOR: Limit of Reporting (detection limit).

Unit	Description
mg/kg	milligrams per kilogram

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

Sub-Matrix: Soil
 (Matrix: Soil/Solid)

					Client sample ID	Pb1- Yellow Field- Exterior trim	Pb2- Brown Field- Exterior	----	----	----
					Client sampling date / time	22-Apr-2021 10:10	22-Apr-2021 10:10	----	----	----
Analyte	CAS Number	Method	LOR	Unit	VA21A7739-001	VA21A7739-002	-----	-----	-----	
					Result	Result	----	----	----	
Metals										
lead	7439-92-1	E494.Pb	5.0	mg/kg	11.0	21.4	----	----	----	

Please refer to the General Comments section for an explanation of any qualifiers detected.



www.alsglobal.com


Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 14 -

Page ___ of ___

Report To		Report Format / Distribution			Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)								
Company: Tsolum & Tsable Environmental Ltd.		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			R <input checked="" type="checkbox"/> Regular (Standard TAT if received by 3 pm - business days)								
Contact: Jana Child		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			P <input type="checkbox"/> Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT								
Address: 2213 Northfield Road Nanaimo, BC V9S 3C3		<input checked="" type="checkbox"/> Criteria on Report - provide details below if box checked			E <input type="checkbox"/> Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT								
Phone: 250-713-6692		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			E2 <input type="checkbox"/> Same day or weekend emergency - contact ALS to confirm TAT and surcharge								
		Email 1 or Fax: jchild@tsolum.com			Specify Date Required for E2, E or P:								
		Email 2			Analysis Request								
Invoice To Same as Report To <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Invoice Distribution			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below								
Copy of Invoice with Report <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX											
Company: Tsolum & Tsable Environmental Ltd.		Email 1 or Fax: admin@tsolum.com											
Contact: Wendy Klettke		Email 2											
Project Information		Oil and Gas Required Fields (client use)			<div style="text-align: center;"> <p>Environmental Division Vancouver Work Order Reference VA21A7739</p>  <p>Telephone: +1 604 253 4188</p> </div>								
ALS Quote #:		Approver ID:									Cost Center:		
Job #: Z0002-1142		GL Account:									Routing Code:		
PO / AFE: Z0002-1142		Activity Code:											
LSD: 2535 Powder Point Road, Nanaimo		Location:											
ALS Lab Work Order # (lab use only)		ALS Contact: Edward Ngai		Sampler: Jana Child									
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	lead								
	Pb1-Yellow Field-Exterior trim	22-Apr-21	10:00	Solid	R								
	Pb2-Brown Field-Exterior	22-Apr-21	10:00	Solid									
				Solid									
				Solid									
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify Criteria to add on report (client Use)			SAMPLE CONDITION AS RECEIVED (lab use only)								
Are samples taken from a Regulated DW System? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No		please test for lead content in the paints. Please hold samples for 30 days as TCLP analysis may be required.			Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>								
Are samples for human drinking water use? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					Ice packs Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>								
					Cooling Initiated <input type="checkbox"/>								
					INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C					
								18					
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)								
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:					
						(AI) J	APR 23 2021	8:55AM					

Number of Containers

1

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

11-NFM-0325e-v09 Form04 January 2014

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.
If many water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

Appendix C – Applicable Statues and Regulations

The statutes and regulations relevant to the identification, removal, disposal or recycling of hazardous chemicals, wastes and building materials include the:

Occupational Health and Safety Regulation (BC Reg. 296/97 as amended by 404/2012);

Hazardous Waste Regulation (BC Reg. 63/88, amended by 63/2009);

Ozone Depleting Substances and other Halocarbons Regulation (BC Reg. 387/99 as amended by 317/2012);

Recycling Regulation (BC Reg. 449/2004, as amended by 88/2014);

PCB Regulations (SOR/2008-273 as amended by SOR/2011-301);

Canadian Environmental Protection Act (CEPA) (SC 1999, c 33 as amended by SI/2014-32);

Nuclear Safety and Control Act, Nuclear Substances and Radiation Devices Regulations (SOR/2000-207 as amended by SOR/2008-119); and,

Hazardous Products Act, Surface Coating Materials Regulations (SOR/2005-109 as amended by 2010-224).

Asbestos Containing Materials (ACM)

An asbestos containing material is defined as any manufactured article or other material that contains at least 0.5% asbestos (>0% for vermiculite insulation). Friable asbestos “means any material which, when dry, can be easily crumbled or powdered by hand pressure” as defined under the BC Occupational Health and Safety Regulation (BC Reg 296/97). Examples of potentially friable ACM includes sheet vinyl flooring, vermiculite insulation, and duct tape. Products known to contain non-friable asbestos include vinyl floor tile, drywall joint compound, and Transite cement products.

Asbestos in the workplace is defined as a “Designated Substance” under the Occupational Health and Safety Regulation (OSHR) published by the Workers Compensation Board (WCB) which governs safe handling of ACMs at the workplace. This regulation requires property owners to notify workers of the presence of friable ACMs, once their presence has been confirmed.

Due to its carcinogenic potential, asbestos is designated as an ALARA substance; worker exposure to this product must be kept “as low as reasonably achievable” (ALARA). All Asbestos containing materials must be abated by a qualified professional in accordance with the OSHR.

Waste handling and disposal of ACMs is governed by the OHSR, Waste Management Act (1988) and Hazardous Waste Regulation (HWR). The transportation of ACMs is governed by the Transportation of Dangerous Goods (TDG) Act / Regulation (July 2010).

Lead Based Paints (LBP)

Lead in the workplace is defined as a “Designated Substance” under the OHSR. The OHSR governs safe handling of lead in the workplace. This regulation requires owners of the Property to notify the workers, and post warning signs at the boundary of any work area where hazardous lead exposures could occur and/ or once the presence has been confirmed. As an ALARA substance, worker exposure must be kept as low as reasonably achievable.

Toxicity Characteristic Leaching Procedure (TCLP) testing of positively identified lead paint applications is typically required to determine if the painted applications are classified as a hazardous waste as outlined in the Ministry of Environments Special Waste Act.

The federal governments legislation, Surface Coating Materials Regulations – SOR/2016-193, section 2, defines lead based paint as “A surface coating material must not contain more than 90 mg/kg (90 ppm) total lead when a dried sample is tested in accordance with a method that conforms to good laboratory practices.” Lead based paints over 600 ppm are considered an occupational safety hazard.

In addition to lead based paints, lead may be used in its pure metallic form or combined chemically with other elements to form lead compounds. Metallic lead is used to make products such as electric storage batteries, ammunition, lead solder, radiation shields, pipes, and sheathes for electric cables. Metallic lead is sometimes combined with other metals such as copper, tin, and antimony as lead alloys for use in the manufacture of a variety of metal products. Lead is commonly found in buildings in the solder used on copper domestic pipes, in the caulking on bell fittings of cast iron drainage pipes, and in electrical equipment.

Poly Chlorinated Biphenyls (PCBs)

PCBs were used widely as coolants and lubricants in transformers, capacitors, and other electrical equipment. In fluorescent fixtures PCBs were usually found within the small capacitors inside the ballast that controls the lamp.

In Canada, polychlorinated biphenyls (“PCBs”) were prohibited from being used in products, equipment, machinery, electrical transformers and capacitors, which were manufactured or imported into the country after July 1, 1980. However, older equipment in use after this date may still contain PCBs.

Polychlorinated biphenyls (PCB) are regulated under both federal (Canadian Environmental Protection Act) and BC Hazardous Waste Regulation and must

be treated as PCB waste and be stored and disposed of accordingly.

Although rare, paints have been known to contain PCBs. Older elevator motors, transformers and hydraulic systems may also have PCB-containing oil.

Mould and Other Microbial Contaminants

The OHSR applies to workplaces with mould showing on exposed or hidden surfaces, or where mould may be a factor in complaints regarding indoor air quality. Section 4.79 of the OHSR requires an investigation of a worker's complaint related to indoor air quality.

Microbial growth can be found on a wide range of wet building materials (most often paper or wood-based) in old or new buildings where there has been significant water damage. The removal of building materials impacted by mould growth may require workers with specific training and experience using work procedures that have been developed to protect workers and work areas from exposure to elevated concentrations of airborne mould.

Crystalline Silica

Silica is found in concrete, cement, mortar, ceramic wall and floor tiles, stucco finishes, and acoustic ceiling tiles.

Prolonged exposure to, and inhalation of, free crystalline silica, may result in a respiratory disease known as silicosis, which is characterized by progressive fibrosis of inner lung tissue and marked shortness of breath or impaired lung function.

Exposure to silica dust is governed the BC Occupational Health and Safety Regulation BC Reg. 297/97. According to the Regulation, the time weighted average exposure limit for airborne silica dust is 0.025 mg/m³.

Studies show that when common construction work tasks involving the sanding, drilling, chipping, grinding, cutting, sawing, sweeping, and blasting of concrete and concrete products are conducted without using dust controls, workers are exposed to airborne silica concentrations at levels far above the occupational exposure limits.

Crystalline silica is an ALARA substance; worker exposure to this product must be kept "as low as reasonably achievable" (ALARA). Employers are required to develop an exposure control plan (ECP) when workers are or may be exposed to airborne concentrations of these materials in excess of 50% of the exposure limit.

Ozone Depleting Substances (ODS)

An ODS refers to any substance containing chlorofluorocarbon (CFC), hydro chlorofluorocarbon (HCFC), halon, or any other material capable of destroying ozone in the atmosphere. ODSs have been used in rigid polyurethane foam and insulation, laminates, aerosols, air conditioners, fire extinguishers, cleaning solvents and the sterilization of medical equipment. Federal regulations introduced in 1995 required the elimination of production and import of CFCs by 1 January 1996 (subject to certain essential uses) and a freeze on the production and import of HCFC-22 by 1 January 1996. These regulations also require the complete elimination of HCFC-22 by the year 2020.

While the regulations allow the continued use of halocarbon refrigerants, they strictly prohibit any person from releasing into the environment any halocarbon.

In the case of demolition, these materials will require proper recovery and disposal. The BC Ozone-Depleting Substances Regulations would also apply to any CFC/ODS abatement procedures. These regulations require that all ODS must be collected, stored and recycled, or collected and disposed appropriately by a licensed professional.

Mercury

Mercury is commonly found in buildings as mercury vapour in lighting, thermostats, thermometers, electrical switches, manometers (i.e. medical sphygmomanometers) and can also be found in minor amounts in fluorescent lamp tubes and vapour bulbs and may be present in stable forms in adhesives.

As a hazardous substance, transportation and disposal of this substance must be done in compliance with the federal Transportation of

Dangerous Goods (TDG) Regulations and the BC Hazardous Waste Regulation.

Radioactive Components

Some smoke alarms contain small sealed radioactive sources in the form of Americium 241. This material is sealed into a metal case within the smoke detector and must not be damaged or tampered with. As long as a smoke detector is used as directed and is not opened or damaged, it poses no radiation health risk to humans.

Ceramic tiles and some forms of granite sometimes contain radioactive materials. These materials should be checked prior to work being carried out on them to determine if radioactive materials are present.

UFFI

Urea formaldehyde-based thermal insulation is foamed in place and used to insulate buildings. Urea formaldehyde Foam Insulation (UFFI) was banned in 1978. It was prohibited due to the high levels of formaldehyde that were given off during the installation process, as well as the continued off-gassing of formaldehyde from poorly installed insulation. All such material was to have been removed and replaced. Standard real estate agreements currently contain a "No UFFI" clause and as a best management practice, all buildings containing UFFI should have the material removed. UFFI is still found in many buildings in BC.

Arsenic

Arsenic is a hazardous substance, and any maintenance or abatement involving materials containing arsenic or arsenic compounds must be done in compliance with the BC Occupational Health and Safety Regulations (BCOHSR).

Arsenic has long been used as a pesticide due to its toxic properties. Arsenical pesticides, often in the form of chromated copper arsenate (CCA), when

applied with high pressure to wood, serve to extend the structural life of the material by making it resistant to mould, rot and insect infestation.

Studies have shown that these materials have the ability to leach arsenic into the soil. Arsenic can also be present in small amounts in paint.

Aboveground / Underground Storage Tanks

Storage tanks containing fuels have the ability to leak over time and can result in soil and groundwater contamination. These tanks must be observed and checked over time to ensure they do not leak. Evidence of leaks must be investigated, and any potential contamination remediated. The Canadian Council of Ministers of the Environment (CCME) publishes a Code of Practice for the safe management of aboveground and underground storage tanks.

Hantavirus – Rodent Droppings

The Hantavirus is a virus associated with Hantavirus Pulmonary Syndrome, a disease caught through contact with the urine or droppings of infected rodents, or by being bitten or scratched by them.

The disease starts off like a cold or flu (fever, sore muscles, headaches, nausea, vomiting), but progresses to pneumonia-like conditions within a few days. The change in intensity of the symptoms is very rapid and can result in fluid build-up in the lungs and respiratory failure.

Possible exposure to Hantavirus is regulated under the BC Occupational Health and Safety Regulation. Employers with workers who have a risk of exposure must have an exposure control plan (ECP) in place prior to allowing their workers to come into contact with this material. As with all other hazardous substances, all personnel working around or with such materials must be made aware of their presence and be supplied with training in the potential health effects and means of avoiding exposures.

Appendix D – WorkSafe BC Sampling Density Requirements

Type of Material	Area of homogeneous Materials**	Minimum number of bulk samples to be collected***
Surfacing materials, including textured coatings, drywall mud, plasters, and stucco	Less than 90 m ² (approximately 1,000 ft ²)	At least 3 samples of each type of surfacing material
	Between 90 and 450 m ² (approximately 5,000 ft ²)	At least 5 samples of each type of surfacing material
	Greater than 450 m ²	At least 7 samples of each type of surfacing material
Sprayed insulation and blown-in insulation, including sprayed fireproofing	Less than 90 m ² (approximately 1,000 ft ²)	At least 3 samples
	Between 90 and 450 m ² (approximately 5,000 ft ²)	At least 5 samples
	Greater than 450 m ²	At least 7 samples
Loose vermiculite insulation (including vermiculite insulation within concrete masonry units, or CMUs)	Less than 90 m ² (approximately 1,000 ft ²)	At least 3 samples
	Between 90 and 450 m ² (approximately 5,000 ft ²)	At least 5 samples
	Greater than 450 m ²	At least 7 samples
Ceiling Tiles	Less than 90 m ² (approximately 1,000 ft ²)	At least 3 samples
	Between 90 and 450 m ² (approximately 5,000 ft ²)	At least 5 samples
	Greater than 450 m ²	At least 7 samples
Flooring, including vinyl sheet flooring (and backing) and floor tiles	Any size	At least 1 sample per flooring type in each room (and 1 from each layer of flooring)
Levelling compounds and mortars	Any size	At least 3 Samples
Asbestos Ropes, gaskets, wires, etc.	Any size	At least 1 sample
Mechanical insulation, including duct taping, pipe insulation, elbows and boiler/tank or vessel insulation	Any size	At least 3 samples

Mastics and putties, including duct mastic (around penetrations) and window putty	Any size	At least 3 samples
Roofing materials, including felting and shingles	Less than 90 m ² (approximately 1,000 ft ²)	At least 1 sample (each layer of material must be sampled)
	Between 90 and 450 m ² (approximately 5,000 ft ²)	At least 2 samples (each layer of material must be sampled)
	Greater than 450 m ²	At least 3 samples (each layer of material must be sampled)
Asbestos cement (transite) board and pipe	Any size	At least 1 sample
Other sprayed materials	Any size	At least 1 sample per type of material
Other non-friable materials	Any size	At least 1 sample per type of material

* The information in this table is taken from: WorkSafeBC publication BK27 *Safe Work Practices for Handling Asbestos (2017)*.

** Homogeneous material is considered uniform in texture and appearance, was installed at one time, and is likely to be of only one type of material or formulation.

*** If the material is assumed to contain asbestos, samples do not have to be collected. The professional judgment of a qualified person can be used to reduce the number of bulk samples of homogeneous materials. If fewer samples than the minimum recommended number are collected, surveyors should document the rationale for their position in the survey report.

Appendix E – Contractor Sign off Sheet

By signing below, you acknowledge that you have been informed as to the nature and location of all known and suspected hazardous materials including asbestos as per OHSR 20.112 that are found at the subject site. As the contractor, you will make every effort to undertake your work duties in a manner that will avoid disturbing or otherwise impacting these materials without following WorkSafe BC approved procedures. If through your work these applications are to be disturbed or have been inadvertently disturbed, it is your responsibility to inform the client named in this report.

In the event any additional suspect hazardous materials are encountered during renovation or demolition activities, work on those materials must stop immediately and remain undisturbed until testing confirms the presence or absence of asbestos or other hazardous material. If any material suspected of containing asbestos or another hazardous material is disturbed during the work, all work shall stop until the area is contained, the hazard evaluated by a qualified professional and the hazardous materials, if indeed present, is safely managed by a qualified contractor.

Company / Name	Signature	Date