

Project Title: Renovation of Washrooms in building 49 Central Experimental Farm (CEF), Ottawa (Ontario)

Solicitation No: 15-1353

December 30, 2015

The following changes in the tender documents are effective immediately. This addendum will form part of the contract documents and is to be read, interpreted, and coordinated with all other parts. The cost of all contained herein is to be included in the contract sum. The following revisions supersede the information contained in the original drawings and specifications issued for the above-named project to the extent referenced and shall become part thereof. Acknowledge receipt of this Addendum by inserting its number and date on the Tender Form. Failure to do so may subject the Bidder to disgualification.

1 - In SECTION 08 71 00 "DOOR HARWARE"

Part 2 – Products

Sub Section 2.2 Door Hardware

at .5.5.1 Power Operator: LCN 9540 Series

Add: or an alternate product can be used, upon review and approval by Departmental Representative.

2 - Schedule and Phasing of Work

East side replacement and west side replacement of DCW, DHW, SAN, & vent risers to be completed at separate times. One female and one male washroom within building to be operational at all times. All work on risers to be minimized to minimize disruption to building occupants. Schedule of work to be reviewed and approved by departmental representative prior to commencing work.

3- Demolition and Construction

All noisy work to be completed outside of normal working hours of 9:00 a.m. to 4:00 p.m.

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4 - DRAWINGS - ELECTRICAL

Reference Drawing E1:

.1 <u>General Notes – Scheduling of Work Clarification</u>:

All work to be scheduled during normal working hours except for the following which will be completed after building operating hours.

- Noisy and dusty operations such and core drilling and cutting of surfaces.
- Power system downtime.
- Fire alarm system downtime.
- .2 Add the Following New General Note 7 as follows:
 - "7. General trades are responsible for isolating construction areas from the remaining building during washroom upgrades."

Reference Drawing E2:

.1 <u>General Note 13 – Clarification</u>:

Extend new circuit wiring in accessible ceiling of basement for ground floor equipment. Electrical contractor to remove and re-install all ceiling tiles in coordination with new circuit installation.

.2 Additional Work:

Remove and re-install existing lighting in washrooms to accommodate ceiling work associated with plumbing riser modifications. Typical of eight (8) light fixtures.

- END OF ELECTRICAL ADDENDUM E-1 – E-2

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5 - DRAWINGS - MECHANICAL

Reference Drawing M1:

Add New General Notes as follows:

- .1 All work to be scheduled during normal working hours except for the following which will be completed after building operating hours:
 - Noisy and dusty operations such and core drilling and cutting of surfaces.
 - Building water and drainage system interruptions and downtime.
- .2 General trades are responsible for isolating construction areas from the remaining building during washroom upgrades.

Reference Drawing M2:

Clarification:

Washroom plumbing fixture replacement applies to fixtures with new identification only, remaining fixtures to be cleaned and re-used as indicated in the contract drawings. Ensure proper operation of all fixtures within contract area.

Reference Drawing M4:

Clarification:

Washroom plumbing fixture replacement applies to fixtures with new identification only, remaining fixtures to be cleaned and re-used as indicated in the contract drawings. Ensure proper operation of all fixtures within contract area.

- END OF MECHANICAL ADDENDUM M1 – M2 – M4

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6 - DRAWINGS ID-2 and ID-7

Drawing ID-2: Demolition Plan & Demolition Specific Notes – Refer to attached sketch

- 1 Demolition Specific Note "J": Refer to Designated Substance Survey and Asbestos Abatement Type 2 Operations specification section for proper removal of material containing asbestos. Asbestos containing insulation is present on the pipe straights and fittings. This insulation must be removed by a certified asbestos abatement contractor before any work proceeds. Refer to section 02 82 00.02, 1.1 for estimated quantities to be removed.
- 2 Demolition Specific Note "K": Existing open shelving cabinetry to be temporarily removed for access to plumbing risers. Reinstall shelving once complete.

Drawing ID-7: Riser Remove and Reinstate Coordination Plan – refer to attached sketch

- 1 Specific Note #2: Existing open shelving cabinetry to be temporarily removed for access to plumbing risers. Reinstall cabinetry once complete.
- 2 Specific Note #3: Refer to Designated Substance Survey and Asbestos Abatement Type Operations specifications section for proper removal of material containing asbestos. Asbestos containing insulation is present on the pipe straights and fittings. This insulation must be removed by a certified asbestos abatement contractor before any work proceeds. Refer to section 02 82 00.02, 1.1 for estimated quantities to be removed.

7- ATTACHED SKETCH ID-2 & ID-7

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8- ATTACHED DESIGNATED SUBSTANCE SURVEY REPORT



Agriculture and Agri-Food Canada (AAFC)

Project Specific Designated Substances Survey Building 49 – Washroom Renovations Project Central Experimental Farm Ottawa, Ontario

> November 2015 EHS^P Project No.: 04-0004-15-011



PROJECT SPECIFIC DESIGNATED SUBSTANCES SURVEY REPORT BUILDING 49 – WASHROOM RENOVATIONS PROJECT CENTRAL EXPERIMENTAL FARM OTTAWA, ONTARIO

EHS^P Project No.: 04-0004-15-011

Prepared by:

EHS Partnerships Limited Suite 406, 2 Gurdwara Road Ottawa, Ontario K2E 1A2

Prepared for:

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November 2015

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Trent Windsor, C.E.T. Associate

Reviewed by:

CONFIDENTIAL

Distribution: 1 PDF Copy – Agriculture and Agri-Food Canada 1 Copy – EHS Partnerships Ltd.

EXECUTIVE SUMMARY

EHS Partnerships Limited (EHS^P) was commissioned by Agriculture and Agri-Food Canada (AAFC) to conduct a project specific Designated Substances Survey (DSS) in the washrooms (including Room 207) of Building 49 on the main campus of the Central Experimental Farm in Ottawa.

The survey was requested to satisfy Section 30 of the Occupational Health and Safety Act and Ontario Regulation 278/05 "Regulation Respecting Asbestos on Construction Projects and in Building and Repair Operations" (O.Reg. 278/05) in order to identify any designated and hazardous materials that may be present at the Site prior to the planned renovation of the washrooms.

 EHS^{P} personnel completed the site reconnaissance on September 25 and November 10, 2015. Based on the findings of the visual inspection, review of previous reports, suspect materials were documented, collected and subsequently submitted for analysis at a 3^{rd} party analytical laboratory.

PREVIOUS REPORTS

Two previous project specific asbestos survey reports were completed at the Site. The first was by MAL Environmental Inc. (MAL) and titled "Material Testing – Washrooms, Building 49, AAFC Campus, Ottawa, Ontario", dated February 27, 2013. The second was by EHS Partnerships and titled "Project Specific Asbestos and Lead Sampling, Building 49, Washroom Renovation Project" dated October 7, 2015. The findings in these previous reports were used for the purposes of this DSS.

FINDINGS

Asbestos

Asbestos was detected in the samples of the "Aircell" type pipe insulation and pipe fitting parging throughout the Site as well as the beige/white vinyl floor tiles in Room 207 submitted for analysis. See Section 5.0 for a summary of the asbestos survey.

Benzene

Benzene was not observed at the Site; however, there may be a potential exposure hazard to occupants, workers, or others if plastic or rubber materials are exposed to excessive heat.

Lead

Lead based paint was not identified at the Site. Lead may also be present in the solder joints of the copper piping observed throughout the Site. See Section 6.0 for a summary of the lead survey and sampling.

Mercury

Mercury vapour is present in fluorescent light tubes observed at the Site. Mercury observed at the Site does not pose a hazard to Site occupants, workers, or others if properly handled and disposed of.

Ozone Depleting Substances

Ozone depleting substances were not observed in the project area.

Polychlorinated Biphenyls (PCBs)

Light ballasts located at the Site potentially contain PCBs. PCB containing ballasts do not pose a hazard to Site occupants, workers, or others if they are handled and disposed of using proper procedures. In addition PCB's may also be present in the caulking observed.

Silica

Silica is present in the concrete, vinyl flooring, grout, and plaster observed at the Site. Silica containing materials were observed to be in good condition at the time of the DSS and do not currently pose a hazard to occupants, workers, or others unless these materials are damaged or disturbed without using proper engineering controls.

Vinyl Chloride

Vinyl Chloride was not observed at the Site; however there is a potential exposure hazard to occupants, workers, or others if Polyvinyl Chloride (PVC) pipes and wire coatings are exposed to excessive heat.

Other Designated Substances and Hazardous Materials

Arsenic, Acrylonitrile, Isocyanates, Coke Oven Emissions and Ethylene Oxide, were not observed at the Site.

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Appendix A: Analytical Results

1.0 INTRODUCTION

EHS Partnerships Limited (EHS^P) was retained by Agriculture and Agri-Food Canada (AAFC) to conduct a project specific Designated Substances Survey (DSS) in the washrooms (including Room 207) of Building 49 located at the Main Campus of the Central Experimental Farm in Ottawa, Ontario (herein referred to as the 'Site'). This report details the results of the DSS completed at the Site on September 25 and November 10, 2015.

1

2.0 **OBJECTIVE**

The survey was requested to satisfy Section 30 of the Occupational Health and Safety Act (OHSA) and Ontario Regulation 278/05 "Regulation Respecting Asbestos on Construction Projects and in Building and Repair Operations" (O.Reg. 278/05) in order to identify any designated and hazardous materials that may be present at the Site prior to planned renovations of the washrooms.

3.0 SCOPE

The scope of work included the following activities:

- Preparation of a Health and Safety Plan (HASP) prior to conducting the field work;
- Inspection and sampling of potential hazardous materials within the buildings in areas that could be reasonably accessed by field personnel;
- Documenting the location of potential hazardous materials and estimating quantities;
- Submission of representative samples of potential hazardous materials for laboratory analysis; and,
- Preparation of a report summarizing the designated substances survey.

4.0 DESIGNATED SUBSTANCE SURVEY METHODOLOGY AND RESULTS

The field survey included the visual identification of potential designated substances and the collection of samples for laboratory analysis to confirm the presence/absence of hazardous materials.

Designated substances in Ontario are defined in accordance with OHSA as a biological, chemical, or physical agent or combination thereof as a designated substance to which the exposure of a worker is prohibited, regulated, restricted, limited or controlled. Under section 30 of OHSA – "Duty of Project Owners", owners are required to determine if designated substances are present at a project Site and disclose this information to project participants.

Designated substances that individuals are likely to be exposed to during construction projects include; asbestos, lead, mercury, and silica. The Ontario Ministry of Labour provides guidance regarding these substances during construction in the following documents:

- 1. Ontario Regulation 278/05 (O.Reg. 278/05) Designated Substance Asbestos on Construction Projects and in Buildings and Repair Operations.
- 2. Guideline Silica on Construction Projects, Ministry of Labour 2004.
- 3. Guideline Lead on Construction Projects, Ministry of Labour 2004.

The following sections provide an overview of the regulated designated substances and the potential presence of such substances at the Site.

4.1 Acrylonitrile

Acrylonitrile is a chemical compound that exists as a clear pungent smelling liquid. Acrylonitrile is an important compound used in the production of other chemicals and products.

This designated substance is highly flammable and toxic. When burned it releases hazardous compounds into the air including hydrogen sulfide which has been used in chemical warfare.

Based on EHS^P observations Acrylonitrile was not identified at the Site during the DSS.

4.2 Arsenic

Arsenic is chemical element that occurs in several different minerals in nature. Arsenic is used in a wide variety of applications including the strengthening of steel and cooper alloys, it is a valuable semiconductor, and has been used in the production of herbicides and pesticides.

Arsenic is a known human carcinogen and potent poison.

Based on EHS^P observations Arsenic was not identified at the Site during the DSS.

4.3 Asbestos

Asbestos is a group of naturally occurring mineral silicates that has been used in the manufacture of building materials due to their desirable physical properties. Asbestos was used in a number of building materials such as roofing shingles, acoustic ceiling tile, vinyl flooring, cement products, insulation and other applications.

The association between the inhalation of asbestos fibres and various respiratory diseases has been confirmed.

An asbestos containing material (ACM) survey was conducted by EHS^P as part of this DSS. Details of the ACM survey are presented in section 5.0.

4.4 Benzene

Benzene is natural compound found in petroleum based products such as gasoline and diesel fuels, asphalt and other hydrocarbon based products. It is used as a catalyst in various chemical processes including the production of plastics, rubber, drugs and pesticides.

Benzene is a known human carcinogen. Exposure to airborne benzene has been linked to various forms of leukemia.

Benzene was not observed at the Site; however, there may be a potential exposure hazard to occupants, workers, or others if plastic or rubber materials are exposed to excessive heat.

4.5 Coke Oven Emissions

Coke Oven Emissions are the airborne by-product resulting from the distillation of low-ash and sulfur coal or coke. Coke is a useful fuel, chemical reducer, and is even used in the production of Scotch whisky.

Coke oven emissions potentially cause lung and skin cancers.

Based on EHS^P observations coke oven emmissions are not present at the Site.

4.6 Ethylene Oxide

Ethylene Oxide is a colourless gas with a faint sweet odour. This organic compound has various applications in the chemical engineering industry.

Ethylene oxide is a known human carcinogen and poison. Chronic exposure is known to cause genetic mutations (damage caused to DNA resulting in physical mutations).

Based on observations noted during the DSS and historical use of the Site, ethylene oxide is not present.

4.7 Isocyanates

Isocyanates are any organic compound that contains a specific chemical functional group made up of a specific structure of one atom of nitrogen, carbon, and oxygen. The presence of this functional group gives chemical compounds unique properties that may be exploited in the production of polymers. Isocyanate containing polymers are used in the manufacture of paints, foams, and electrical insulation.

All isocyanates must be treated as highly hazardous with inhalation being the primary exposure hazard.

Based on observations noted during the DSS and historical use of the Site, isocyanates are not present.

4.8 Lead

Lead is a chemical element that is a soft malleable metal. Lead is used in the production of a number of products including ammunition, batteries, pipes, and paint.

Lead is potent neurotoxin that accumulates in the body and results in brain and nervous system damage. The primary routes of exposure to lead include inhalation and ingestion.

EHS^P conducted a lead-based paint sampling program as part of the DSS. The findings of this sampling program are presented in section 6.0.

4.9 Mercury

Mercury is a chemical element that is the only metal that exists in the liquid state at standard temperature and pressure. Elemental mercury has been used in a number of scientific instruments such as thermometers and barometers. In buildings liquid mercury has been used widely in thermostats and switch gear. Mercury vapour is used to produce light in fluorescent light tubes. Chronic and acute inhalation of mercury vapour has been shown to have profound effects on the central nervous system including impaired cognitive skills, tremors, hallucinations, delirium, and suicidal tendency.

Mercury in the form of vapour is present in the fluorescent light tubes.

4.10 Silica

Silica is the common name for the chemical compound silicon dioxide that occurs naturally as sand or quartz. Due to the hardness of silica it has been used as the primary raw material in products such as glass, ceramics, and cement.

Inhalation of silica is known to cause irreversible lung diseases including cancer and silicosis.

Silica is present in the concrete, vinyl flooring, and plaster observed at the Site. If the aforementioned materials are to be disturbed, appropriate precautions should be taken during disturbance.

4.11 Vinyl Chloride

Vinyl Chloride is a chemical compound that exists as a gas at standard temperature and pressure. It is used in the production of polyvinyl chloride (PVC) which is non-hazardous.

Vinyl chloride is a known human carcinogen and is known to cause liver damage.

Based on EHS^P observations vinyl chloride is not present at the Site; however there is the potential that vinyl chloride could be released if PVC pipes, plastic, or wire coatings are burnt.

5.0 ASBESTOS CONTAINING MATERIALS SURVEY

5.1 General

The asbestos containing materials (ACMs) survey was conducted by EHS^P to satisfy Section 30 of the Occupational Health and Safety Act of Ontario and Ontario Regulation 278/05: Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations (O.Reg.278/05).

The ACMs survey was carried out in accordance with the measures prescribed in O.Reg.278/05.

5.2 Findings

As outlined in the previous report by MAL, titled "Material Testing – Washrooms, Building 49, AAFC Campus, Ottawa, Ontario", plaster finishes within the washroom found are considered to be non-ACM.

EHS^P personnel completed Site reconnaissance including visual inspection and sampling of potential ACMs on September 25 and November 10, 2015. Based on the findings of the visual inspection, review of previous reports, suspect materials were documented, collected and subsequently submitted for analysis at a 3rd party analytical laboratory.

As part of the ACMs survey, EHS^P collected eighteen (18) representative samples from six (6) distinct types of materials that were suspected to contain asbestos. Potential ACMs sampled during the DSS included "Aircell" type pipe insulation, antisweat type pipe insulation, pipe fitting parging, white tile grout, grey tile grout, and beige/white vinyl floor tiles. Sampled materials were submitted using a chain of custody to EMSL Canada Incorporated (EMSL) of Ottawa, Ontario for asbestos analysis via polarized light microscopy (PLM). The analytical results are presented in **Appendix A** and are summarized in the following table:

Table 1: Summary of Laboratory Analytical Results - Asbestos Containing Materials Building 49 – Washroom Renovations Project

Sample ID	Material	Location	Asbestos Concentration	Condition	
AC-01A		Throughout	70% Chrysotile	POOR to Good	
AC-01B	"Aircell" Type Pipe Insulation				
AC-01C					
AS-01A		Throughout	None Detected	POOR to Good	
AS-01B	Antisweat Type Pipe Insulation				
AS-01C					
PG-01A					
PG-01B	Pipe Fitting Parging	Throughout	70% Chrysotile	POOR to Good	
PG-01C					
WTG 1-A					
WTG 1-B	White Tile Grout	Throughout	None Detected	Good	
WTG 1-C					
GTG 1-A					
GTG 1-B	Grey Tile Grout	Throughout	None Detected	Good	
GTG 1-C					
VFT 1-A					
VFT 1-B	Vinyl Floor Tiles	Room 207	2% Chrysotile	Good	
VFT 1-C					

Based on the analytical results the samples of the "Aircell" type pipe insulation and pipe fitting parging throughout the Site as well as the beige/white vinyl floor tiles in Room 207 submitted for analysis were found to contain greater than 0.5% asbestos by dry weight and therefore are considered to be ACMs in accordance with O.Reg.278/05.

It should be noted that "Aircell" type insulation and pipe fitting parging debris were observed at the several locations inspected.

6.0 LEAD BASED PAINT SURVEY

6.1 General

The lead based paint survey was conducted by EHS^p to satisfy Section 30 of the Occupational Health and Safety Act of Ontario. The Federal Government has been limiting the concentration of lead allowed in manufactured paints since the 1970's. Painted surfaces that were applied prior to the 1980's likely contain elevated concentrations of lead. Exterior painted surfaces applied prior to the 1990's potentially contain elevated concentrations of lead. General industry practice is to categorize any painted surface that contains 5000ppm as lead based paint. Paints with a lead concentration between 90ppm and 4999ppm are classified as lead containing.

6.2 Findings

EHS^P personnel completed the Site reconnaissance including visual inspection and sampling of potential lead based paints. As part of the lead based paint survey one (1) representative paint chip samples were collected for lead characterization.

Sampled materials were submitted using a chain of custody to EMSL Canada Inc., of Mississauga, Ontario. The analytical results are presented in **Appendix A** and are summarized in the following table:

Sample ID	Colour - Painted Surface	Location	Lead Concentration (ppm)
P-01	Beige Wall Paint	Throughout	1,800

Table 2: Summary of Laboratory Analytical Results – Lead PaintBuilding 49 – Washroom Renovations Project

Based on the analytical results the beige wall paint (PS-01), beige wall paint was found to contain a lead concentration of greater than <90 ppm and is therefore considered to be a lead containing paint.

Please note that lead is likely present in the solder of copper pipes and this material was not sampled.

7.0 HAZARDOUS MATERIALS SURVEY

7.1 General

The field survey included the visual identification of materials that are potentially hazardous to Site occupants, workers, and others.

The following sections provide an overview of the potential hazardous materials of interest and the potential presence of such substances at the Site.

7.2 Ozone Depleting Substances

7.2.1 General

Ozone Depleting Substances (ODSs) are a group of man-made halocarbon refrigerants. They were invented in the 1920's and were used widely as refrigerants and aerosol propellants before 1980. The removal and disposal of ODSs is governed by Federal Regulation SOR/2003-289, Federal Halocarbons Regulations, 2003 made under the Canadian Environmental Protection Act and the Provincial Regulation 463/10 – Ozone Depleting Substances and other Halocarbons, made under the Ontario Environmental Protection Act.

ODSs are the primary cause of man-made ozone layer depletion and therefore must be not released into the environment.

7.2.2 Findings

No ozone depleting substances were observed in the project area at the Site.

7.3 Polychlorinated Biphenyls

7.3.1 General

Polychlorinated Biphenyls (PCBs) are a group of man-made organic compounds made up of a specific structure that includes two benzene rings or phenyl functional groups. Commercial production began in the 1920's and they were used primarily as coolants and insulating fluids used widely in transformers and capacitors. The removal and disposal of PCBs is governed by Federal Regulation SOR/2008-273, PCBs Regulations, made under the Canadian Environmental Protection Act.

PCBs interfere with hormone production in people causing toxic and mutagenic affects. PCBs are a persistent pollutant and must not be released into the environment.

7.3.2 Findings

Based on EHS^P observations PCBs may be present in flourescent light ballasts at the Site.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The following recommendations are based on the DSS conducted by EHS^P on September 25 and November 10, 2015 at the washrooms of Building 49 located at the main campus of the Central Experimental Farm, Ottawa, Ontario

General

The Occupational Health and Safety Act require building owners and their agents to notify all employees, and contractors of the presence of designated substances at a project Site and that precautions are taken to protect workers safety during construction or demolition of the Site.

Asbestos

Asbestos was detected in the "Aircell" type pipe insulation and pipe fitting parging throughout the Site as well as the beige/white vinyl floor tiles in Room 207.

The following recommendations are based on the requirements of Ontario Regulation 278/05 – Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations:

- 1. Provide a copy of this report or applicable portions of this report to maintenance personnel or contractors that work in close vicinity to ACMs.
- 2. Remove all asbestos containing materials that may be disturbed prior to demolition or renovations.
- 3. Asbestos waste generated by asbestos abatement activities must be packaged, labelled and disposed of in accordance with Ontario Regulation 347/90 (as amended).

The following table presents a list of asbestos containing materials present in the proposed project area and the recommended action:

Material	Location	Approx. Quantity	Recommended Action	Asbestos Operation
"Aircell" Type Pipe Insulation	Throughout	70 ft.	Asbestos containing straight run pipe insulation is rated to be in POOR to GOOD condition and should be monitored regularly to ensure that the condition does not deteriorate. Any disturbance of the asbestos containing straight run pipe insulation during the planned renovations are considered to be an asbestos abatement operation and therefore must be completed in accordance with O.Reg 278/05.	Type 2 Glove Bag
Pipe Fitting Paring	Throughout	40 fittings	Asbestos containing pipe fitting paring is rated to be in POOR to GOOD condition and should be monitored regularly to ensure that the condition does not deteriorate. Any disturbance of the asbestos containing pipe fitting paring during the planned renovations are considered to be an asbestos abatement operation and therefore must be completed in accordance with O.Reg 278/05.	Type 2 Glove Bag

Table 3: Asbestos Containing Materials Action SummaryBuilding 49 – Washroom Renovations Project

Insulation Debris	Throughout	N/A	Asbestos containing insulation debris must be removed prior to the planned renovations in accordance with O.Reg 278/05.	Type 2
Beige/white Vinyl Floor Tiles	Room 207	170 ft ²	Asbestos containing vinyl floor tile is rated to be in GOOD condition and should be monitored regularly to ensure the condition does not deteriorate. Remove prior to the planned renovations in accordance with O.Reg 278/05.	Type 1

Benzene

Excessive heat must not be used on wire coatings, plastic materials, or PVC as heat may release benzene. If these practices cannot be avoided then implement control measures appropriate for the control of benzene prescribed in Ontario Regulation 490/09 – Designated Substances. This regulation is exempt from construction projects but provides useful guidance on personal protection when a specific regulation or guideline for a specific designated substance is not available for the construction industry.

Lead

Measures prescribed in the Ministry of Labour's Guideline titled "Lead on Construction Projects" should be followed to control the lead dust hazard during the demolition of all painted surfaces.

Polychlorinated Biphenyls (PCBs)

Potential PCB containing ballasts observed at the Site should be separated from the light fixtures and examined for possible PCB content. If they are found to contain PCBs they should be containerized and disposed of in accordance with Federal Regulation SOR/2008-273 – PCB Regulations and CCME guidelines for the management of waste containing PCBs and Ontario Regulation 347 Waste Regulation.

Silica

Measures prescribed in the Ministry of Labour's Guideline titled "Silica on Construction Projects", should be followed during the demolition of all silica containing materials.

Vinyl Chloride

Excessive heat must not be used on wire coatings, plastic materials, or PVC as heat may release vinyl chloride. If these practices cannot be avoided then implement control measures appropriate for the control of vinyl chloride prescribed in Ontario Regulation 490/09 – Designated Substances. This regulation is

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exempt from construction projects but provides useful guidance on protection when a specific regulation or guideline for a specific designated substance is not available.

Mercury

If mercury is removed or relocated, work must be completed in accordance with Ontario Regulation 490/09 – Designated Substances.

Best management practices for the management of the mercury containing fluorescent light tubes would dictate that the tubes be picked up by a licensed hazardous waste removal contractor or returned to the manufacturer for recycling/and or proper disposal.

9.0 LIMITATIONS

The conclusions and recommendations contained in this assessment report are based upon professional opinions with regard to the subject matter. These opinions are in accordance with currently accepted environmental assessment standards and practices applicable to these locations and are subject to the following inherent limitations:

- 1. The data and findings presented in this report are valid as of the dates of the investigations. The passage of time, manifestation of latent conditions or occurrence of future events may warrant further exploration at the properties, analysis of the data, and re-evaluation of the findings, observations, and conclusions expressed in this report.
- 2. The data reported and the findings, observations and conclusions expressed in this report are limited by the Scope of Work. The Scope of Work was defined by the request of the client, the time and budgetary constraints imposed by the client, and availability of access to the properties.
- 3. Because of the limitations stated above, the findings, observations and conclusions expressed by EHS^P in this report are not, and should not be, considered an opinion concerning compliance of any past or present owner or operator of the site with any federal, provincial or local laws or regulations.
- 4. No warranty or guarantee, whether expressed or implied, is made with respect to the data or the reported findings, observations, and conclusions, which are based solely upon site conditions in existence at the time of investigation.
- 5. EHS^P assessment reports present professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental laws and regulations, the report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations or policies of federal, provincial, or local governmental agencies. Any use of the assessment report constitutes acceptance of the limits of EHS^P's liability. EHS^P's liability extends only to its client and not to other parties who may obtain this assessment report. Issues raised by the report should be reviewed by appropriate legal counsel.

Appendix A Analytical Results

Project Specific Designated Substances Survey Agriculture and Agri-Food Canada Building 49 – Washroom Renovations Project Central Experimental Farm Ottawa, Ontario EHS^P Project No.: 04-0004-15-011



Project Title: Renovation of Washrooms in building 49 Central Experimental Farm (CEF), Ottawa (Ontario)

Solicitation No: 15-1353

December 30, 2015

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME