

REVISED

Hazardous Building Materials Assessment

Minden OC (HYD01514)
12684 Highway 35, Minden, Ontario

Prepared for:

Hydro One c/o BGIS

400 – 300 Sparks Street
Ottawa, Ontario, K1R 7S3

Attention: Cristina Jimenez
Project Manager

August 28, 2019

Pinchin File: 242815.029

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Issued on:	**August 28, 2019**
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EXECUTIVE SUMMARY

Hydro One c/o BGIS (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment at the Minden OC located at 12684 Highway 35, Minden, Ontario. Pinchin performed the assessment on June 20, 2019 and returned on August 26, 2019 to collect an additional paint sample.

The objective of the assessment was to identify specified hazardous building materials in preparation for the Building Upgrade Project. The results of this assessment are intended for use with a properly developed scope of work and performance specification.

The assessed area was limited to portions of the Cold Storage, Lines, Garage and Forestry Buildings as well as the Truck and Generator Sheds and Truck Canopy, as indicated by the Client on site and as shown on the drawings in Appendix I.

SUMMARY OF FINDINGS

Asbestos: Asbestos-containing materials are present as follows:

- Grey caulking and brown mastic, presumed contain asbestos, is present on the west exterior wall of the Generator Shed, in good condition. Caulking and mastic was not sampled as the area was not accessible at the time of the assessment.

Lead: Lead is present as follows:

- Brown paint, containing elevated levels of lead, is present on wood overhead door frames in the Garage Building, in good condition;
- Brown paint, containing elevated levels of lead, is present on metal siding on the exterior of the Generator Shed, in good condition;
- Red structural primer, containing elevated levels of lead, is present in the Lines Building, in good condition;
- White paint, containing elevated levels of lead, is present on concrete block walls in the Lines Building, in good condition;
- Brown paint, containing elevated levels of lead, is present on metal siding on the exterior of the Truck Shed, in good condition; and
- Batteries of emergency lights.

Silica: Crystalline silica is present in concrete, mortar, masonry and plaster.

Mercury: Mercury vapour is present in light tubes.

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Polychlorinated Biphenyls (PCBs): PCBs may be present in light ballasts. Grey caulking and brown mastic, presumed contain PCBs, is present on the west exterior wall of the Generator Shed and was not sampled as the area was not accessible at the time of the assessment.

Mould and Water Damage: Visible mould growth and water damage was not observed in the assessed areas.

SUMMARY OF RECOMMENDATIONS

The following is a summary of significant recommendations; refer to the body of the report for detailed recommendations:

1. Prepare specifications for the hazardous material removal required for the planned work.
2. Do not disturb suspected hazardous building materials discovered during the planned work, which have not been identified in this report. Notify Pinchin immediately to conduct further testing.
3. Investigate any items excluded from the scope of work of this report. Ideally this investigation will be performed as part of the development of the specifications, or at a minimum immediately prior to commencing renovations. Specifically the following materials/areas need to be investigated:
    - Grey caulking and brown mastic present on the west exterior wall of the Generator Shed.
4. Remove and dispose of asbestos-containing materials if disturbed by the planned renovation work.
5. Remove and properly dispose of PCB ballasts when fixtures are decommissioned.
6. Remove PCB caulking prior to building demolition or if affected by the renovation work. PCB caulking is a hazardous waste; package and ship for destruction at a federally permitted facility.
7. Recycle mercury-containing light tubes when removed from service.
8. Follow appropriate safe work procedures when handling or disturbing silica and lead.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

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1.0 INTRODUCTION AND SCOPE

Hydro One c/o BGIS (Client) retained Pinchin Ltd. (Pinchin) to conduct a hazardous building materials assessment at the Minden OC located at 12684 Highway 35, Minden, Ontario.

Bennett Colgan, C.E.T., Project Technologist, performed the assessment on June 20, 2019. Willis Asiedu, Project Technologist, returned on August 26, 2019 to collect an additional paint sample from the Truck Canopy. The surveyors were accompanied by a representative of BGIS during the assessment. The assessed area was occupied at the time of the assessment.

The objective of the assessment was to identify specified hazardous building materials in preparation for the Building Upgrade Project. This assessment is intended to be used for pre-construction purposes only, and may not provide sufficient detail for long term management of hazardous materials as required by Health and Safety regulations. The results of this assessment are intended for use with a properly developed scope of work and performance specification.

1.1 Scope of Assessment

The assessment was performed to establish the location and type of specified hazardous building materials incorporated in the structure(s) and its finishes. The assessed area was limited to portions of the Cold Storage, Lines, Garage and Forestry Buildings as well as the Truck and Generator Sheds and Truck Canopy, as indicated by the Client on site and as shown on the drawings in Appendix I.

For the purpose of the assessment and this report, hazardous building materials are defined as follows:

- Asbestos;
- Lead;
- Silica;
- Mercury;
- Polychlorinated Biphenyls (PCBs); and
- Mould.

The following Designated Substances are not typically found in building materials in a composition/state that is hazardous and were not included in this assessment:

- Arsenic;
- Acrylonitrile;
- Benzene;
- Coke oven emissions;

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- Ethylene oxide;
- Isocyanates; and
- Vinyl chloride monomer.

2.0 BACKGROUND INFORMATION

2.1 Building Description

Description Item	Details	Details	Details
Building Name	Cold Storage Building	Lines Building	Garage
Use	Equipment Storage	Office/Warehouse	Equipment Storage
Number of Floors	One storey	Two stories	One storey
Total Assessed Area	100 square feet	400 square feet	800 square feet
Year of Construction	1980s	1980s	1930s
Structure	Steel	Concrete and steel	Steel
Exterior Cladding	Metal siding	Brick masonry	Brick masonry
HVAC	Not assessed (outside of scope)	Suspended unit heaters and gas-fired HVAC	Not assessed (outside of scope)
Roof	Not assessed (outside of scope)	Not assessed (outside of scope)	Not assessed (outside of scope)
Flooring	Concrete	Carpet, concrete and vinyl tiles	Concrete
Interior Walls	None; exposed metal siding	Drywall and masonry	Plaster, drywall and steel
Ceilings	None; exposed structure	Acoustic ceiling tiles	None; exposed structure

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Description Item	Details	Details	Details
Building Name	Forestry Building	Truck Shed	Generator Shed
Use	Office/Warehouse	Equipment Storage	Equipment Storage
Number of Floors	Two stories	One storey	One storey
Total Area	500 square feet	500 square feet	330 square feet
Year of Construction	1980	1940s	1980s
Structure	Concrete and steel	Wood	Concrete
Exterior Cladding	Brick masonry	Metal siding and fibreglass panels	Metal siding
HVAC	Gas-fired HVAC	None	Electric baseboards
Roof	Not assessed (outside of scope)	Not assessed (outside of scope)	Not assessed (outside of scope)
Flooring	Carpet, concrete and vinyl tiles	None; exposed gravel	Concrete
Interior Walls	Drywall and masonry	None; exposed metal siding	Concrete block masonry
Ceilings	Acoustic ceiling tiles and drywall	None; exposed structure	None; exposed structure

Description Item	Details
Building Name	Truck Canopy
Use	Truck Storage
Number of Floors	One storey
Total Area	1,000 square feet
Year of Construction	Unknown
Structure	Steel
Exterior Cladding	None present

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Description Item	Details
HVAC	None present
Roof	Sloped metal (outside of scope)
Flooring	None; exposed dirt and gravel
Interior Walls	None present
Ceilings	None; exposed structure

3.0 FINDINGS

The following section summarizes the findings of the assessment and provides a general description of the hazardous materials identified and their locations.

3.1 Asbestos

3.1.1 Suspect Building Materials Not Found

The following types of building materials may historically contain asbestos but were not observed in the assessed area and are not discussed in the report findings:

- Spray-applied insulations (fireproofing, thermal or acoustic);
- Texture finishes (decorative);
- Acoustic ceiling tiles;
- Asbestos cement products (e.g. Transite);
- Vinyl sheet flooring; and
- Vinyl floor tiles.

3.1.2 Pipe Insulation

Pipes within the assessed areas are either insulated or insulated with non-asbestos armaflex or fibreglass.

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Uninsulated pipes present within the assessed area of the Forestry Building.



Non-asbestos fibreglass and armaflex insulation present on pipes within the assessed area of the Lines Building.

3.1.3 Duct Insulation and Mastic

Ducts present within the assessed areas are uninsulated.

3.1.4 Mechanical Equipment Insulation

Mechanical equipment (hot water tanks) is either uninsulated or insulated with non-asbestos fibreglass.



Non-asbestos fibreglass insulation present on a hot water heater in the assessed area of the Forestry Building.

3.1.5 Vermiculite

Destructive testing was conducted of masonry block walls. The masonry block walls were penetrated in 4 locations where concrete block masonry was present and expected to be impacted by the renovations (Generator Shed and Lines Building); loose fill vermiculite was not observed within the cavities. The locations of destructive testing have been indicated on the drawings in Appendix I.

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3.1.6 Plaster and Stucco

Plaster present on walls throughout the assessed area of the Garage Building does not contain asbestos (samples 19-03A-C).



Photo 4 – Plaster present on walls within the Garage Building.

3.1.7 Acoustic Ceiling Tiles

Acoustic ceiling tiles are present throughout the assessed area; however, are not anticipated to be disturbed as part of this project, therefore sampling was not performed.

3.1.8 Drywall Joint Compound

Drywall joint compound present on wall finishes throughout the assessed area of the Forestry Building does not contain asbestos (samples 1901A-C).

Drywall and drywall joint compound is also present in the Lines Building and Garage Building; however, are not anticipated to be disturbed as part of this project, therefore, sampling was not performed.

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Non-asbestos drywall finishes present within the assessed area of the Forestry Building.

3.1.9 Vinyl Floor Tiles and Mastic

Vinyl floor tiles and associated mastic are present throughout the assessed area; however, are not anticipated to be disturbed as part of this project, therefore sampling was not performed.

3.1.10 Sealants, Caulking, and Putty

The following table presents a summary of caulking, sealants and putties present:

Material and Colour	Location	Quantity	Sample Number	Asbestos Type
Glazing Putty, black	Windows and doors in the front vestibule of the Forestry Building	100 ft	1902A-C	None detected
Caulking, grey	Exterior vents and pipe conduits (West exterior wall of the Generator Shed)	10 ft	Not sampled	Presumed to contain asbestos*
Mastic, brown	Exterior conduits (West exterior wall of the Generator Shed).	5 ft	Not sampled	Presumed to contain asbestos*

Caulking and mastic present on the west exterior wall of the Generator Shed was inaccessible at the time of the assessment; therefore, sampling was not performed. Caulking and mastic on the Generator shed must be presumed to contain asbestos unless further sampling determines otherwise. Caulking and mastic are non-friable materials.

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Presumed asbestos-containing grey caulking present on an exterior vent on Generator Shed.



Presumed asbestos-containing brown mastic on the west exterior wall of the Generator Shed.

3.1.11 Presumed Asbestos Materials

The methodology identifies a list of materials which may contain asbestos, which were not to be sampled, based on limitations of the scope. The following is a list of materials which may contain asbestos, which were not observed during the assessment, but based on site conditions may be present. If determined to be present during building renovation, these materials are presumed to contain asbestos until otherwise proven by sampling and analysis:

- Roofing felts and tar, mastics;
- Acoustic ceiling tiles;
- Vinyl floor tiles;
- Floor levelling compound;
- Drywall joint compound (Lines and Garage Buildings);
- Electrical components;
- Caulking and putties (where inaccessible); and
- Materials concealed or outside the assessed area.

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3.2 Lead

3.2.1 Paints and Surface Coatings

The following table summarizes the analytical results for paints sampled and locations:

Sample Number; Lab Report 71916721 unless otherwise noted	Colour, Substrate Description	Location	Lead (%)
L01	White on drywall	Utility Room – Forestry Building	0.042
L02	White on metal overhead doors	Cold Storage Building	0.048
L03	Red structural primer	Cold Storage Building	0.012
L04	**Brown on wood overhead door frames**	**Garage Building**	**2.2**
L05	White on plaster	Garage Building	0.039
L06	Blue on wood sheathing	Garage Building	0.012
L07	**Brown on metal siding**	**Generator Shed**	**0.12**
L08	White on steel overhead door framing	Lines Building	0.011
L09	**Red structural primer**	**Lines Building**	**0.11**
L10	**White on concrete block**	**Lines Building**	**0.17**
L11	**Brown on metal siding**	**Truck Shed**	**0.25**
L01; Lab Report 71922337	Yellow on concrete	Truck Canopy Columns	0.010

Results above 0.1% are considered elevated (i.e., greater than the EACO guideline of 0.1% for lead-containing paints). All paints determined to be elevated were found to be in good condition and not flaking, peeling or delaminating.

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Lead-containing brown paint present on wood overhead door frames in the Garage Building.



Lead-containing brown paint present on metal siding on the Generator Shed.



Lead-containing red structural primer (red arrow) and lead-containing white paint on concrete block (yellow arrow) present within the Lines Building.



Lead-containing brown paint present on metal siding on the Truck Shed.

3.2.2 Lead Products and Applications

Lead-containing batteries are present in emergency lighting.

3.2.3 Presumed Lead Materials

Lead may be present in a number of materials which were not assessed and/or sampled. The following materials, where found, should be considered to contain lead:

- Electrical components, including wiring connectors, grounding conductors, and solder; and
- Solder on pipe connections.

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3.3 Silica

Crystalline silica is a presumed component of the following materials:

- Poured or pre-cast concrete;
- Masonry and mortar; and
- Plaster.

3.4 Mercury

3.4.1 Lamps

Mercury vapour is present in fluorescent lamps.

3.4.2 Mercury-Containing Devices

Mercury-containing devices were not found during the assessment.

3.5 Polychlorinated Biphenyls

3.5.1 Caulking

The following table presents a summary of caulking present:

Material and Colour	Location	Quantity	Sample Number	PCB concentration (ppm)
Caulking, grey	Exterior vents and pipe conduits (West exterior wall of the Generator Shed)	10 ft	Not sampled	Presumed to contain PCBs*
Mastic, brown	Exterior conduits (West exterior wall of the Generator Shed).	5 ft	Not sampled	Presumed to contain PCBs*

Caulking and mastic present on the west exterior wall of the Generator Shed was inaccessible at the time of the assessment; therefore, sampling was not performed. Caulking and mastic on the Generator shed must be presumed to contain PCBs unless further sampling determines otherwise.

3.5.2 Lighting Ballasts

The buildings have not been comprehensively re-lamped with new energy efficient light ballasts and lamps, and as such, a percentage of light ballasts may be manufactured prior to 1980 and may contain PCBs.

3.5.3 Transformers

Transformers were not found in the assessed areas.

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3.6 Mould

Visible mould growth and water damage was not found in the assessed area.

4.0 RECOMMENDATIONS

4.1 General

1. Prepare plans and performance specifications for hazardous material removal required for the planned work. The specifications should include the scope of work, safe work practices, personal protective equipment, respiratory protection, and disposal of waste materials.
2. If suspected hazardous building materials are discovered during the planned work, which are not identified in this report, do not disturb and inform Pinchin immediately to conduct further testing.
3. Investigate any items excluded from the scope of work of this report. Ideally this investigation will be performed as part of the development of the specifications, or at a minimum immediately prior to commencing renovations. Specifically the following materials/areas need to be investigated:
    - Grey caulking and brown mastic present on the west exterior wall of the Generator Shed.
4. Provide this report and the detailed plans and specifications to the contractor prior to bidding or commencing work.
5. Retain a qualified consultant to specify, inspect and verify the successful removal of hazardous materials.
6. Update the asbestos inventory upon completion of the abatement and removal of asbestos-containing materials.

4.2 Abatement Budget Estimation

The following Class D cost estimate (+/-25%) has been prepared to aid in budgeting for removal of all known hazardous building materials identified in this report.

Costs may also vary depending on seasonal work patterns, availability of contractors, or local market conditions.

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Hazardous Material	Approximate Quantity	Removal Procedure	Cost Estimate
Presumed asbestos and PCB containing grey caulking and brown mastic on the exterior of the Generator Shed	15 square feet	Type 1 asbestos abatement procedures in conjunction with SOR/2008-273 PCB procedures	$3,000.00
Lead-containing brown paint on wood overhead door frames present within the Garage Building	250 square feet	EACO lead abatement procedures	$2,000.00*
Lead-containing brown paint on metal siding present on the Generator Building	400 square feet	EACO lead abatement procedures	$3,200.00
Lead-containing red structural primer present within the assessed area of the Lines Building	100 square feet	EACO lead abatement procedures	$800.00
Lead-containing white paint on concrete block present within the assessed area of the Lines Building	200 square feet	EACO lead abatement procedures	$1,600.00*
Lead-containing brown paint on metal siding present on the Truck Shed	4,000 square feet	EACO lead abatement procedures	$32,000.00
Mercury containing light tubes	<500	Do not break lamps or separate liquid mercury from components. Recycle and reclaim mercury from fluorescent lamps when taken out of service. Mercury is classified as a hazardous waste and must be disposed of in accordance with local regulations	$750.00
PCB light ballast	<50 kg	When light fixtures are removed, examine light ballasts for PCB content. If ballasts are not clearly labelled as “non-PCB” or are suspected to contain PCBs, package and ship ballasts for destruction at a federally permitted facility	$350.00
TOTAL ESTIMATE (Class D +/-25%)			**$43,700.00**

*Disposal costs for potential lead leachate toxic paint is not included.

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4.3 Building Renovation Work

The following recommendations are made regarding renovation involving the hazardous materials identified.

4.3.1 Asbestos

Remove asbestos-containing materials (ACM) prior to renovation, alteration, or maintenance if ACM may be disturbed by the work.

If the identified ACM will not be removed prior to commencement of the work, any potential disturbance of ACM must follow asbestos precautions appropriate for the type of work being performed.

Asbestos-containing materials must be disposed of at a landfill approved to accept asbestos waste.

4.3.2 Lead

For paints identified as having elevated levels of lead (i.e., greater than the EACO guideline of 0.1% for lead-containing paints), construction disturbance may result in over-exposure to lead dust or fumes. The need for work procedures, engineering controls and personal protective equipment should be assessed on a site specific basis to comply with provincial standards or guidelines. Performing an exposure assessment during work that disturbs lead in paints and coatings may be able to reduce the use of some of these precautions.

Items painted with paints containing elevated levels of lead may be a hazardous waste. Test lead-painted materials for leachable lead prior to disposal.

Well adhered paints containing elevated levels of lead on metal substrates do not require leachable lead analysis as the materials can be recycled with the paint intact.

Lead-containing items (lead-acid batteries) should be recycled when taken out of service.

4.3.3 Silica

Construction disturbance of silica-containing products may result in excessive exposures to airborne silica, especially if performed indoors and dry. Cutting, grinding, drilling or demolition of materials containing silica should be completed only with proper respiratory protection and other worker safety precautions that comply with provincial standards or guidelines.

4.3.4 Mercury

Do not break lamps. Recycle and reclaim mercury from fluorescent lamps when taken out of service. Mercury is classified as a hazardous waste and must be disposed of in accordance with local regulations.

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4.3.5 PCBs

When light fixtures are removed, examine light ballasts for PCB content. If ballasts are not clearly labelled as “non-PCB”, or are suspected to contain PCBs; package and ship ballasts for destruction at a federally permitted facility.

Remove PCB caulking prior to building demolition or if affected by the renovation work. PCB caulking is a hazardous waste; package and ship for destruction at a federally permitted facility.

5.0 TERMS AND LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project.

Information provided by Pinchin is intended for Client use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

6.0 REFERENCES

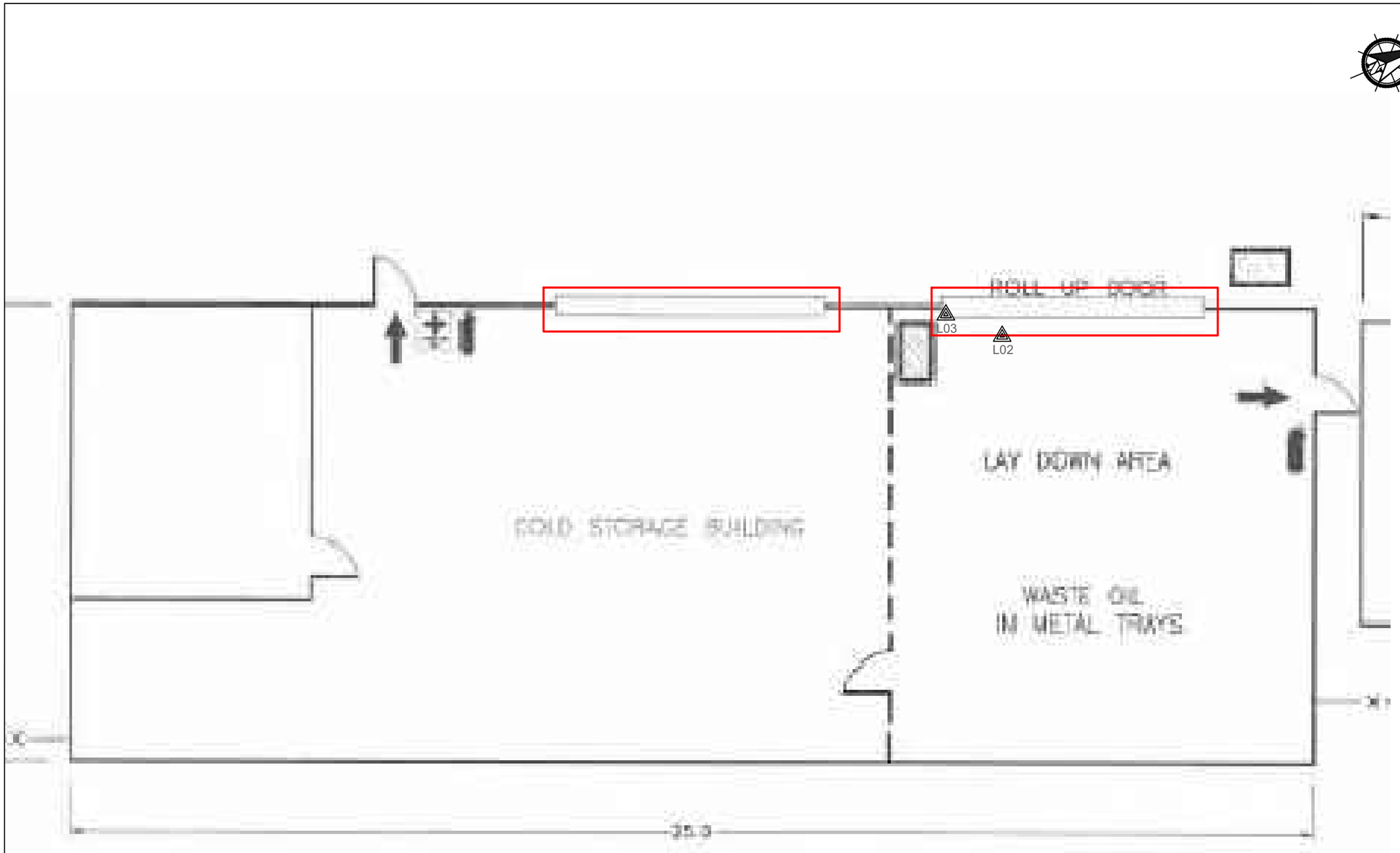
The following legislation and documents were referenced in completing the assessment and this report:

1. Asbestos on Construction Projects and in Buildings and Repair Operations, Ontario Regulation 278/05.
2. Designated Substances, Ontario Regulation 490/09.
3. Lead on Construction Projects, Ministry of Labour Guidance Document.
4. The Environmental Abatement Council of Ontario (EACO) Lead Guideline for Construction, Renovation, Maintenance or Repair, October 2014.
5. Ministry of the Environment Regulation, R.R.O. 1990 Reg. 347 as amended.
6. Surface Coating Materials Regulations, SOR/2005-109, Hazardous Products Act.
7. Silica on Construction Projects, Ministry of Labour Guidance Document.
8. Alert – Mould in Workplace Buildings, Ontario Ministry of Labour.
9. PCB Regulations, SOR/2008-273, Canadian Environmental Protection Act.

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APPENDIX I

Drawings



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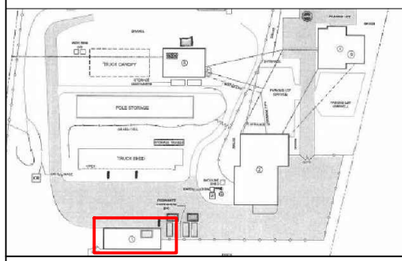
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- ASBESTOS BULK SAMPLE
- LEAD BULK SAMPLE
- SURVEY BOUNDARY/ASSESSED AREA
- CAULKING/MASTIC PRESUMED TO CONTAIN ASBESTOS AND PCBS
- VERMICULITE COREHOLE

NOT ALL KNOWN OR SUSPECTED HAZARDOUS BUILDING MATERIALS MAY BE DEPICTED ON THE DRAWING. REFER TO THE HAZARDOUS BUILDING MATERIALS ASSESSMENT REPORT FOR A COMPLETE LIST OF KNOWN AND SUSPECTED HAZARDOUS BUILDING MATERIALS.

LEGEND IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.

BASE PLAN PROVIDED BY CLIENT.



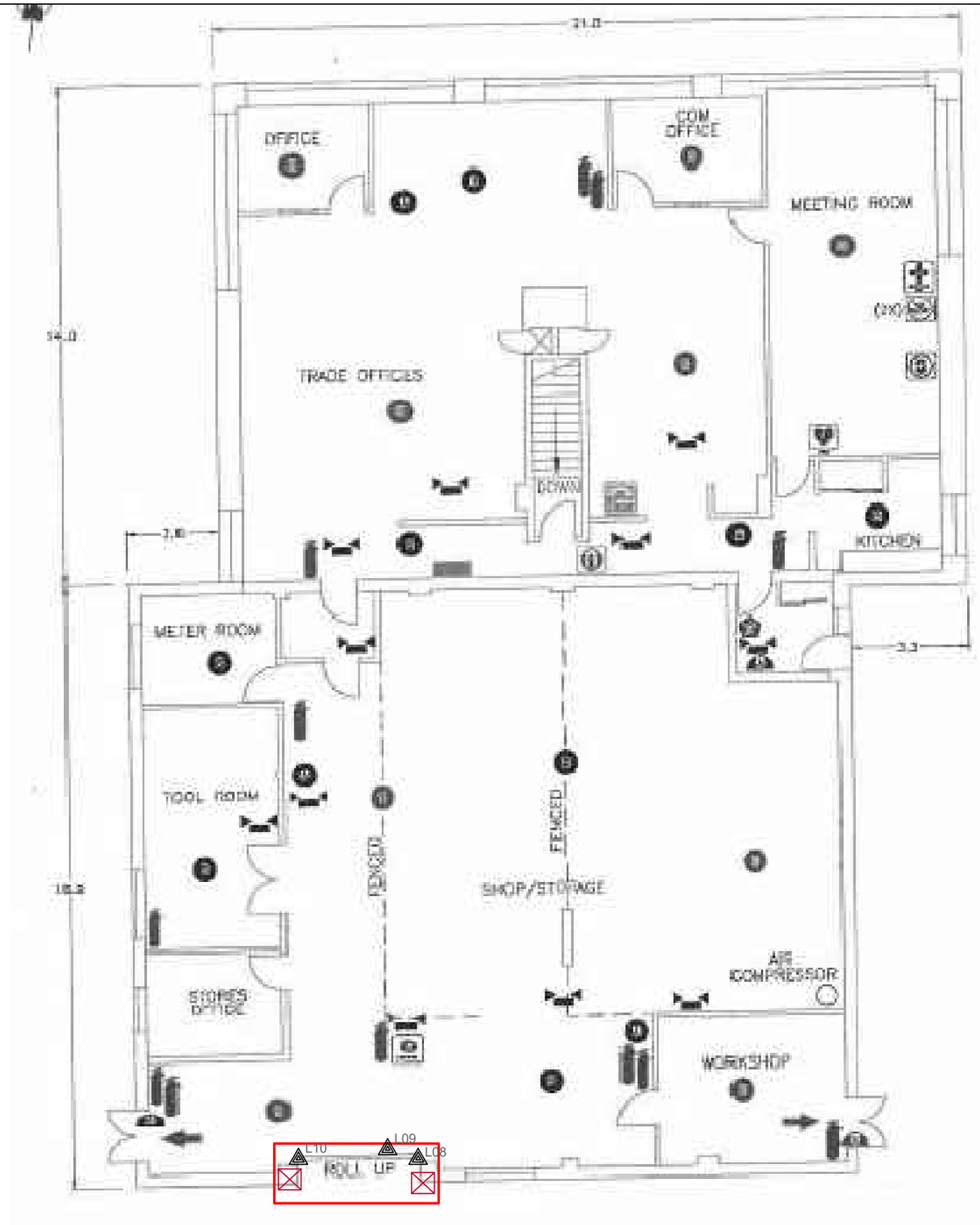
CLIENT:
BGIS

LOCATION:
12684 HIGHWAY 35
MINDEN, ONTARIO
MINDEN OC (HYD01514)

TITLE:
HAZARDOUS BUILDING MATERIALS ASSESSMENT
COLD STORAGE

DATE:	PROJECT # :
2019/08/28	242815.029
DRAWN BY: BC	DRAWING: 1 OF 9
CHECKED BY: SY	
SCALE: NTS	

MASTER DRAWING TEMPLATE MARCH 2019



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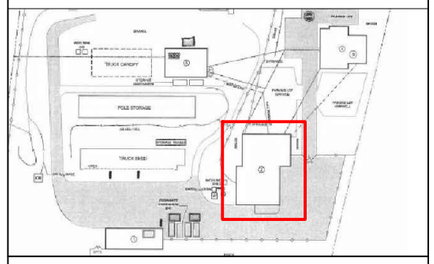
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- LEAD BULK SAMPLE
- SURVEY BOUNDARY/ASSESSED AREA
- CAULKING/MASTIC PRESUMED TO CONTAIN ASBESTOS AND PCBS
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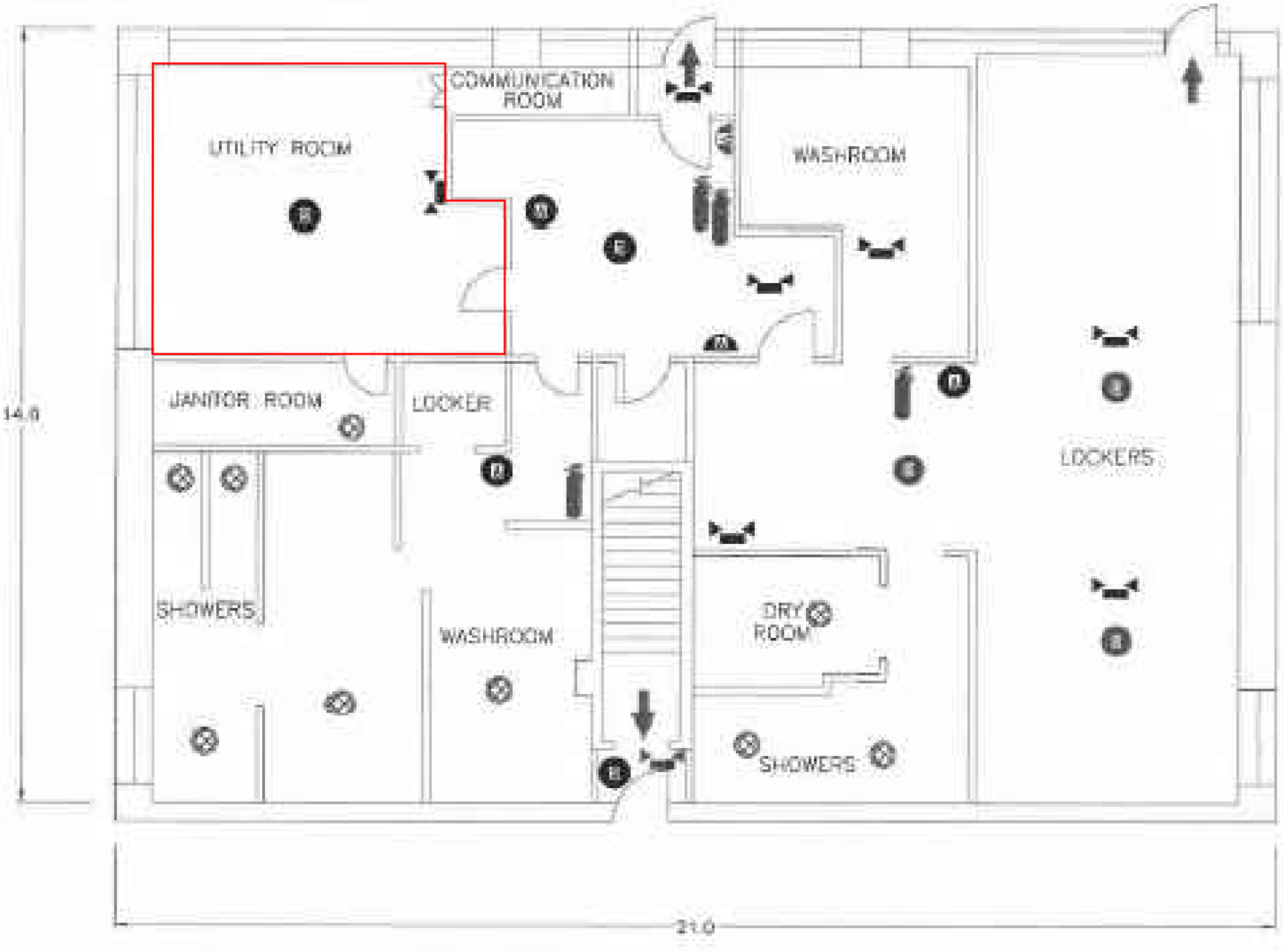
CLIENT:
BGIS

LOCATION:
12684 HIGHWAY 35
MINDEN, ONTARIO
MINDEN OC (HYD01514)

TITLE:
HAZARDOUS BUILDING MATERIALS ASSESSMENT
LINES UPPER LEVEL

DATE:	PROJECT # :
2019/08/28	242815.029
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CHECKED BY: SY	
SCALE: NTS	

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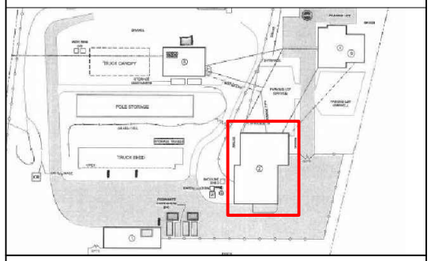
LEGEND:

- ASBESTOS BULK SAMPLE
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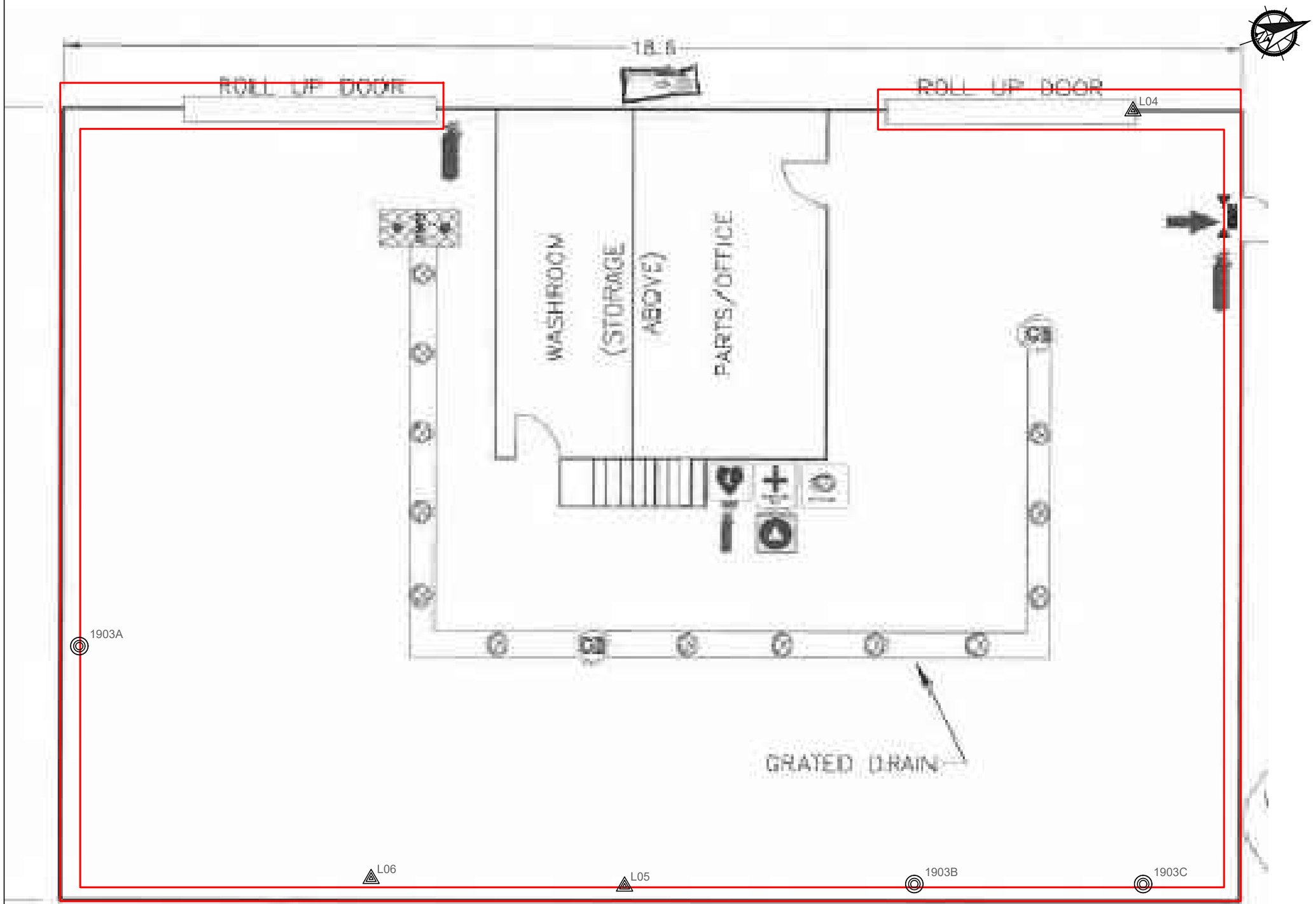
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LOCATION:
12684 HIGHWAY 35
MINDEN, ONTARIO
MINDEN OC (HYD01514)

TITLE:
HAZARDOUS BUILDING MATERIALS ASSESSMENT
LINES LOWER LEVEL

DATE:	PROJECT # :
2019/08/28	242815.029
DRAWN BY: BC	DRAWING: 3 OF 9
CHECKED BY: SY	
SCALE: NTS	

HAZ BD DRAWING TEMPLATE MARCH 2018



PINCHIN

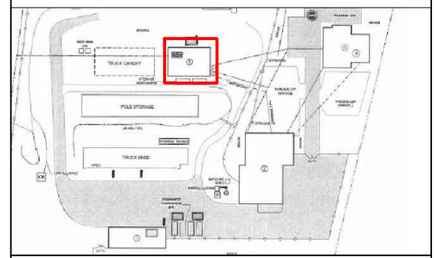
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- LEAD BULK SAMPLE
- SURVEY BOUNDARY/ASSESSED AREA
- CAULKING/MASTIC PRESUMED TO CONTAIN ASBESTOS AND PCBS
- VERMICULITE COREHOLE

NOT ALL KNOWN OR SUSPECTED HAZARDOUS BUILDING MATERIALS MAY BE DEPICTED ON THE DRAWING. REFER TO THE HAZARDOUS BUILDING MATERIALS ASSESSMENT REPORT FOR A COMPLETE LIST OF KNOWN AND SUSPECTED HAZARDOUS BUILDING MATERIALS.

LEGEND IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.

BASE PLAN PROVIDED BY CLIENT.



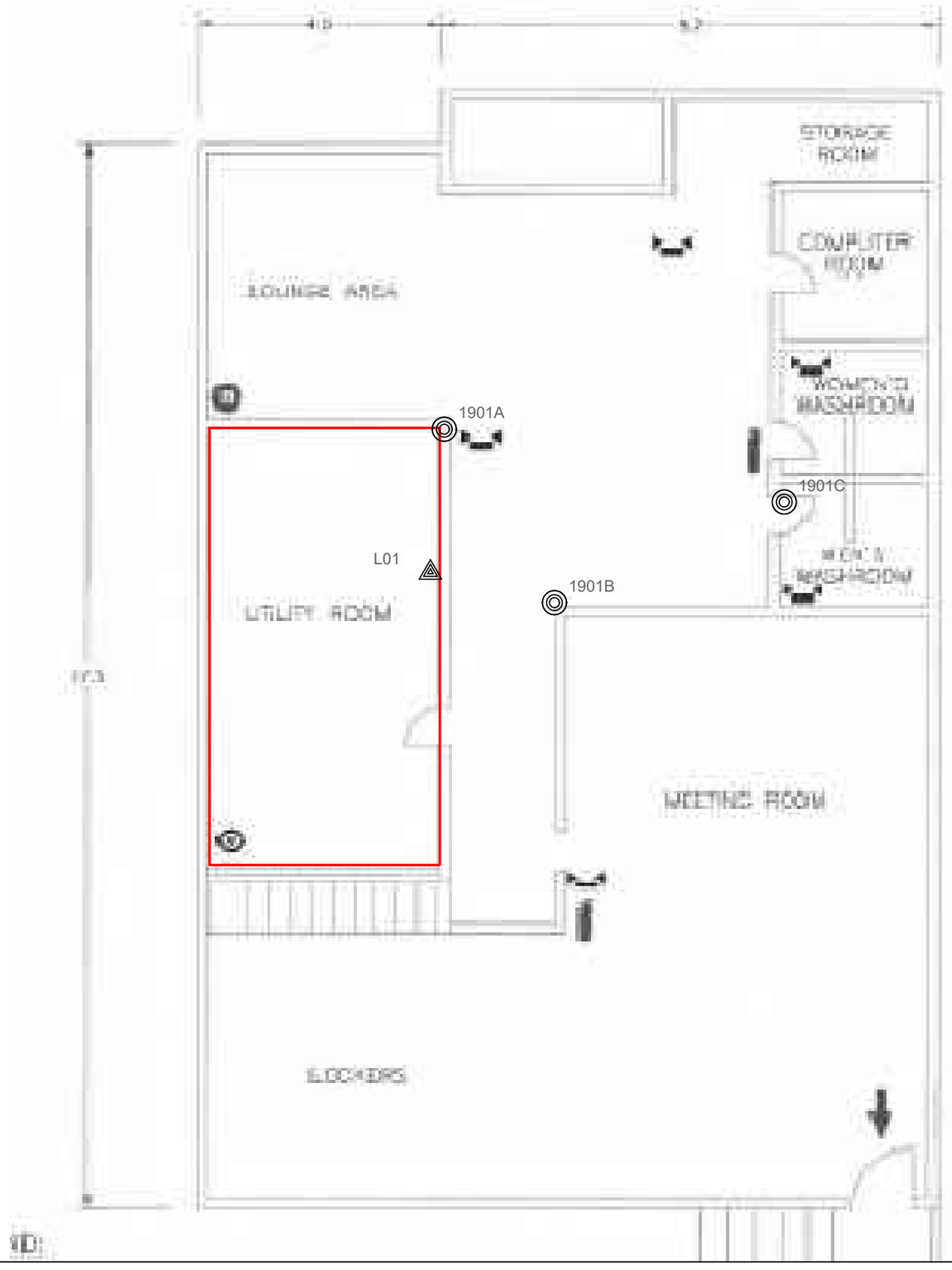
CLIENT:
BGIS

LOCATION:
12684 HIGHWAY 35
MINDEN, ONTARIO
MINDEN OC (HYD01514)

TITLE:
HAZARDOUS BUILDING MATERIALS ASSESSMENT
GARAGE BUILDING

DATE:	PROJECT # :
2019/08/28	242815.029
DRAWN BY: BC	DRAWING: 4 OF 9
CHECKED BY: SY	
SCALE: NTS	

PINCHIN DRAWING TEMPLATE MARCH 2019



PINCHIN

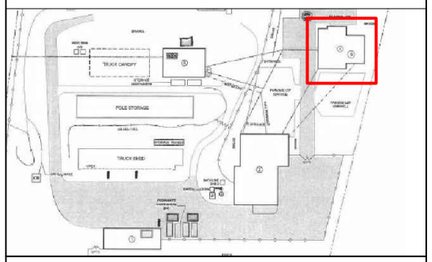
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- ASBESTOS BULK SAMPLE
- LEAD BULK SAMPLE
- SURVEY BOUNDARY/ASSESSED AREA
- CAULKING/MASTIC PRESUMED TO CONTAIN ASBESTOS AND PCBS
- VERMICULITE COREHOLE

NOT ALL KNOWN OR SUSPECTED HAZARDOUS BUILDING MATERIALS MAY BE DEPICTED ON THE DRAWING. REFER TO THE HAZARDOUS BUILDING MATERIALS ASSESSMENT REPORT FOR A COMPLETE LIST OF KNOWN AND SUSPECTED HAZARDOUS BUILDING MATERIALS.

LEGEND IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.

BASE PLAN PROVIDED BY CLIENT.



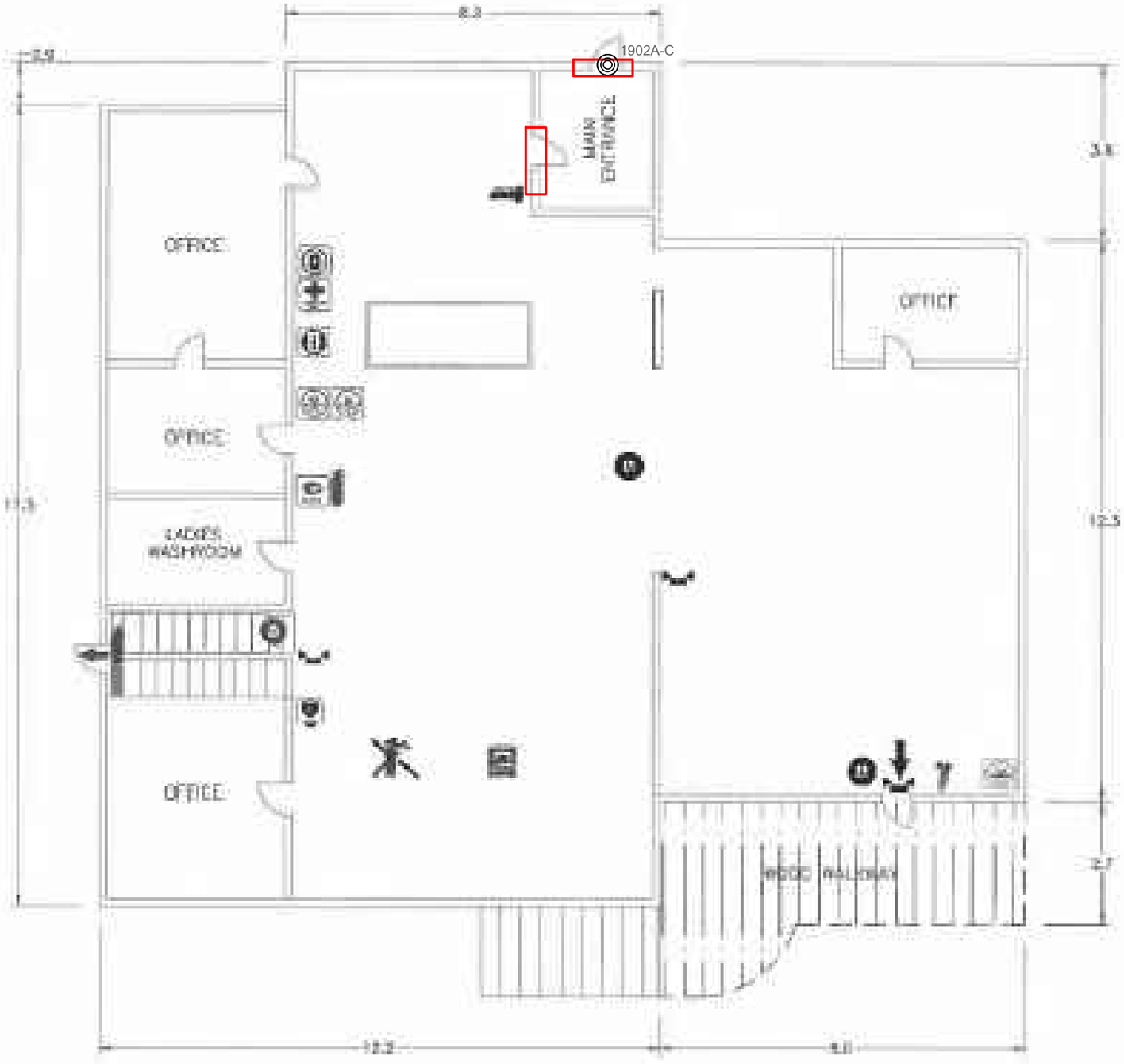
CLIENT:
BGIS

LOCATION:
12684 HIGHWAY 35
MINDEN, ONTARIO
MINDEN OC (HYD01514)

TITLE:
HAZARDOUS BUILDING MATERIALS ASSESSMENT
LOWER LEVEL FORESTRY

DATE:	PROJECT # :
2019/08/28	242815.029
DRAWN BY: BC	DRAWING: 5 OF 9
CHECKED BY: SY	
SCALE: NTS	

TACKED DRAWING TEMPLATE MARCH 2019



PINCHIN

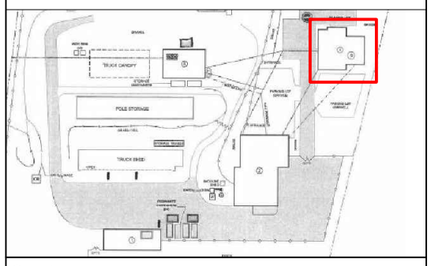
LEGEND:

- ASBESTOS BULK SAMPLE
- LEAD BULK SAMPLE
- SURVEY BOUNDARY/ASSESSED AREA
- CAULKING/MASTIC PRESUMED TO CONTAIN ASBESTOS AND PCBS
- VERMICULITE COREHOLE

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LEGEND IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.

BASE PLAN PROVIDED BY CLIENT.



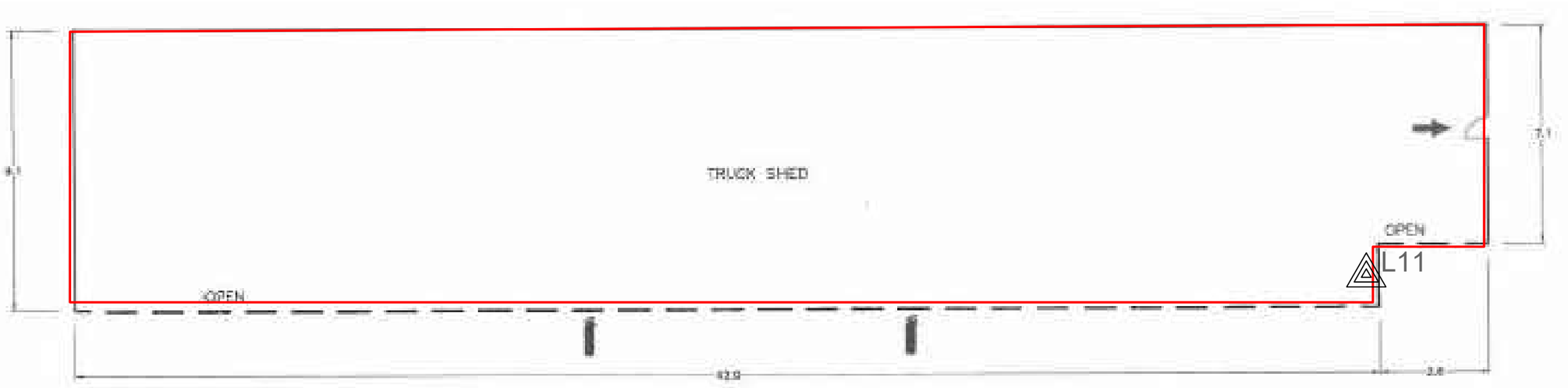
CLIENT:
BGIS

LOCATION:
12684 HIGHWAY 35
MINDEN, ONTARIO
MINDEN OC (HYD01514)

TITLE:
HAZARDOUS BUILDING MATERIALS ASSESSMENT
UPPER LEVEL FORESTRY

DATE:	PROJECT # :
2019/08/28	242815.029
DRAWN BY: BC	DRAWING: 6 OF 9
CHECKED BY: SY	
SCALE: NTS	

CAD ED DRAWING TEMPLATE MARCH 2018



PINCHIN

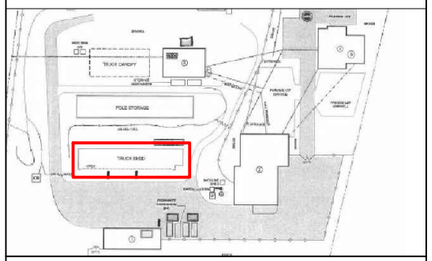
LEGEND:

- ASBESTOS BULK SAMPLE
- LEAD BULK SAMPLE
- SURVEY BOUNDARY/ASSESSED AREA
- CAULKING/MASTIC PRESUMED TO CONTAIN ASBESTOS AND PCBS
- VERMICULITE COREHOLE

NOT ALL KNOWN OR SUSPECTED HAZARDOUS BUILDING MATERIALS MAY BE DEPICTED ON THE DRAWING. REFER TO THE HAZARDOUS BUILDING MATERIALS ASSESSMENT REPORT FOR A COMPLETE LIST OF KNOWN AND SUSPECTED HAZARDOUS BUILDING MATERIALS.

LEGEND IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.

BASE PLAN PROVIDED BY CLIENT.



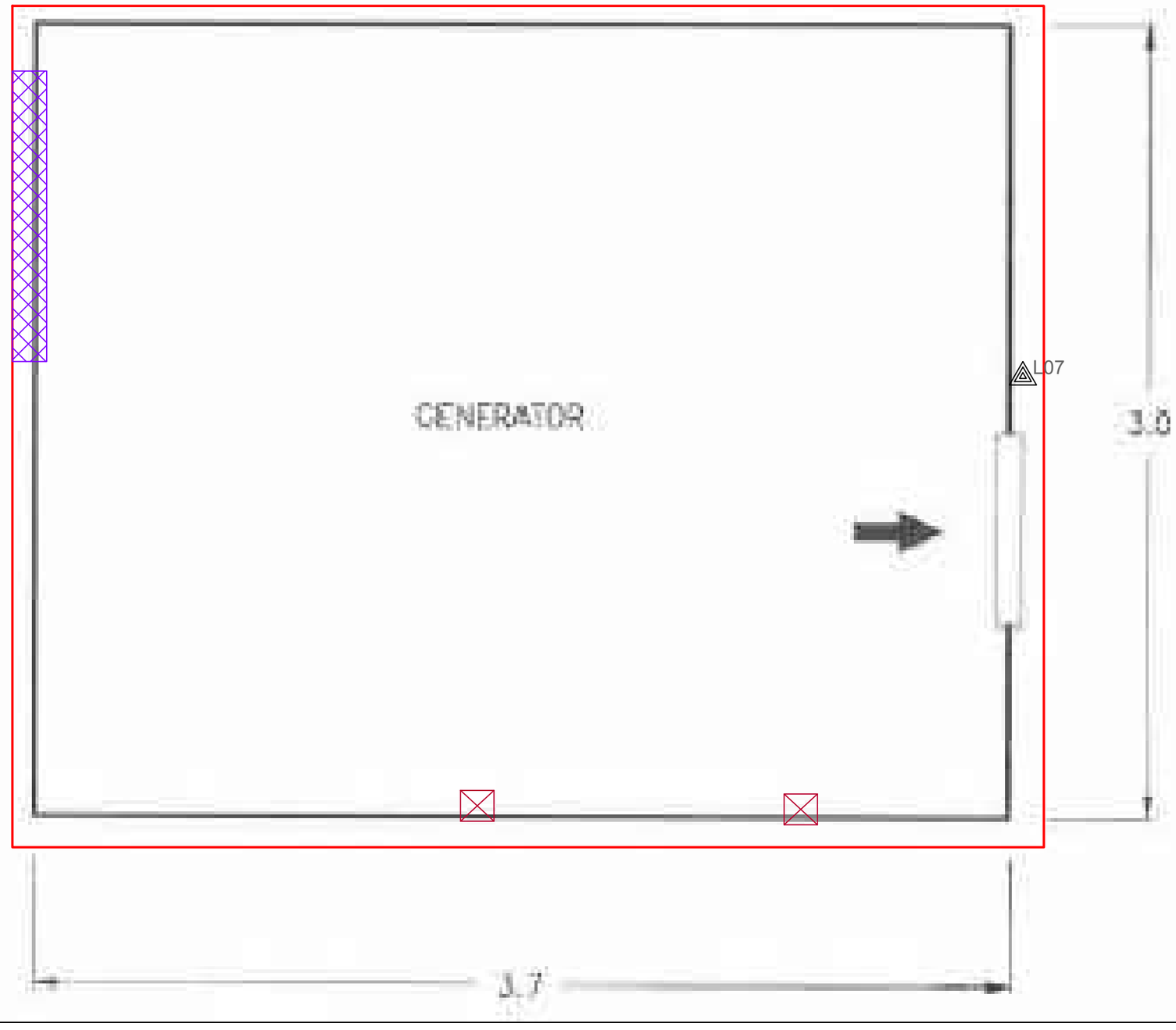
CLIENT:
BGIS

LOCATION:
12684 HIGHWAY 35
MINDEN, ONTARIO
MINDEN OC (HYD01514)

TITLE:
HAZARDOUS BUILDING MATERIALS ASSESSMENT
TRUCK SHED

DATE:	PROJECT # :
2019/08/28	242815.029
DRAWN BY: BC	DRAWING: 7 OF 9
CHECKED BY: SY	
SCALE: NTS	

TACKED DRAWING TEMPLATE MARCH 2019



PINCHIN

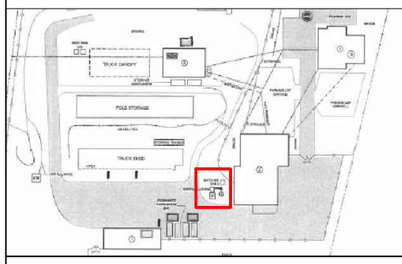
LEGEND:

- ASBESTOS BULK SAMPLE
- LEAD BULK SAMPLE
- SURVEY BOUNDARY/ASSESSED AREA
- CAULKING/MASTIC PRESUMED TO CONTAIN ASBESTOS AND PCBS
- VERMICULITE COREHOLE

NOT ALL KNOWN OR SUSPECTED HAZARDOUS BUILDING MATERIALS MAY BE DEPICTED ON THE DRAWING. REFER TO THE HAZARDOUS BUILDING MATERIALS ASSESSMENT REPORT FOR A COMPLETE LIST OF KNOWN AND SUSPECTED HAZARDOUS BUILDING MATERIALS.

LEGEND IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.

BASE PLAN PROVIDED BY CLIENT.



CLIENT:
BGIS

LOCATION:
12684 HIGHWAY 35
MINDEN, ONTARIO
MINDEN OC (HYD01514)

TITLE:
HAZARDOUS BUILDING MATERIALS ASSESSMENT
GENERATOR SHED

DATE:	PROJECT # :
2019/08/28	242815.029
DRAWN BY: BC	DRAWING: 8 OF 9
CHECKED BY: SY	
SCALE: NTS	

© PINCHIN LTD. DRAWING TEMPLATE MARCH 2018

L01

TRUCK CANOPY

PINCHIN

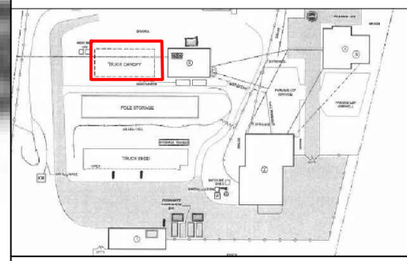
LEGEND:

- ASBESTOS BULK SAMPLE
- LEAD BULK SAMPLE
- SURVEY BOUNDARY/ASSESSED AREA
- CAULKING/MASTIC PRESUMED TO CONTAIN ASBESTOS AND PCBS
- VERMICULITE COREHOLE

NOT ALL KNOWN OR SUSPECTED HAZARDOUS BUILDING MATERIALS MAY BE DEPICTED ON THE DRAWING. REFER TO THE HAZARDOUS BUILDING MATERIALS ASSESSMENT REPORT FOR A COMPLETE LIST OF KNOWN AND SUSPECTED HAZARDOUS BUILDING MATERIALS.

LEGEND IS COLOUR DEPENDENT. NON-COLOUR COPIES MAY ALTER INTERPRETATION.

BASE PLAN PROVIDED BY CLIENT.



CLIENT:
BGIS

LOCATION:
12684 HIGHWAY 35
MINDEN, ONTARIO
MINDEN OC (HYD01514)

TITLE:
HAZARDOUS BUILDING MATERIALS ASSESSMENT
TRUCK CANOPY

DATE:	PROJECT # :
2019/08/28	242815.029
DRAWN BY: BC	DRAWING: 9 OF 9
CHECKED BY: SY	
SCALE: NTS	

TACKED DRAWING TEMPLATE MARCH 2019

APPENDIX II-A

Asbestos Analytical Certificates

Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name:	**BGIS, 12684 HWY 35 Minden, ON**		
Project No.:	**0242815.001**		
Prepared For:	**B. Colgan / S. Young**	**Date Received:**	**June 21, 2019**
Lab Reference No.:	**b212504**	**Date Analyzed:**	**June 28, 2019**
Analyst(s):	**T. Lam / K. Cockburn**	**# Samples submitted:**	**9**
		# Phases analyzed:	**9**

Method of Analysis:

EPA 600/R-93/116 - Method for the Determination of Asbestos in Bulk Building Materials dated July, 1993

Bulk samples are checked visually and scanned under a stereomicroscope. Slides are prepared and observed under a Polarized Light Microscope (PLM) at magnifications of 40X, 100X or 400X as appropriate. Asbestos fibres are identified by a combination of morphology, colour, refractive index, extinction, sign of elongation, birefringence and dispersion staining colours. A visual estimate is made of the percentage of asbestos present. A reported concentration of less than (<) the regulatory threshold (see chart below) indicates the presence of confirmed asbestos in trace quantities, limited to only a few fibres or fibre bundles in an entire sample. This method complies with provincial regulatory requirements where applicable. Multiple phases within a sample are analyzed and reported separately.

Provincial Jurisdiction	Regulatory Threshold	Provincial Jurisdiction	Regulatory Threshold
Ontario, British Columbia, Nova Scotia	0.5%	Alberta	Undefined
Quebec	0.1%	Saskatchewan	0.5% friable 1% non-friable
PEI, NWT, Yukon, Nunavut, Newfoundland and Labrador, and New Brunswick	1%	Manitoba	0.1% friable 1% non-friable

All bulk samples submitted to this laboratory for asbestos analysis are retained for a minimum of three months. Samples may be retrieved, upon request, for re-examination at any time during that period.

The Pinchin Ltd. Mississauga asbestos laboratory is accredited by the National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP Lab Code 101270-0) for the 'EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples,' and the 'EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials'; and meets all requirements of ISO/IEC 17025:2005.

This report relates only to the items tested.

NOTE: ***This test report may not be reproduced, except in full, without the written approval of the laboratory. The client may not use this report to claim product endorsement by NVLAP or any agency of the U.S. Government. This report is valid only when signed in blue ink by the analyst. Vinyl asbestos floor tiles contain very fine fibres of asbestos and may be missed by some laboratories using the PLM method. Internal verification studies performed by Pinchin indicate that the chance of missing asbestos in floor tiles is no higher than about 2%. The vinyl tile study and laboratory documentation on measurement uncertainty is available upon request. The analysis of dust samples by PLM cannot be used as an indicator of past or present airborne asbestos fibre levels.***

Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name: BGIS, 12684 HWY 35 Minden, ON
Project No.: 0242815.001
Prepared For: B. Colgan / S. Young

Lab Reference No.: b212504
Date Analyzed: June 28, 2019

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
1901A DJC - Wall - Lounge Basement - Forestry Building	Homogeneous, white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
1901B DJC - Wall - Lounge Basement - Forestry Building	Homogeneous, white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
1901C DJC - Wall - Men's Washroom Basement - Forestry Building	Homogeneous, white, drywall joint compound.	None Detected	Non-Fibrous Material > 75%
1902A Glazing Putty - Vestibule - Forestry Building	Homogeneous, black, soft, sticky material.	None Detected	Cellulose < 0.5% Synthetic Fibres < 0.5% Non-Fibrous Material > 75%
1902B Glazing Putty - Vestibule - Forestry Building	Homogeneous, black, soft, sticky material.	None Detected	Cellulose < 0.5% Synthetic Fibres < 0.5% Non-Fibrous Material > 75%
1902C Glazing Putty - Vestibule - Forestry Building	Homogeneous, black, soft, sticky material.	None Detected	Cellulose < 0.5% Synthetic Fibres < 0.5% Non-Fibrous Material > 75%
1903A Plaster Wall - Garage Building	Homogeneous, off-white, hard, cementitious, plaster material.	None Detected	Perlite 10-25% Other Non-Fibrous > 75%
1903B Plaster Wall - Garage Building	Homogeneous, off-white, hard, cementitious, plaster material.	None Detected	Perlite 10-25% Other Non-Fibrous > 75%

Pinchin Ltd. Asbestos Laboratory
Certificate of Analysis

Project Name: BGIS, 12684 HWY 35 Minden, ON
Project No.: 0242815.001
Prepared For: B. Colgan / S. Young

Lab Reference No.: b212504
Date Analyzed: June 28, 2019

BULK SAMPLE ANALYSIS

SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	% COMPOSITION (VISUAL ESTIMATE)	
		ASBESTOS	OTHER
1903C Plaster Wall - Garage Building	Homogeneous, off-white, hard, cementitious, plaster material.	None Detected	Perlite 10-25% Other Non-Fibrous > 75%

Reviewed by:

Digitally signed by Julieth Oran
Date: 2019.06.28 15:20:54 -04'00'

Reporting Analyst:

Digitally signed by Julieth Oran
Date: 2019.06.28 15:20:42 -04'00'

PINCHIN

MEMBER OF PG THE PINCHIN GROUP

Analyzed by: TTL

Reviewed by:

Report Sent by:

S+A1:I28pecial Instructions:

Pinchin A2:I28Ltd. - Asbestos Laboratory
Internal Asbestos Bulk Sample Chain of Custody

Client Name:	BGIS			**Project Address:**	12684 HWY 35 Minden ,ON		
Portfolio/Building No:	N/A			**Pinchin File:**	242815.001		
Submitted by:	Bennett Colgan			**Email:**	bcolgan@pinchin.com		
CC Results to:	Sarah Young			**CC Email:**	syoung@pinchin.com		
Invoice to:	Sarah Young			**Invoice Email:**	syoung@pinchin.com		
Date Submitted:	June	20	2019	**Required by:**	June	27	2019
# of Samples:	9			**Priority:**	5 Day Turnaround		
Year of Building Construction (*Mandatory Field*):				1930			
Do NOT Stop on Positive (Sample Numbers):				19-01 & 19-03			
Pinchin Group Company (*Mandatory Field*):				Pinchin			

To be Completed by Lab Personnel Only:					
Lab Reference #:	b212504		**Time:**	24 hour clock	
Received by:	June 21,2019 JR		**Date:**	Month	Day	Year
Name(s) of Analyst(s):	TTL / KC			June	28	2019

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	1901	A	DJC - Wall - Lounge Basement - Forestry Building ND
	1901	B	DJC - Wall - Lounge Basement - Forestry Building ND
	1901	C	DJC - Wall - Men's Washroom Basement - Forestry Building ND

Sample Prefix	Sample No.	Sample Suffix	Sample Description/Location (Mandatory)
	1902	A	Glazing Putty - Vestibule - Forestry Building ND
	1902	B	Glazing Putty - Vestibule - Forestry Building ND
	1902	C	Glazing Putty - Vestibule - Forestry Building ND
	1903	A	Plaster Wall - Garage Building ND
	1903	B	Plaster Wall - Garage Building ND
	1903	C	Plaster Wall - Garage Building ND

APPENDIX II-B

Lead Analytical Certificates

Analysis for Lead Concentration in Paint Chips

by Flame Atomic Absorption Spectroscopy
EPA SW-846 3050B/6010C/7000B

Customer: Pinchin Ltd.
204-160 Charlotte Street
Peterborough, ON K9J 2T8

Attn: Bennett Colgan
S Young

Project: HBMA - Hydro One 12684 HWY 35, Minden ON

Lab Order ID: 71916721
Analysis ID: 71916721_PBP
Date Received: 6/25/2019
Date Reported: 7/2/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Mass *(g)*	Concentration *(ppm)*	Concentration *(% by weight)*
L01 71916721PBP_1	White on drywall - Utility Room Forestry Building	0.0624	420	**0.042%**
L02 71916721PBP_2	White on ovhd door (metal) - Cold Storage	0.0854	490	**0.048%**
L03 71916721PBP_3	Red primer - Cold Storage	0.0727	120	**0.012%**
L04 71916721PBP_4	Brown on wood - Garage	0.0836	22000	**2.2%**
L05 71916721PBP_5	White on Plaster - Garage	0.0613	390	**0.039%**
L06 71916721PBP_6	Blue on wood sheathing - Garage	0.0714	120	**0.012%**
L07 71916721PBP_7	Brown on siding - Generator Shed	0.0576	1200	**0.12%**
L08 71916721PBP_8	White on Steel - Lines Building	0.0727	110	**0.011%**
L09 71916721PBP_9	Red primer - Lines Building	0.0510	1100	**0.11%**
L10 71916721PBP_10	White on block - Lines Building	0.0583	1700	**0.17%**

Unless otherwise noted blank sample correction was not performed on analytical results. Scientific Analytical Institute participates in the AIHA ELPAT program. ELPAT Laboratory ID: 173190. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. Analytical uncertainty available upon request. The quality control samples run with the samples in this report have passed all EPA required specifications unless otherwise noted. RL: (Report Limit for an undiluted 50ml sample is 4µg Total Pb).

Matthew Caffey (11)
Analyst

Laboratory Director

Analysis for Lead Concentration in Paint Chips

by Flame Atomic Absorption Spectroscopy
EPA SW-846 3050B/6010C/7000B

Customer: Pinchin Ltd.
204-160 Charlotte Street
Peterborough, ON K9J 2T8

Attn: Bennett Colgan
S Young

Project: HBMA - Hydro One 12684 HWY 35, Minden ON

Lab Order ID: 71916721
Analysis ID: 71916721_PBP
Date Received: 6/25/2019
Date Reported: 7/2/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Mass *(g)*	Concentration *(ppm)*	Concentration *(% by weight)*
L11 71916721PBP_11	Brown on siding - Truck Shed	0.0818	2500	**0.25%**

Unless otherwise noted blank sample correction was not performed on analytical results. Scientific Analytical Institute participates in the AIHA ELPAT program. ELPAT Laboratory ID: 173190. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. Analytical uncertainty available upon request. The quality control samples run with the samples in this report have passed all EPA required specifications unless otherwise noted. RL: (Report Limit for an undiluted 50ml sample is 4µg Total Pb).

Matthew Caffey (11)
Analyst

Laboratory Director

7191721

Client:	Pinchin Ltd.
Contact:	Bennett Colgan
Address:	204-160 Charlotte Street
City	Peterborough, Ontario
Phone:	705.772.8599
Fax:	N/A
Email:	bcolgan@pinchin.com
cc email	syoung@pinchin.com
Project Name	HBMA - Hydro One 12684 HWY 35, Minden ON
Pinchin File #	242815.019
Date Submitted:	20-Jun-19
Analysis:	Lead by Flame AA
TurnAroundTime:	5 Day Regular

Instructions:

Use Column "B" for your contact info

To See an Example Click the bottom Example Tab.

Enter samples between "<<" and ">>"
Begin Samples with a "<< "above the first sample and end with a ">>" below the last sample.
Only Enter your data on the first sheet "Sheet1"

Note: Data 1 and Data 2 are optional fields that do not show up on the official report, however they will be included in the electronic data returned to you to facilitate your reintegration of the report data.

Version 1-15-2012

Invoice to:

Sarah Young
syoung@pinchin.com

Scientific Analytical Institute

4604 Dundas Dr.
Greensboro, NC 27407
Phone: 336.292.3888
Fax: 336.292.3313
Email: lab@sailab.com

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only\)
<<			
L01		White on drywall - Utility Room Forestry Building	
L02		White on ovhd door (metal) - Cold Storage	
L03		Red primer - Cold Storage	
L04		Brown on wood - Garage	
L05		White on Plaster - Garage	
L06		Blue on wood sheathing - Garage	
L07		Brown on siding - Generator Shed	
L08		White on Steel - Lines Building	
L09		Red primer - Lines Building	
L10		White on block - Lines Building	
L11		Brown on siding - Truck Shed	

Accepted ☑

Rejected ☐

N Francis 6/25 10:30A

Analysis for Lead Concentration in Paint Chips

by Flame Atomic Absorption Spectroscopy
EPA SW-846 3050B/6010C/7000B

Customer: Pinchin Ltd.
191 Bloor Street East
Oshawa, ON L1H 3M3

Attn: Willis Asiedu

Project: Hydro One Paint Sample

Lab Order ID: 71922337
Analysis ID: 71922337_PBP
Date Received: 8/27/2019
Date Reported: 8/27/2019

Sample ID *Lab Sample ID*	Description *Lab Notes*	Mass *(g)*	Concentration *(ppm)*	Concentration *(% by weight)*
L01	Yellow paint on truck canopy columns	0.0532	100	**0.010%**
71922337PBP_1				

Unless otherwise noted blank sample correction was not performed on analytical results. Scientific Analytical Institute participates in the AIHA ELPAT program. ELPAT Laboratory ID: 173190. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. Analytical uncertainty available upon request. The quality control samples run with the samples in this report have passed all EPA required specifications unless otherwise noted. RL: (Report Limit for an undiluted 50ml sample is 4µg Total Pb).

Melissa Ferrell (1)

Analyst

Laboratory Director

71922337

Client:	Pinchin Ltd.	***Instructions:***	*Version 1-15-2012*
Contact:	Willis Asiedu	*Use Column "B" for your contact info*	
Address:	191 Bloor Street East, Unit 11		**Invoice to:**
City	Oshawa, Ontario	*To See an Example Click the*	Sarah Young
Phone:	289.830.2435	*bottom Example Tab.*	syoung@pinchin.com
Fax:	N/A		
Email:	wasiedu@pinchin.com	***Enter samples between "<<" and ">>"***	
cc email		***Begin Samples with a "<< "above the first sample***	
		and end with a ">>" below the last sample.	
Project Name	Hydro One Paint Sample	*Only Enter your data on the first sheet "Sheet1"*	
		Note: Data 1 and Data 2 are optional	
Pinchin File #	242815.029	*fields that do not show up on the official*	
Date Submitted:	8/26/2019	*report, however they will be included*	
Analysis:	Lead by Flame AA	*in the electronic data returned to you*	
TurnAroundTime:	RUSH TAT	*to facilitate your reintegration of the report data.*	

Scientific Analytical Institute

4604 Dundas Dr.
Greensboro, NC 27407
Phone: 336.292.3888
Fax: 336.292.3313
Email: lab@sailab.com

Sample Number	Data 1 (Lab use only)	Sample Description	Data 2 (Lab use only)
<<			
L01		Yellow paint on truck canopy columns	
>>			

Accepted ☑

Rejected ☐

M. Ivo Poplee
8.27 10:30

APPENDIX III
Methodology

GENERAL

Pinchin conducts a room-by-room survey (rooms, corridors, service areas, exterior, etc.) to identify the hazardous building materials as defined by the scope of work. All work is conducted in accordance with our own internal Standard Operating Procedures.

Information regarding the location and condition of hazardous building materials encountered and visually estimated quantities are recorded. The locations of any samples collected are recorded on small-scale plans.

As-built drawings and previous reports are referenced where provided.

1.1 Limitations on Scope

The assessment excludes the following:

- Articles belonging to the owner, tenant or occupant (e.g. stored items, furniture, appliances, etc.);
- Underground materials or equipment (e.g. vessels, drums, underground storage tanks, pipes, etc.);
- Building envelope, structural components, inaccessible or concealed materials or other items where sampling may cause consequential damage to the property;
- Energized systems (e.g. internal boiler components, elevators, mechanical or electrical components);
- Controlled products (e.g. stored chemicals, operational or process-related substances); and
- Materials not typically associated with construction (e.g. settled dust, spills, residual contamination from prior spills, etc.).

The assessment includes limited demolition of wall and ceiling finishes (drywall or plaster) to view concealed conditions at representative areas as permitted by the current building use. Limited destructive testing of flooring is conducted where possible (under carpets or multiple layers of flooring). Demolition of exterior building finishes, masonry walls (chases, shafts etc.), and structural items is not conducted.

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1.2 Asbestos

An inspection is conducted for the presence of friable and non-friable asbestos-containing materials (ACM). A friable material is a material that when dry can be crumbled, pulverized or powdered by hand pressure.

A separate set of samples is collected of each type of homogenous material suspected to contain asbestos. A homogenous material is defined by the US EPA as material that is uniform in texture and appearance, was installed at one time, and is unlikely to consist of more than one type or formulation of material. The homogeneous materials are determined by visual examination and available information on the phases of construction and prior renovations.

Samples are collected at a rate that is in compliance with the requirements of local regulations and guidelines. The sampling strategy is also based on known ban dates and phase out dates of the use of asbestos; sampling of certain building materials is not conducted after specific construction dates. In addition, to be conservative, several years past these dates are added to account for some uncertainty in the exact start / finish date of construction and associated usage of ACM.

In some cases, manufactured products such as asbestos cement pipe are visually identified without sample confirmation.

Drywall joint compound is sampled at exterior walls, columns or other locations that are unlikely to have been renovated in an attempt to determine the presence of asbestos in the original drywall compound. Delineation of asbestos-containing drywall compound from newer, non-asbestos drywall compound is not conducted.

Flooring mastic or adhesive is sampled and analyzed if present on the underside of flooring samples (vinyl floor tile and vinyl sheet flooring).

Limited demolition of masonry block walls (core holes) is conducted to investigate for loose fill vermiculite insulation. The core holes are temporarily patched with expanding foam or caulking.

The following materials (if present) are not sampled and will be presumed to contain asbestos:

- Roofing felts and tar, including repair mastics;
- Concrete floor levelling compound, including ceramic tile thin set;
- Elevator and lift brakes;
- Electrical components or wiring within control centers, breakers, motors or lights, insulation on wiring;
- Moulded plastic components (laboratory bench tops);
- Refractory materials and insulations in boilers, incinerators and stacks;

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- Insulation under metal clad boilers and vessels;
- Mechanical packing, ropes and gaskets;
- Paints and coatings;
- Paper products under wood flooring or metal or slate roofing;
- Soffit and fascia boards at elevated heights;
- Fire resistant doors or metal clad finishes;
- Vibration dampers on HVAC equipment; and
- Materials concealed or outside the assessed area.

The bulk samples are submitted to a NVLAP accredited laboratory for analysis. The analysis is performed in accordance with Test Method EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials, July 1993.

Analytical results are compared to the following criteria:

Jurisdiction	Friable	Non-Friable
Ontario	0.5%	0.5%

The asbestos analysis is completed using a stop positive approach. Only one result meeting the above regulated criteria is required to determine that a material is asbestos-containing, but all samples must be analyzed to conclusively determine that a material is non-asbestos. The laboratory stops analyzing samples from a homogeneous material once a result equal to or greater than the regulated criteria is detected in any of the samples of that material. All samples of a homogeneous material are analyzed if no asbestos is detected. In some cases, all samples are analyzed in the sample set regardless of result.

Where building materials are described in the report as “non-asbestos” or “does not contain asbestos”, this means that either no asbestos was detected by the analytical method utilized in any of the multiple samples or, if detected, it is below the lower limit of an asbestos-containing material in the applicable regulation.

Asbestos materials are evaluated in order to make recommendations regarding remedial work. The priority for remedial action is based on several factors:

- Friability (friable or non-friable);
- Condition (good, fair, poor, debris);
- Accessibility (ranking from accessible to all building users to inaccessible); and
- Efficiency of the work (for example, if damaged ACM is being removed in an area, it may be most practical to remove all ACM in the area even if it is in good condition).

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1.3 Lead

Samples of distinctive paint finishes and surface coatings present in more than a limited application, where removal of the paint is possible is collected. The samples are collected by scraping the painted finish to include base and covering applications. Drawings included show sample locations.

Analysis for lead in paints or surface coatings is performed at an accredited laboratory in accordance with EPA Method No. 3050B/Method No. 7420; flame atomic absorption, or equivalent.

The Ontario Ministry of Labour (MOL) has not established a lower limit for concentrations of lead in paint, below which precautions do not need to be considered during construction projects. Pinchin follows the recommendations of the Environmental Abatement Council of Ontario (EACO) Lead Guideline for Construction, Renovation, Maintenance or Repair. The Guideline suggests that 0.1% (1,000 ppm) lead in paint represents a de minimis concentration of lead in paint for construction hygiene purposes, that is a concentration below which the lead content is not the limiting hazard in any disturbance of leaded paint for non-aggressive disturbance of painted finishes, (hand powered demolition, chipping, scraping, light sanding, etc.). The use of aggressive methods such as power grinding, torching, welding, etc. may result in significant lead exposures even with low concentrations of lead in paints (below 0.1%). Paint and surface coatings are evaluated for condition such as flaking, chipping or spalling.

Other lead building products (e.g. batteries, lead sheeting, flashing) are identified by visual observation only.

1.4 Silica

Building materials known to contain crystalline silica (e.g. concrete, cement, tile, brick, masonry, mortar) is identified by visual inspection only. Pinchin does not perform sampling of these materials for laboratory analysis of crystalline silica content.

1.5 Mercury

Building materials/products/equipment (e.g. thermostats, barometers, pressure gauges, light tubes), suspected to contain mercury are identified by visually inspection only. Dismantling of equipment suspected of containing mercury is not performed. Sampling of these materials for laboratory analysis of mercury content is not performed.

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1.6 Polychlorinated Biphenyls

The potential for light ballast and wet transformers to contain PCBs is based on the age of the building, a review of maintenance records and examination of labels or nameplates on equipment, where present and accessible. The information is compared to known ban dates of PCBs and Environment Canada publications.

Dry type transformers are presumed to be free of dielectric fluids and hence non-PCB.

Fluids (mineral oil, hydraulic, Aroclor or Askarel) in transformers or other equipment are not sampled for PCB content.

Caulking or sealants are sampled for PCBs based on the date of construction or installation. Caulking installed after 1985 (1980 ban date plus a reasonable non-compliance period based on our experience) is presumed to be free of PCBs and hence not sampled. If sampled, analysis for PCBs is performed using an ASTM test method appropriate to the sample matrix at an accredited laboratory. Sample results are compared to the criteria of 50 ppm for solids as stated in the PCB Regulation, SOR/2008-273.

1.7 Visible Mould

The presence of mould is determined by visual inspection of exposed building surfaces. If any mould growth is concealed within building cavities it is not addressed in this assessment.

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