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## **ADDENDUM No. 1**

# The Municipality of Central Manitoulin Public Works Garage Repairs TULLOCH Project 240701

Time & Date of Distribution: 10:15am Wednesday, June 19, 2024

**Items**: See attached, "Focused Designated Substance and Hazardous Materials

Survey – Municipality of Central Manitoulin Public Works Garage Repairs, 7

Lakeshore Road, Mindemoya, Ontario."

Please sign this page and fax or email to TULLOCH Engineering Inc. (705) 949-9606 or <a href="mailto:meagan.figures@tulloch.ca">meagan.figures@tulloch.ca</a> immediately to indicate receipt of this document.		
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24-0701 Addendum #1		



June 19, 2024 Project No.: 240701

Patricia Mader, Municipal Coordinator/Deputy Clerk Municipality of Central Manitoulin 6020 Highway 542, P.O. Box 420 Mindemoya, Ontario POP 1S0

Re: Focused Designated Substance and Hazardous Materials Survey

Municipality of Central Manitoulin, Mindemoya Road Garage Repairs, Mindemoya,
Ontario

Dear Ms. Mader,

Please find enclosed the final version of TULLOCH's Report entitled "Focused Designated Substance and Hazardous Materials Survey – Municipality of Central Manitoulin Public Works Garage Repairs, 7 Lakeshore Road, Mindemoya, Ontario".

Should you have questions, concerns or wish to discuss, please contact the undersigned at your convenience.

Sincerely,

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Encl.



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## **REVISION LOG**

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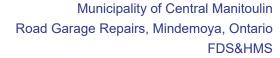
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#### **EXECUTIVE SUMMARY**

TULLOCH Engineering (TULLOCH) was commissioned by the Municipality of Central Manitoulin (Client) to complete a focused designated substance and hazardous materials survey (FDS&HMS) for a proposed building demolition at Municipality of Central Manitoulin Public Works Garage at 7 Lakeshore Road, Mindemoya, Ontario (the 'Site').

The terms of reference for this project, are based on email approval received from the Client.

The objective of this FDS&HMS was to provide a comprehensive summary of substances that require removal and/or management prior to completing renovations at the Site. The FDS&HMS included the collection of building material samples suspected of containing asbestos and lead. Furthermore, the Site was investigated for the potential presence of designated substances as defined by Ontario Regulation 490/09 (O. Reg. 490/09) and hazardous materials as defined by various regulations.

Based on TULLOCH's FDS&HMS, the following designated substances and potentially hazardous materials were identified within the Site:

- All paint should be considered lead containing throughout the building and appropriate lead procedures should be used when cutting, sanding, or welding on painted surfaces.
- Fluorescent light tubes contain mercury vapour. Light tubes are present throughout the building. Any older fluorescent light ballasts should be inspected for PCBs.
- Emergency lighting may contain lead acid batteries.
- Wiring connectors, grounding conductors and solder throughout the survey area may contain lead.
- Masonry, mortar, and concrete materials used for floor slabs have the potential of containing silica.
- All internal and exterior thermostats found within the survey area should be assumed to contain mercury until inspection proves otherwise.



## **TABLE OF CONTENTS**

1.	INTRODUCTION		1
	1.1 1.2 1.3 1.4 1.5 1.6	Terms of Reference Objective Applicable Regulations and Guidelines Site Description Scope of Work Safety, Health and the Environment Survey and Reporting Limitations	1 2 3
2.	METH	HODOLOGY	4
	2.1	Asbestos Survey	
	2.2	Lead	
	2.3	Polychlorinated biphenyl (PCB)	
	2.4	Other Designated Substances and Hazardous Materials	5
3.	SURV	VEY FINDINGS	6
	3.1	Asbestos	6
		3.1.1 Asbestos Cement Products (Non-friable)	6
		3.1.2 Sheet Vinyl Flooring/Mastic (Non-friable)	
		3.1.3 Vinyl Floor Tiles/Mastic (Non-friable)	
		3.1.4 Drywall Joint Compound (Non-friable)	
		3.1.5 Plaster (Non-Friable)	
		3.1.6 Stucco (Non-Friable)	
		3.1.7 Duct Insulation and Insulation Board Materials (Friable)	
		3.1.8 Textured Finishing Materials (Friable)	
		3.1.10 Vermiculite Insulation (Friable)	
		3.1.11 Pipe Insulation Materials (Friable)	
		3.1.12 Caulking Materials (Non-Friable)	
		3.1.13 Mechanical Insulation	
		3.1.14 Floor Leveling Compound	
		3.1.15 Sprayed/Troweled on Fireproofing	7
		3.1.16 'Other' Potential ACM Materials	
	3.2	Lead	
		3.2.1 Other Lead Sources	
	3.3	Mercury	
	3.4	Urea Formaldehyde Foam Insulation (UFFI)	
	3.5 3.6	Ozone Depleting Substances (ODS)	
	3.6 3.7	Polychlorinated BiphenylsSilica Containing Materials	
	3.8	Acrylonitrile	
	3.9	Arsenic	
	3.10	Benzene	
	3.11	Coke Oven Emissions	
	3.12	Ethylene Oxide	
	3.13	Isocyanates	
	3.14	Vinyl Chloride	10





	3.15	Radioactive Materials	11
	3.16	Other Chemicals, Substances or Hazardous Materials of Potential Concern	11
4. RECOMMENDATIONS		OMMENDATIONS	11
	4.1	Lead	11
	4.2	Mercury	12
	4.3	Silica Containing Materials	12

## **LIST OF FIGURES**

FIGURE F1

F1 Sample Location Plan – Main Floor

## **LIST OF APPENDICES**

NONE



## 1. INTRODUCTION

#### 1.1 Terms of Reference

TULLOCH Engineering (TULLOCH) was commissioned by the Municipality of Central Manitoulin (Client) to complete a focused designated substance and hazardous materials survey (FDS&HMS) for a proposed building demolition at the Municipality of Central Manitoulin Public Works Garage at 7 Lakeshore Road, Mindemoya, Ontario (the 'Site').

The terms of reference for this project are based email approval received from the Client.

#### 1.2 Objective

The objective of this FDS&HMS was to provide a comprehensive summary of substances that require removal and/or management prior to completing renovations at the Site. The FDS&HMS included the collection of building material samples suspected of containing asbestos and lead. Furthermore, the Site was investigated for the potential presence of designated substances as defined by Ontario Regulation 490/09 (O. Reg. 490/09) including:

- Acrylonitrile
- Ethylene Oxide
- Arsenic
- Lead
- Benzene
- Silica

- Asbestos
- Mercury
- Isocyanates
- Coke Oven Emissions
- Vinyl Chloride

The following potentially hazardous materials were also investigated that are commonly found in commercial buildings:

- Fecal Waste
- Polychlorinated Biphenyls (PCBs)
- Mould
- Radioactive Smoke Detectors
- Ozone Depleting Substances (ODS)
- Urea Formaldehyde Foam Insulation (UFFI)
- Naturally Occurring Radioactive Materials (NORMs)

#### 1.3 Applicable Regulations and Guidelines

The FDS&HMS was completed to address the following applicable regulatory requirements and guidelines for the management of designated substances and hazardous materials;



- Ontario Occupational Health & Safety Act R.S.O. 1990, as amended, including
  - Designated Substances Ontario Regulation 490/09, as amended
  - Designated Substances Asbestos on Construction Projects and in Buildings and Repair
     Operations Ontario Regulation 278/05
- Ontario Environmental Protection Act R.S.O. 1990, as amended, including
  - o General Waste Management R.R.O. 1990, Ontario Regulation 347, as amended
  - Ozone Depleting Substances and Other Halocarbons Ontario Regulation 463/10, as amended
  - o Waste Management PCBs, Regulation 362, as amended
- Ministry of Labour Guidelines "Lead on Construction Projects," dated September 2004
- Ministry of Labour Guidelines "Silica on Construction Projects," dated September 2004
- Environment Canada Document "PCB Identification of Lamp Ballasts Containing PCBs" dated
   August 1991
- Canadian Construction Association (CCA), Standard Construction Document 82-2004, "Mould Guidelines for the Canadian Construction Industry", 2004
- Environmental Abatement Council of Ontario "Mould Abatement Guidelines," 2<sup>nd</sup> Edition, 2010
- Environment and Climate Change Canada "PCB Regulations (SOR/2008-273)"

## 1.4 Site Description

The date of construction of the structure on Site is 1970's with the west addition built in later years, of an unknown date. The building is a one-storey garage with a mezzanine level and no basement. Refer to the attached figures F1 for the survey area and sample locations.

In October 2023, TULLOCH completed a survey of the project area. The following descriptions relate only to those portions of the site and structure that were available for direct observation at the time of inspection.



Building Component	Description
Exterior Cladding	Metal Siding
Foundation	Pour cast in place concrete
HVAC	Oil fired forced-air furnace
Roof	Sloped – metal on wood or metal structure
Flooring	Concrete
Interior walls	Wood plywood
Ceilings	None, open to structure

#### 1.5 Scope of Work

In order to satisfy the objectives for the management, transportation and disposal of designated substances associated with the renovation of the structure located at the Site, the scope of work included:

- A comprehensive survey of building infrastructure to identify and quantify potential ACM. The survey was intrusive in nature and was limited to safe, accessible areas including wall and ceiling cavities. The survey was limited to areas determined to be disturbed during renovation activities.
- A review of building materials that have the potential to contain asbestos. Suspected asbestos
  containing materials were collected and relinquished to an accredited laboratory for analyses, if
  required.
- A limited intrusive inspection of coating materials to identify suspected lead paint materials.
   Suspected lead-based paint samples were collected and relinquished to an accredited laboratory for analyses, if required.
- A limited intrusive inspection of caulking and sealant materials to identify suspect PCB containing materials.
- 5) A survey of accessible areas of buildings and properties to identify and quantify devices that have the potential to contain ODSs.



- 6) A comprehensive survey of building infrastructure to identify and quantify other designated substances and/or potentially hazardous materials of concern.
- 7) A report summarizing the FDS&HMS, identifying substances and/or materials to be managed to protect occupants and contractor personnel conducting renovation activities.

#### 1.6 Safety, Health and the Environment

Prior to commencing with the field component of this FDS&HMS, TULLOCH reviewed safety, health and environmental concerns relevant to the Site, as well as the tasks involved with completing the work that would expose workers, the public or the environment to any hazards. At the time the field work began, TULLOCH identified health concerns associated with exposure to asbestos fibres during the sampling process; therefore, TULLOCH implemented safe working practices that included the wearing of a full-face respirator equipped with P100 cartridges during the sampling period.

No other health and safety concerns were identified that would pose unsafe or hazardous working conditions. Safe work practices were implemented throughout the project, and no injuries or impairment to the environment was recorded.

#### 1.7 Survey and Reporting Limitations

The possibility remains that unexpected environmental conditions may be encountered at the Site in locations not specifically observed or investigated.

TULLOCH makes no other evaluations whatsoever, including those concerning the legal significance of designated substances. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with one's own legal counsel.

#### 2. METHODOLOGY

#### 2.1 Asbestos Survey

The review of on-Site structures was limited intrusive in nature to document the general composition of building materials. All damaged resulting from the collection of samples was not restored at the time of sampling, if required. An assessment of the condition and accessibility of the materials as required by an asbestos management plan was not completed.

The limited intrusive investigation means that holes were advanced into the building substrate for localized inspections or existing penetrations were used to identify hidden building materials. ACM surveys generally



include the assumption, accepted as industry standard practice, that various building materials are known to contain asbestos fibres, and are not sampled if they cannot be accessed and sampled safely.

Where required, bulk samples were collected from building materials suspected to contain asbestos fibres. Sufficient sample was collected for laboratory analytical requirements, which includes multi-layered building materials (plaster on plaster), for which each layer was analysed separately. The laboratory was instructed to discontinue analysis (stop-positive) on subsequent samples in the same series when asbestos was identified in one of the samples.

Sampling and analysis of suspect ACMs, if needed, was completed in accordance with Ontario Regulation 278/05, U.S. Environmental Protection Agency Test Method EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, June 1993.

#### 2.2 Lead

Surfaces considered suspect of being coated with old lead containing paint were inspected based on the scope of work; and if needed, analysis was completed in accordance with ASTM D3335 - 85a (2009) "Standard Test Method for Low Concentrations of Lead, Cadmium, and Cobalt in Paint by Atomic Absorption Spectroscopy".

## 2.3 Polychlorinated biphenyl (PCB)

Sealants suspected of containing PCBs were inspected based on the scope of work; and if needed, analysis was completed in accordance with EPA, 1994. "Method 3541 (SW-846) Automated Soxhlet Extraction", Revision 0.

#### 2.4 Other Designated Substances and Hazardous Materials

TULLOCH further reviewed the Site to visually identify and quantify designated substances and hazardous materials including mercury and PCBs. Devices that may contain ODSs or being potentially radioactive were quantified and building materials suspect of containing UFFI, silica or that appeared to support mould or bacteria growth were documented and reported. The following Designated Substances typically are not found in building materials and if present are generally in a composition that is not considered hazardous.

- Benzene
- Coke oven emissions
- Ethylene oxide
- Isocyanates
- Vinyl chloride



#### 3. SURVEY FINDINGS

#### 3.1 Asbestos

In October 2023, TULLOCH completed the survey of the Site and did not identify any building materials suspect of containing asbestos. No samples of building materials were collected and sent for analysis.

#### 3.1.1 Asbestos Cement Products (Non-friable)

Asbestos cement products were not found in the survey area.

#### 3.1.2 Sheet Vinyl Flooring/Mastic (Non-friable)

Sheet vinyl flooring was not found within the survey area.

#### 3.1.3 Vinyl Floor Tiles/Mastic (Non-friable)

Vinyl floor tiles were not found within the survey area.

#### 3.1.4 Drywall Joint Compound (Non-friable)

Drywall joint compound was found in the meeting room; however, this area was outside the scope of the work planned for the Site.



Drywall joint compound was outside of the scope of work for the repairs.

#### 3.1.5 Plaster (Non-Friable)

Plaster was not found within the survey area.

#### 3.1.6 Stucco (Non-Friable)

Stucco was not found throughout the survey area.



#### 3.1.7 Duct Insulation and Insulation Board Materials (Friable)

No duct or insulation board materials were found in the survey area.

#### 3.1.8 Textured Finishing Materials (Friable)

Texture coat was not found within the survey area.

#### 3.1.9 Acoustic Ceiling Tiles (Friable)

Acoustic ceiling tile were not found within the survey area.

#### 3.1.10 Vermiculite Insulation (Friable)

Vermiculite insulation was not found in the survey area.

#### 3.1.11 Pipe Insulation Materials (Friable)

All pipes observed were uninsulated.

#### 3.1.12 Caulking Materials (Non-Friable)

Caulking was not found within the survey area.

#### 3.1.13 Mechanical Insulation

Mechanical insulation suspected of containing asbestos was not found in the survey area.

#### 3.1.14 Floor Leveling Compound

Floor leveling compound was not found within the survey area.

#### 3.1.15 Sprayed/Troweled on Fireproofing

Spray applied fireproofing was not found within the survey area.

#### 3.1.16 'Other' Potential ACM Materials

No other building materials that are suspected of containing asbestos were found in the survey area.

#### 3.2 Lead

Painted surfaces with a glossy finish, typically indicative of lead-based paint, were found throughout the Site. No paint samples were collected from surfaces inside the building which will potentially be disturbed during demolition/renovation and analysed to determine the concentration of lead. Any paint that may be disturbed should be considered lead containing and appropriate procedures should be utilized.







Grey paint on steel columns is assumed to contain lead. Brown paint on steel columns is assumed to contain lead.

#### 3.2.1 Other Lead Sources

Lead will be present in any lead-acid batteries for emergency lighting. Lead is considered to be present in wiring connectors, grounding conductors and solder.



Emergency lighting may contain lead-acid batteries.

#### 3.3 Mercury

At the time of our visit, fluorescent lamps were observed throughout the survey area. Fluorescent lamps contain mercury vapour. Fluorescent lamps should be removed intact and properly disposed of.





Florescent lamp tubes contain mercury vapour.

Thermostats observed could not be accessed; however, it should be assumed that all internal and external thermostats contain mercury until inspection proves otherwise.

#### 3.4 Urea Formaldehyde Foam Insulation (UFFI)

UFFI was not found in the survey area.

#### 3.5 Ozone Depleting Substances (ODS)

Devices suspected of containing ozone depleting substances were not observed in the survey area. If any refrigerants are discovered, they should be evacuated from equipment prior to removal from the Site.

#### 3.6 Polychlorinated Biphenyls

Caulking that may contain PCBs was not found at the Site.

#### 3.7 Silica Containing Materials

Masonry and concrete materials, which have the potential of containing silica, were used for cast in place concrete slabs and concrete block walls throughout the Site.

#### 3.8 Acrylonitrile

Acrylonitrile is primarily released into the environment from the chemical and plastic production industries; therefore, the presence of acrylonitrile is unlikely at the site.

#### 3.9 Arsenic

Arsenic is used to manufacture hard, strong and corrosion resistant alloys. Arsenic compounds can also be found in pigments, animal poisons, insecticides, paints, wallpaper, ceramics, and poisonous gases manufactured for military purposes. The presence of arsenic and/or materials containing significant



quantities of arsenic in the building envelope finishes is unlikely. Arsenic may be found in older pressure treated wood products if used in the construction of the building.

#### 3.10 Benzene

Benzene is used in industry primarily for the production of other chemicals used in the manufacturing of plastics, resins, nylon, synthetic fibres, rubbers, dyes, detergents, drugs and pesticides. Benzene is naturally occurring in crude oil, fuel oil, gasoline, and cigarette smoke. Above ground storage tank was found outside the survey area, on the exterior of the building which supplies the heating system. No oil staining was observed on the interior of the building in the scope of work area.

#### 3.11 Coke Oven Emissions

Coke oven emissions are generated in the extraction of metals from ores and are generally associated with the manufacturing of iron and steel; therefore, based on the information gathered for the Site, and TULLOCH's survey, the presence of coke oven emissions is unlikely.

#### 3.12 Ethylene Oxide

Ethylene oxide is produced in large volumes throughout the world and is generally used as a chemical intermediate for the manufacturing of textiles, detergents, polyurethane foams, antifreeze, solvents, medicinal products, adhesives, and is used as a fumigant in agricultural products, and sterilizing agents. Based on the information gathered for the Site, and TULLOCH's survey, the presence of ethylene oxide in large quantities is unlikely.

#### 3.13 Isocyanates

Isocyanates are a raw material used in the production of polyurethanes, and widely used for the manufacturing of flexible/rigid foams, fibres, elastomers, and coatings such as paints and varnishes. Based on the information gathered for the Site, and TULLOCH's survey, the presence of isocyanates in large quantities is unlikely.

#### 3.14 Vinyl Chloride

Since vinyl chloride is primarily released into the environment as gas emissions or in wastewater from the production of polyvinyl chloride (PVC), the presence of vinyl chloride is unlikely; however, due to the release of vinyl chloride gas from the burning of electrical wiring or PVC pipes, the use of high heat or burning methods to dismantle electrical components or PVC pipes is not recommended.

Based on the information gathered for the Site, and TULLOCH's survey, the presence of vinyl chloride in large quantities is unlikely.



#### 3.15 Radioactive Materials

Smoke and heat detectors installed on the ceiling were not available for direct observation. Smoke detectors may use ionization technology, which employs a small radioactive source as a key component in detecting smoke particles and may be present throughout the Site.

Naturally Occurring Radioactive Materials (NORMs) usually consist of industrial wastes or by-products enriched with radioactive elements found in the environment, such as uranium, thorium, and potassium and any of their decay products, such as radium and radon.

Based on the information gathered for the Site, and TULLOCH's survey, the presence of NORMs is unlikely.

#### 3.16 Other Chemicals, Substances or Hazardous Materials of Potential Concern

No other chemicals or hazardous materials were found that would be of concern.

## 4. RECOMMENDATIONS

The removal of all identified designated substances must be performed prior to disturbing the building substrate below. A qualified person should inspect the removal of all designated substances prior to proceeding with renovation/repair work.

A copy of this report must be given to all contractors working on the project.

#### 4.1 Lead

Building materials confirmed or assumed to contain lead (i.e., solder, wiring connections, copper pipes, paint, lead batteries etc.) should be removed and properly recycled.

All paint assumed to contain lead should be abated prior to demolition if the substrate will be disturbed, cut, burnt, or abraded during demolition/removal. If items can be removed without cutting, burning, or abrading then abatement of lead containing paint is not required. Additional testing of assumed lead containing paint may be required to determine abatement options.

All areas where cutting or welding will be required shall be removed a with chemical gel stripper, no less than 10 inches on both sides of the cut or weld location, for a total of 20 inches wide for each location.

Waste materials which exceed the Leachate Quality Criteria for lead of 5 ppm, as established using the Toxicity Characteristic Leaching Procedure (TCLP) per O. Reg. 347 (as amended) are considered lead



hazardous wastes and must be transported and disposed of at a licensed facility. Leachate testing of certain materials may be required prior to disposal.

#### 4.2 Mercury

Materials consisting of elemental, inorganic or organic mercury that exceed the Leachate Quality Criteria of 0.1 ppm, as established by Regulation 347 (as amended) TCLP, cannot be disposed of at a solid non-hazardous waste site. The waste removal contractor should be responsible for finding a source for the disposal of materials containing mercury. Mercury is also listed in the "Transportation of Dangerous Goods Act;" therefore, specific requirements apply for the transportation of materials containing mercury.

Management, handling, and disposal of mercury containing equipment such as thermostats and fluorescent light tubes should be in accordance with O. Reg. 347 (as amended) and O. Reg. 490/09.

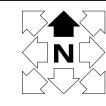
All fluorescent lamps scheduled for disposal should be placed in airtight containers and disposed of at a facility that can extract the mercury vapours from tubes and lamps, and then properly dispose of waste materials.

#### 4.3 Silica Containing Materials

Samples of building materials were not relinquished for silica analysis. Mortars, concrete block, cast in place concrete, and pre-cast concrete slabs are products that are likely to contain silica, since silicon dioxide is the basic component of sand, sandstone, slate, flint, quartz, and granite rock. The Waste Diversion Act, O. Reg. 102/94, specifies that materials containing silica or that have the potential of containing silica should not be disposed of at a landfill. Exposure to fine dust containing airborne silica becomes a health issue when inhaled. Engineering control, such as wetting materials during demolition/construction activities should be used in order to limit the accumulation of dust. O. Reg. 490/09 and the Ministry of Labour document "Guideline – Silica on Construction Projects" (September 2004), should be referred to when demolishing materials that may contain silica.

# **FIGURES**

**Figures F1: Sample Location Plan** 



0 ISSUES / REVIS PROJECT No. 24-0701 TJCM
APPROVED BY:
TJCM
DATE:
APR. 25, 2024 CM
DESIGNED BY:
RGM
SCALE:
NTS

**MUNICIPALITY OF CENTRAL MANITOULIN** 7 LAKESHORE DRIVE, MINDEMOYA, ON **PUBLIC WORKS GARAGE** 

FDS & HMS -MAIN FLOOR SAMPLE LOCATION PLAN

**TULLOCH** 

ISSUED FOR REPORT

TULLOCH