



REAL ESTATE & FACILITIES MANAGEMENT  
Facilities Planning & Development

### Pre-Renovation Hazardous Building Materials Assessment of 555/575 West 8<sup>th</sup> Avenue

According to the City's records, the building located at 555/575 West 8<sup>th</sup> Avenue, Vancouver, BC is a building constructed in the year 1992. Based on Municipal, Provincial and Federal laws that prohibit the use of asbestos and lead in the building construction industry, the undersigned AHERA Building Inspector has determined that no suspected asbestos containing materials or lead-containing paints are present in the interior finishes found within this building (mechanical, electrical, and structural components are not included). Therefore, during this hazardous materials assessment no materials were suspected to contain asbestos and no paints are suspected to be lead-containing. Samples of building materials were not collected for the analysis of asbestos - *WorkSafeBC Inspection Report#20177748058A* or lead. This decision however, does not apply to any other hazardous materials that may be found at this site.

Based on the scope of work for the upcoming renovations, other hazardous building materials (polychlorinated biphenyl's, ozone depleting substances, mercury, equipment with radioactive components etc.) are not expected to be encountered.

Should existing mechanical equipment, electrical equipment, or painted structural beams planned to be disturbed, further assessment may be required.

Report Prepared by City of Vancouver Hazardous Materials Team

A handwritten signature in black ink, appearing to read "Jun Han Poon".

Per: Jun Han Poon, Hazardous Materials Technician  
AHERA Certification No. CABIR-16-073



SCHEDULE 8  
CITY PRE-CONTRACT HAZARD ASSESSMENT FORM

**Contract Title**

TENANT IMPROVEMENT - ECHEUON CENTRE - 575 W 8TH AVE. 6<sup>TH</sup> FLOOR

**PROJECT MANAGER (City employee)**

CHEERY DEARING

**Contract NAME & # (IF KNOWN)**

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**Purpose**

This document shall be completed by the project manager, who shall list all the known worksite hazards and all the existing work process hazards that will be associated with the upcoming contract. The completed document shall then be provided to all potential contractors, as part of the tender package, so the project can be bid appropriately based on the known worksite hazards.

**Definitions**

**Project Manager** - the City employee designated to be the liaison with the contractor for the purpose of managing, overseeing, coordinating or in any other way administering the contract.

**Instructions for Completion**

The document must be completed in full. Choices for each entry are:

Y - Yes - the known worksite hazard or existing work process hazard does exist

N - No - the known worksite hazard or existing work process hazard does not exist\*

NA - Not Applicable - worksite hazard or existing work process is not applicable for this contract type

TBD - a third party (environmental consultant) will address the issue (primarily for a hazardous materials assessment)

\*based on reasonable estimation from all input by persons with expertise or relevant knowledge and understanding

**Information from Hazardous Materials Assessments Provided by a Third Party**

A hazardous materials assessment may be completed prior to the Project Manager completing the Owners List of Known Workplace Hazards. Any such assessment should be referenced by the Project Manager in this document and provided with the tender package. Hazardous materials may include asbestos, lead, crystalline silica, ammonia, PCB's, CFC's, moulds, mercury, ozone depleting substances (ODS), radioactive substances.

**Assistance in Completing this Document**

If you have questions while completing this document, or are unsure if the listed hazards apply, please seek assistance from Health and Safety (604.871.6078 or [healthandsafety@vancouver.ca](mailto:healthandsafety@vancouver.ca)).

HAZARD OR ISSUE	Project Manager
<b>Asbestos-containing Materials</b> - disturbance or penetrations of flooring, walls, ceiling tiles, pipe lagging, ac pipe, transite siding, particularly in older facilities; e.g., furniture/fixture installation, carpeting/flooring services, and boiler repair/tune-up services.	Yes (Y) No (N) Not Applicable (NA) To Be Determined (TBD)
a) Asbestos containing materials (ACM) will be encountered	Y <input checked="" type="radio"/> N NA TBD
b) A hazardous materials assessment for asbestos is provided in the tender package	<input checked="" type="radio"/> Y N NA TBD
c) A hazardous materials assessment for asbestos is the responsibility of the contractor	Y N <input checked="" type="radio"/> NA TBD

<b>Lead-containing Materials</b> - disturbance of lead-based paint, particularly in older facilities. Also present in certain electrical circuitry and metal alloys; .e.g., overhead bridge crane maintenance/repair, high-voltage cable splicing services, boiler repair/tune-up services, fixture installation services, and chiller maintenance/repair services.	Yes (Y) No (N) Not Applicable (NA) To Be Determined (TBD)
a) Inorganic lead-containing materials may be encountered	Y <input checked="" type="radio"/> N NA TBD
b) A hazardous materials assessment for lead is provided in the tender package	Y <input checked="" type="radio"/> N NA TBD
c) A hazardous materials assessment for lead is the responsibility of the contractor	Y N <input checked="" type="radio"/> NA TBD

<b>Other hazardous materials</b> - may include ammonia, PCBs, CFCs, moulds, mercury, ozone depleting substances (ODS), radioactive substances, sewage, unknown contaminated materials, other: (list other here) _____	Yes (Y) No (N) Not Applicable (NA) To Be Determined (TBD)
a) A hazardous materials assessment for ammonia is provided in the tender package	Y N <input checked="" type="radio"/> NA TBD
b) A hazardous materials assessment for (list the specific hazardous material) will be provided in the tender package	Y N <input checked="" type="radio"/> NA TBD
c) A hazardous materials assessment for (list the specific hazardous materials) will be the contractors responsibility	Y N <input checked="" type="radio"/> NA TBD

<b>CONFINED SPACES</b> - working in vaults, chambers, pits, tanks, etc.; e.g., construction,	Yes (Y) <input checked="" type="radio"/> No
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inspection and testing services, water/fuel storage tank clean-out services, and utility corrosion inspection services.	(N) or Not Applicable (NA)
a) A hazard assessment (for entry and inspection only) from the City of Vancouver is provided in the tender package	Y N <input checked="" type="radio"/> NA
b) The City of Vancouver shall provide procedures to isolate adjacent piping, or to lock out equipment (complicated systems only)	Y N <input checked="" type="radio"/> NA
c) The contractor shall be responsible for isolation and lockout procedures in the confined space	Y N <input checked="" type="radio"/> NA

<b>Lock Out</b> - industrial equipment maintenance, power machinery repair services, pump maintenance/repair services, mechanical refrigeration systems, elevator repair, overhead bridge crane maintenance/repair services, cathodic protection services, hydraulic test systems repair/service, and air compressor rebuilding services.	Yes (Y) No (N) or Not Applicable (NA)
a) Lockout will be required to isolate or prevent the unexpected release of energy (electrical, mechanical, hydraulic, chemical, thermal, kinetic, gravitational, pneumatic)	Y N <input checked="" type="radio"/> NA
b) Work will be performed on or near energized equipment, lines, or circuits	Y N <input checked="" type="radio"/> NA

If yes to a) or b) describe:

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<b>Fall Protection</b> - tree pruning, window and ledge cleaning, window replacement, overhead bridge crane maintenance/repair services, roll-up door replacement, tent installation, awning/canopy installation, overhead air exchange installation, construction inspection and testing services.	Yes (Y) No (N) or Not Applicable (NA)
a) Workers will be exposed to a potential fall in excess of 3 m (10 feet), or to a fall of less than 3 m which would likely result in a serious injury (ex. impalement on rebar)	Y N <input checked="" type="radio"/> NA
b) Scaffolding or ladders will be required to be secured to a building or structure	Y N <input checked="" type="radio"/> NA

Overhead and Underground Utilities - tree pruning services, tree removal, utility relocation or replacement, underground utility identification (digging with powered equipment), concrete sawing services, pole painting	Yes (Y) No (N) or Not Applicable (NA)
a) There will be electrical hazards associated with overhead power lines such as limits of approach and contact	Y N <input checked="" type="radio"/> NA
b) Necessary assurances (in writing) have (or will be) obtained by the City, through the utility company, for any work where minimum limits of approach cannot be maintained (provide documentation and review at pre job meeting with the successful contractor candidate)	Y N <input checked="" type="radio"/> NA
c) Necessary assurances must be obtained (in writing) by the successful contractor, through the utility company, for any work where minimum limits of approach will not be able to be maintained	Y N <input checked="" type="radio"/> NA
d) Underground or hidden utilities are located on the job site. Any excavation or drilling work in proximity to an underground utility service must be undertaken in conformity with the requirements of the owner of that utility service	Y N <input checked="" type="radio"/> NA

If yes to c), and the specific physical locations where minimum limits of approach will not be able to be maintained are known, how will this information be provided to the contractor?

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CONSTRUCTION, EXCAVATION, SHORING AND DEMOLITION	Yes (Y) No (N) or Not Applicable (NA)
a) As Prime Contractor, the City of Vancouver project manager will submit the Notice of Project	Y N NA
b) Workers will be required to enter an excavation over 1.2m (4 ft) in depth	Y N <input checked="" type="radio"/> NA

<b>CHEMICALS, SOLVENTS, FUMES, VAPORS, AND/OR DUSTS</b> (existing work processes or known worksite hazard only) - ice rinks, swimming pools, cleaning solvents, adhesives, paints, coatings, binders; e.g., storage tank clean-out services, countertop installation (epoxies), and flooring	Yes (Y) No (N) or Not Applicable (NA)
a) The worksite has chemicals solvents, fumes, vapors or dusts that may affect the contractor	Y N <b>NA</b>
b) Material Safety Data Sheets for chemicals currently in use at the worksite will be available, on request, to the contractor	Y N <b>NA</b>

If yes to a), list the work processes and/or chemicals in use:

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<b>NOISE</b> - (existing work processes only)	Yes (Y) No (N) or Not Applicable (NA)
a) Employees will be exposed to noise levels above 85dba	Y N <b>NA</b>

<b>OTHER HAZARDS (NOT IDENTIFIED ABOVE)</b>
a) <b>SILICA</b>
b)
c)

<b>KNOWN WORKPLACE HAZARDS LIST COMPLETED BY</b>	
Project Manager Name (print): <b>CHERRY DEARING</b>	
Project Manager Signature: 	Date: <b>AUGUST 2, 2018</b>
Title: <b>FACILITIES PLANNING</b>	Phone: <b>604-873-7575</b>



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The *Workers Compensation Act* requires that the employer must post a copy of this report in a conspicuous place at or near the workplace inspected for at least seven days, or until compliance has been achieved, whichever is the longer period. A copy of this report must also be given to the joint committee or worker health and safety representative, as applicable.

### Inspection Report #201717748058A

Employer Name	Jobsite Inspected	Scope of Inspection
CITY OF VANCOUVER	ATTN: ORGANIZATIONAL HEALTH HUMAN RESOURCES SERVICES VANCOUVER BC V5Y 1V4	Meeting to Discuss Proposed Employer Asbestos Guideline

Date of Initiating Inspection	Date of This Inspection	Delivery Date of This Report	Delivery Method
Jul 20, 2017	Jul 20, 2017	Jul 22, 2017	Email

**THERE ARE ZERO (0) ORDERS OR OTHER ITEMS OUTSTANDING**

**ACTION MAY STILL BE NECESSARY TO ENSURE COMPLIANCE  
PLEASE READ FULL REPORT**



## INSPECTION NOTES

On Thursday July 20, 2017, Prevention Officer Jonathan Truefitt attended a meeting with this employer pertaining to matters of compliance with the Occupational Health and Safety Regulation (OHSR) and the Workers Compensation Act (WCA). The scope of the meeting was to discuss the employer's proposed internal guideline regarding the threshold date for sampling of asbestos. Indoor air quality was also discussed at the meeting.

Items discussed with the employer and worker representatives included, but were not limited to, the following:

### **A) PROPOSED EMPLOYER INTERNAL GUIDELINE FOR THRESHOLD DATE FOR SAMPLING OF ASBESTOS**

This employer is considering the development of an internal guideline relating to the threshold date for the sampling of asbestos in this employer's buildings and workplaces based on construction dates. The employer provided this Officer with a copy of the document titled "Determination of a Testing Threshold Date for Asbestos in City-Owned Buildings" dated May 24, 2017. The document outlines the employer's plan to use historical sampling from the asbestos inventory of this employer's buildings and workplaces as a basis for the guideline. The employer is intending to use this guideline to implement a testing threshold date of 1990 for sampling of asbestos in both residential and commercial buildings after which date the number of asbestos samples required to be collected would be minimized.

The Occupational Health and Safety Regulation (OHSR) does not prescribe a threshold or cut-off date after which suspect materials are not required to be sampled for asbestos.

In regards to an asbestos inventory, Section 6.4(1) of the OHSR requires that a qualified person collects representative samples of the materials in the workplace that the qualified person suspects contain asbestos. Section 20.112(2) of the OHSR requires that a qualified person inspects the machinery, equipment, building or structure and the worksite to identify the hazardous materials (including asbestos), prior to demolition or salvage of machinery, equipment, a building or a structure, or the renovation of a building or structure.

The employer's attention is brought to the underlined sections above, in that the determination of which materials are required to be sampled for asbestos in regards to the above regulations is the determination of the qualified person. Therefore, the above regulations do not prohibit the employer from implementing an internal guideline regarding threshold dates for testing of asbestos provided that such a guideline is developed by a qualified person and is supported by evidence.

The employer has stated in their document referenced above that historical sampling from this employer's asbestos inventory will be used as part of the development of the threshold date guideline. It is expected that a detailed report would be developed by a qualified person and made available to workers and other's as necessary, as supporting evidence for the implementation of the threshold date guideline. A report would be expected to have sections that include, but not be limited to, the following: roles and responsibilities in the development of the threshold date guideline; a detailed methodology; details on the historical sampling results including a breakdown of material types; extrapolation on the conclusions inferred from the sample results and from any other supporting information or references; and any limitations on the use the use of the threshold date guideline.

Regardless of the development of the threshold date guideline, the employer is reminded that Section 20.112(2) and 20.112(3) of the OHSR would still require a qualified to perform a case-by-case inspection for hazardous materials prior to any demolition or salvage of machinery, equipment, a building or a structure, or the renovation of a building or structure, and the development of a report of the inspection.

However, a qualified person may determine that such inspections and subsequent reports may utilize the threshold date guideline along with supporting documents such as as-built drawings, historical renovation drawings, or original building specifications and contracts, to limit the amount of asbestos samples required to be taken. The qualified person would make the determination on the amount of asbestos samples (if any) to be taken, and would develop a subsequent report based on the scope of work and the known information. For example, the qualified person may determine as part of an inspection, and by using the threshold date guideline, that a post-1990 building does not require any asbestos samples to be collected (or only minimal samples) and that a simple letter suffices as a report for compliance of Section 20.112. This would be at the discretion of the qualified person and the

qualified person may be required to provide evidence of their decisions and determinations should it be requested.

The employer is reminded that Section 20.112 of the regulation applies to other hazardous materials in addition to asbestos. Therefore, although a qualified person may determine that a post-1990 building does not require samples to be collected for asbestos, they must still inspect for the presence of other hazardous materials.

It is also expected that the development of the guideline be completed in consultation with the joint health and safety committee(s) of this employer.

## **NEXT STEPS**

Should the employer decide to move forward with the development of the threshold date guideline, inform this Officer of that decision. A copy of a detailed report as discussed above that supports the employer's threshold date guideline may then be requested to be provided at a future date.

## **B) INDOOR AIR QUALITY**

The requirements of Section 4.79 of the OHSR were discussed that state that:

- (1) The employer must ensure that the indoor air quality is investigated when
  - (a) complaints are reported,
  - (b) occupancy in the space changes substantially, or
  - (c) renovations involving significant changes to the ventilation system occur.
- (2) An air quality investigation must include
  - (a) assessment of the ventilation rate, unless the indoor carbon dioxide level is less than 650 ppm above ambient outdoor levels,
  - (b) inspection of the ventilation system as required in Section 4.78(2) of the OHSR,
  - (c) sampling for airborne contaminants suspected to be present in concentrations associated with the reported complaints, and
  - (d) a record of the complaint, the findings of the investigation, and any actions taken.

In regards to section (c) above, a qualified person may make the determination on when sampling is required based on the complaint. For example, if the complaint is limited to air temperature, the qualified person may determine that sampling for an airborne contaminant may not be required.

In addition to Section 4.79 the employer is reminded of Section 5.59 of the OHSR which states that:

- (1) If a worker exhibits signs or reports symptoms of overexposure to a hazardous substance present in the workplace, the employer must investigate and assess the potential for exposure.
- (2) If the assessment demonstrates that the signs or symptoms can be caused by exposure to a hazardous substance that is present in the workplace, further investigation must be conducted, in consultation with the joint committee or the worker health and safety representative, as applicable, to address and resolve the worker's concern.
- (3) Records of the investigation required under subsection (2) must be made available to workers, and maintained by the employer for a minimum of 10 years.

A qualified person may make the determination on which section of the OHSR applies to a certain situation given the nature of the complaint or concern, or on the nature of any reporting of symptoms.

### **C) CONTACT**

If there are any questions regarding the items noted in this inspection report, please contact:

Jonathan Truefitt, B.Sc. - Occupational Hygiene Officer - WorkSafeBC

E-mail: [jonathan.truefitt@worksafebc.com](mailto:jonathan.truefitt@worksafebc.com)

Mail: P.O. Box 5350 Stn. Terminal, Vancouver, B.C. V6B 5L5

Phone: 604-244-6486 || Fax: 604-232-1558

For more information on occupational health and safety, visit: [www.worksafebc.com](http://www.worksafebc.com)

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### REFERENCES

**In addition to any orders, or other items, and the information provided in the Inspection Notes section in this Inspection Report, the officer may discuss other health and safety issues with the employer arising out of the inspection. The information below sets out the health and safety requirements discussed with the employer, and unless otherwise noted, violations of these requirements were not observed.**

Reference	Details Discussed
<p><b>OHS20.112(2)</b></p> <p>Before work begins on the demolition or salvage of machinery, equipment, a building or a structure, or the renovation of a building or structure, all employers responsible for that work, and the owner, must ensure that a qualified person inspects the machinery, equipment, building or structure and the worksite to identify the hazardous materials, if any.</p>	As discussed in the inspection notes.
<p><b>OHS20.112(1)</b></p> <p>In this section:                      "hazardous material" means a hazardous substance, or material containing a hazardous substance, including                      (a) asbestos-containing material,                      (b) lead or any other heavy metal, or                      (c) toxic, flammable or explosive material,                      that may be handled, disturbed or removed in the course of the demolition or salvage of machinery, equipment, a building or a structure, or the renovation of a building or structure;</p> <p>"qualified person", except in subsections (7) and (8), means a person who                      (a) has, through education and training, knowledge of the management and control of the hazardous materials that the qualified person is made aware of by the employers, and the owner, or that are reasonably foreseeable by the qualified person, as being                      (i) on or in the machinery, equipment, building or structure that is the subject of the demolition, salvage or renovation, or                      (ii) at the worksite, and                      (b) has experience in the management and control of those hazardous materials.</p>	As discussed in the inspection notes.

Reference	Details Discussed
<p><b>OHS20.112(3)</b></p> <p>In conducting an inspection and identifying the hazardous materials, if any, under subsection (2), a qualified person must do the following:</p> <ul style="list-style-type: none"><li>(a) collect representative samples of the material that may be hazardous material;</li><li>(b) identify each representative sample and determine whether it is hazardous material;</li><li>(c) if the actions under paragraphs (a) and (b) are not practicable, or not appropriate in the circumstances, use other sufficient means to identify the hazardous materials, if any;</li><li>(d) based on the actions taken under paragraphs (a) and (b) or (c), determine the location of each of the hazardous materials identified;</li><li>(e) make a written report of the inspection, including,<ul style="list-style-type: none"><li>(i) if the actions under paragraphs (a) and (b) were taken,<ul style="list-style-type: none"><li>(A) the location of each representative sample, and</li><li>(B) the identity of each representative sample and whether it is hazardous material,</li></ul></li><li>(ii) if the actions under paragraph (c) were taken, the identity of each of the hazardous materials, if any,</li><li>(iii) a description of the methods used under paragraph (b) or (c),</li><li>(iv) the location, as determined under paragraph (d), of each of the hazardous materials identified, including by using drawings, plans or specifications, and</li><li>(v) the approximate quantity of each of the hazardous materials identified.</li></ul></li></ul>	As discussed in the inspection notes.

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Reference	Details Discussed
<p><b>OHS6.4(1)</b></p> <p>The employer and the owner must ensure that a qualified person</p> <ul style="list-style-type: none"> <li>(a) collects representative samples of the materials in the workplace that the qualified person suspects contain asbestos,</li> <li>(b) determines whether each of the samples is asbestos-containing material in accordance with                             <ul style="list-style-type: none"> <li>(i) in the case of a sample that is not vermiculite insulation, one of the methods set out in paragraph (a)(i) to (iii) of the definition of “asbestos-containing material” in section 6.1, and</li> <li>(ii) in the case of a sample that is vermiculite insulation, the method set out in paragraph (b) of the definition of “asbestos-containing material” in section 6.1, and</li> </ul> </li> <li>(c) prepares an inventory of all asbestos-containing materials in the workplace that includes the following information:                             <ul style="list-style-type: none"> <li>(i) with respect to each representative sample collected under paragraph (a),                                     <ul style="list-style-type: none"> <li>(A) the specific location of the sample,</li> <li>(B) a description of the sample,</li> <li>(C) whether the sample is asbestos-containing material as determined under paragraph (b),</li> <li>(D) the method, set out in paragraph (a)(i) to (iii) or (b) of the definition of “asbestos-containing material” in section 6.1, used to determine if the sample is asbestos-containing material, and</li> <li>(E) if the sample is determined to be asbestos-containing material, the type of asbestos, as determined under paragraph (b), and the percentage of the sample that is comprised of that asbestos;</li> </ul> </li> <li>(ii) with respect to each material that, under subsection (2), is treated under this Part as asbestos-containing material because it is inaccessible or not practicable to sample,                                     <ul style="list-style-type: none"> <li>(A) the specific location of the material or, if the specific location is not known, the presumed location of the material,</li> <li>(B) a description of the material, and</li> <li>(C) how it is determined that the material is inaccessible or not practicable to sample;</li> </ul> </li> <li>(iii) the location of each of the asbestos-containing materials, including by using drawings, plans or specifications.</li> </ul> </li> </ul>	<p>As discussed in the inspection notes.</p>
<p><b>OHS4.79(1)(a)</b></p> <p>The employer must ensure that the indoor air quality is investigated when complaints are reported.</p>	<p>As discussed in the inspection notes.</p>
<p><b>OHS4.79(1)(b)</b></p> <p>The employer must ensure that the indoor air quality is investigated when occupancy in the space changes substantially.</p>	<p>As discussed in the inspection notes.</p>

Reference	Details Discussed
<p><b>OHS4.79(1)(c)</b></p> <p>The employer must ensure that the indoor air quality is investigated when renovations involving significant changes to the ventilation system occur.</p>	As discussed in the inspection notes.
<p><b>OHS4.79(2)(a)</b></p> <p>An air quality investigation must include assessment of the ventilation rate, unless the indoor carbon dioxide level is less than 650 ppm above ambient outdoor levels.</p> <p>Note: in Subsection (2)(a) carbon dioxide is considered a marker indicator of sufficient outdoor air, not as a toxic air contaminant for which the exposure limit in Table 5-4 would apply. Normally, ambient levels are approximately 350 ppm, but may be higher in locations such as urban areas or during weather conditions such as inversions. Ambient levels may be assumed to be 350 ppm unless sampling establishes otherwise.</p>	As discussed in the inspection notes.
<p><b>OHS4.79(2)(b)</b></p> <p>An air quality investigation must include inspection of the ventilation system as required in section 4.78(2).</p>	As discussed in the inspection notes.
<p><b>OHS4.79(2)(c)</b></p> <p>An air quality investigation must include sampling for airborne contaminants suspected to be present in concentrations associated with the reported complaints.</p>	As discussed in the inspection notes.
<p><b>OHS4.79(2)(d)</b></p> <p>An air quality investigation must include a record of the complaint, the findings of the investigation, and any actions taken.</p>	As discussed in the inspection notes.
<p><b>OHS5.59(1)</b></p> <p>If a worker exhibits signs or reports symptoms of overexposure to a hazardous substance present in the workplace, the employer must investigate and assess the potential for exposure.</p>	As discussed in the inspection notes.
<p><b>OHS5.59(2)</b></p> <p>If the assessment demonstrates that the signs or symptoms can be caused by exposure to a hazardous substance that is present in the workplace, further investigation must be conducted, in consultation with the joint committee, or worker health and safety representative, as applicable to address and resolve the worker's concern.</p>	As discussed in the inspection notes.

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Reference	Details Discussed
<b>OHS5.59(3)</b> <hr/> Records of the investigation required under Subsection 5.59(2) must be made available to workers, and maintained by the employer for a minimum of 10 years.	As discussed in the inspection notes.

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Employer #	Mailing Address	Classification Unit #	Operating Location
1770	ATTN: ORGANIZATIONAL HEALTH HUMAN RESOURCES SERVICES 453 12TH AVE W VANCOUVER BC V5Y 1V4	753004	006

Lab Samples Taken	Direct Readings	Results Presented	Sampling Inspection(s)
N	N	N	

Workers onsite during Inspection	Notice of Project Number
4	

Inspection Report Delivered To	Employer Representative Present During Inspection	Worker Representative Present During Inspection	Labour Organization & Local
Andrew Ross	Chris Adolf	Brian Kerin	CUPE 15

WorkSafeBC Officer Conducting Inspection
Jonathan Truefitt

*Inspection Time	*Travel Time
4.00 hrs	0.50 hrs

\*The time recorded above reflects the inspection time and travel time associated with this inspection report and includes time spent on pre and post-inspection activities. Additional time may be added for subsequent activity.

### Right to Review

**Any employer, worker, owner, supplier, union, or a member of a deceased worker's family directly affected may, within 45 calendar days of the delivery date of this report, in writing, request the Review Division of WorkSafeBC to conduct a review of an order, or the non-issuance of an order, by contacting the Review Division. Employers requiring assistance may contact the Employers' Advisers at 1-800-925-2233.**

WorkSafeBC values your feedback. To obtain that feedback, an external market research provider may be contacting you to complete a survey.

## **ASBESTOS MATERIALS SURVEY & RISK ASSESSMENT**

OF

### **'ECHELON'**

555/575 West 8<sup>th</sup>. Ave,

Vancouver BC

### **PREPARED FOR:**

Cressey Development Group

#800 – 925 West Georgia Street

Vancouver, BC

V6C 3L2

### **PREPARED BY:**

Marc P. DiMarco

H&S Manager (A.B.I./AHERA)

**1. EXECUTIVE SUMMARY**

**2. INTRODUCTION**

**3. METHODOLOGY**

**4. RESULTS & ASSOCIATED RISK LEVELS**

**4.1 ACMs**

**4.2 Non-ACMs**

**5. RECOMMENDATIONS**

**6. STATEMENT OF LIMITATIONS (N/A)**

**7. REFERENCES (N/A)**

**APPENDICES**

**A**

**B**

## 1. EXECUTIVE SUMMARY

This building survey included a complete walkthrough and physical assessment of all common areas and functional spaces, accessible storage areas, mechanical rooms, boiler rooms, telephone rooms, parking structures and a select number of representative commercial suites within each subject property. The representative suites were limited to those that were vacant at the time of sampling and a few occupied suites. Exclusions from this assessment include rooftop and associated rooftop building materials.

It should be noted that structural, mechanical and architectural drawings were issued for construction in 1991; as such, WorksafeBC and AHERA have advised that buildings constructed prior to 1990, shall be tested for hazardous materials and their inventories kept current. It must be noted that due to the age of the Echelon buildings, not all materials are required to be tested.

This risk assessment has been conducted in compliance with OHSR 20.112, under AHERA, to prevent accidental disturbances to ACMs by workers who may impact the materials during work activities, tenants in common areas and sub-trades.

The objective of this assessment was to identify the types, conditions and extent of ACMs, their friability and potential for disturbance. Photographs taken during this assessment are included in Appendix A of this report.

The assessment was conducted using both visual and physical assessment techniques as sanctioned by WSBC and AHERA. Representative sample data of suspected ACM materials is located in Appendix B of this report.

In summary, the findings from this assessment conclude that NO Asbestos Containing Materials exist in any of the Surfacing Materials or Thermal Systems of this building; however it should be noted, that several “miscellaneous” materials have been recorded as “unknown.”

This survey was conducted using non-destructive to minor-destructive testing methods, due to occupancy in functional spaces at the time of the assessment. Areas within walls, above t-bar ceiling and acoustic tiles was inspected where access was possible.

## **2.0 INTRODUCTION**

This survey was conducted on 11/25/2013 (Updated on 07/03/2014) by Marc P. DiMarco, Health & Safety Manager at Cressey Development Group. Marc DiMarco is a licensed AHERA building inspector.

Representative bulk samples collected and analysed using PLM methodology under NIOSH, are included in Appendix C of this report. This document also provides information on the potential level of hazards that may or may not exist at this property.

## **3.0 METHODOLOGY**

The US EPA Guideline document for Controlling Asbestos Containing Materials in Buildings was selected for use in this risk assessment. The document identifies factors associated with the “condition” and “potential for disturbance” of ACMs. These factors help in defining the friability and potential for fiber release of ACMs.

This survey relied on the abilities and experience of the inspector to identify possible ACMs. Exclusions from this assessment are limited to rooftop areas.

## **4.0 RESULTS & ASSOCIATED RISK LEVELS**

No Asbestos containing materials were recorded or observed during the assessment of this building.

### **4.1 Surfacing Materials –**

Homogeneous sampling groups in functional areas included a) acoustic ceiling tiles, b) drywall, c) DWJC (drywall joint compound).

Variations in consistency, patterns, texture application and thickness were noted, though no significant damage.

DWJC was sampled extensively and no ACMs were detected.

### **4.2 Ceiling and Wall Textures (SMs)**

None of the ceiling or wall textures in this building are considered to be ACMs.

### **4.3 Mechanical Pipe Insulation - (TSIs)**

Insulating pipe materials in the boiler rooms, telephone rooms and mechanical rooms of this building were found to be fibreglass, with no mudded pipe elbows or fittings.

### **4.4 Underground Parking Spray Insulation –**

White ceiling spray (sound dampener) was observed in the underground parking area of this subject property. The materials are presumed to contain cellulose fibre and not ACM.

### **4.5 Ceiling Tiles –**

2x4 acoustic ceiling tiles were sampled by ACM labs in 2013 and were found to be negative for ACM.

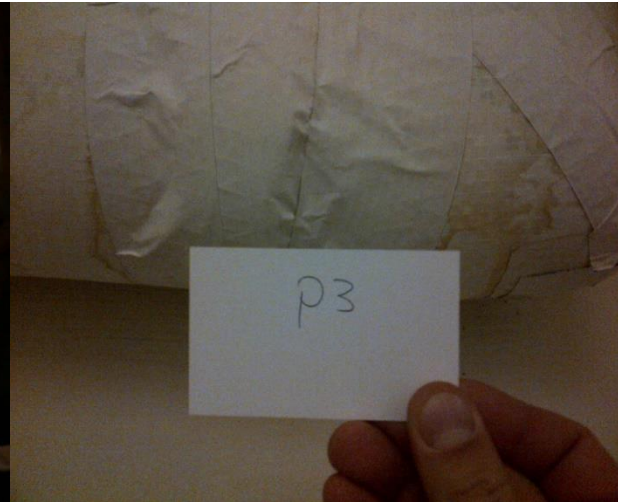
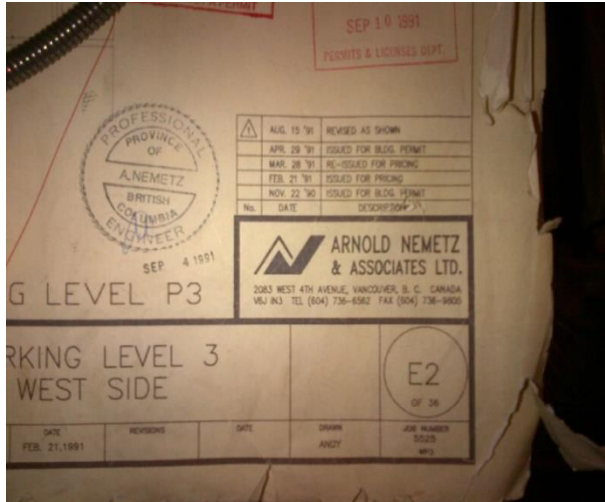
### **4.6 Glazing Mastics –**

Because of the “as-built” date of drawings and the facility, it is assumed that no ACMs were used in the glazing mastics as applied.

## **5.0 RECCOMENDATIONS**

As a result of the findings discussed in previous sections of this assessment, it can be concluded that NO associated risks of asbestos contamination exists at this property location.

**APPENDIX A – SITE PHOTOS**



Issued for Construction

Thermal System HVAC Pipe Wrap



Hot Water Supply / Return

Domestic Cold Water



555 – Floor 2 (Above ceiling space)

DWIC and Fire-Stop



Functional Space – Homogenous Acoustic Ceiling Tile (common hallways)



**CRYSTALLINE SILICA SWP & ECP**  
(Operating Locations)

## Table of Contents

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**Purpose of the ECP**

The purpose of this exposure control plan is to set out our approach to protecting workers, tenants and visitors to our operating locations from harmful exposure to airborne silica dust.

We have a duty to protect our workers from silica exposure on our worksites, and we do so by embracing the ALARA philosophy when it comes to exposure levels: “As Low As Reasonably Achievable.”

Studies show that maintenance and construction work tasks involving disturbances to Silica can create a lot of dust. This dust may generate airborne silica in levels above what is deemed to be safe. Therefore, effective controls are available to protect workers from harmful exposure.

A combination of these control measures will be required to achieve this objective. We commit to being diligent and up-to-date in our efforts to select the most effective control technologies available, and to ensure that the best practices as described in this ECP are followed at our worksites and operating locations.

**Responsibilities**

Due to the risk posed by silica dust, all key-personnel involved in the daily maintenance of our operating locations, must take specific action to ensure that as much as possible, a hazard is not created.

**As the Employer, we are responsible for:**

- Ensuring that the materials (e.g., tools, equipment, personal protective equipment) and other resources (i.e., worker training materials) required to fully implement and maintain this exposure control plan (ECP) are readily available where and when they are required.
- Providing a job-specific ECP, which outlines in detail the work methods and practices that will be followed on each site. Considerations will include:
  - Availability and delivery of all required tools/equipment
  - Scope and nature of disruptive work to be conducted
  - Control methods to be used

- Level of respiratory protection required
- Coordination plan
- Conducting a periodic review of the effectiveness of the ECP. This would include a review of the available dust-control technologies to ensure these are selected and used when practical.
- Initiating sampling of worker exposure to concrete dust when there are non-standard work practices for which the control methods to be used have not been proven to be adequately protective.
- Ensuring that all required tools, equipment, and personal protective equipment are readily available and used as required by the ECP.
- Ensuring supervisors and workers are educated and trained to an acceptable level of competency.
- Maintaining records of training, fit-test results, crew talks, and inspections (equipment, PPE, work methods/practices).

**The supervisor (Building Superintendent) is responsible for**

- Obtaining a copy of the ECP from the employer, and making it available at the worksite to their workers
- Selecting, implementing, and documenting the appropriate site-specific control measures
- Providing adequate instruction to workers on the hazards of working with silica-containing materials (e.g., concrete or spray-applied acrylic dryfall) and on the precautions specified in the job-specific plan covering hazards at the location
- Ensuring that workers are using the proper respirators (if required) and have been fit-tested, and that the results are recorded
- Directing the work in a manner that ensures the risk to workers, tenants and the public is minimized and adequately controlled according to the ALARA philosophy
- Communicating with sub-contractors to ensure a safe work environment

**The worker is responsible for**

- Knowing the hazards of silica dust exposure
- Using the assigned protective equipment in an effective and compliant manner
- Setting up the operation in accordance with the site-specific plan
- Following established work procedures as directed by the supervisor or H&S Manager
- Reporting any unsafe conditions or acts to the supervisor or H&S Manager
- Knowing how and when to report exposure incidents

**Risk identification, assessment, and control****Risk identification and assessment**

- *Work activities that may generate airborne silica dust*—For silica, the route of exposure is through the inhalation of airborne dust. The employer should have a qualified person review the planned work activities to identify those that may generate airborne silica.
- *Identify workers at risk of exposure*—For example, workers who finish concrete would be at greater risk of exposure than plumbers or electrical workers.
- *Amount of exposure*—Some work activities generate more dust than others, and the amount of exposure should be estimated. Published resources are available that provide air sampling data and compare silica dust levels from various construction activities.
- *Duration of exposure*—Workers who grind concrete for a full shift would be at greater risk than workers jackhammering for an hour.

**Worker exposure measurements**

The Occupational Health and Safety Regulation lists an occupational exposure limit (OEL) for respirable crystalline silica (including quartz) of 0.025 milligrams per cubic meter (mg/m<sup>3</sup>). This is a concentration to which nearly all workers could be exposed for eight hours a day, five days a week, without adverse health effects. However, as a suspected carcinogen, crystalline silica is also an ALARA substance, and exposures must be reduced to levels **as low as reasonably achievable** below the OEL (occupational exposure limits).

Studies show that when construction work tasks involving the drilling, disturbing, chipping, grinding, cutting, and sawing of concrete and concrete products (or silica containing acrylic dryfall) are conducted without using effective dust controls, workers can be exposed to airborne silica concentrations at levels far above the OEL.

**Risk control options (see OHSR 5.55, Type of controls)**

Effective control options must be used to eliminate or reduce the risk to workers from the hazards of silica dust exposure. The following hierarchy of control measures must be followed:

- Elimination/substitution (e.g., using products with less silica or using work methods that would eliminate the need for surface cutting/disturbing/grinding)
- Engineering controls (e.g., water, local exhaust ventilation, enclosure)
- Administrative controls (e.g., coordination of tasks with subcontractors, signage)
- Personal protective equipment (e.g., coveralls, respiratory protection)

## **Control Methods**

We are committed to developing knowledge and expertise about these controls and to establishing policies/procedures to protect workers from harmful exposure and to minimize reliance on respirators. Effective engineering controls such as HEPA vacuum attachments and wetting methods, which control silica dust at its source, are readily available. These controls have been proven to reduce airborne dust levels significantly when selected and operated in accordance with best practices. We know that engineering controls alone do not reduce airborne silica to safe levels; so in most cases other control measures, including respiratory protection for the worker, will be necessary.

The Occupational Health and Safety Regulation directs us to use the best control technology available for the task and circumstance. If we take on a job that could release an unusually high amount of dust, and we are unsure of the adequacy of our control measures, we will conduct air sampling in order to ensure that control methods are protective.

We will reduce or eliminate worker exposure to silica dust by selecting a combination of the following controls listed in order of preference:

1. Elimination and substitution
2. Engineering
3. Administrative
4. Personal protective equipment

### **Elimination and substitution**

We recognize the importance of planning the work in order to minimize the amount of silica dust generated.

- During the project planning phase, we will advocate for the use of methods that reduce the need for cutting, grinding, disturbing or drilling of concrete surfaces or spray applied, silica containing acrylic dryfall.
- Whenever possible, we will schedule work when work area can be wetted, because we know that much less dust is released at that time.

### **Engineering control of dust**

Our dust control systems may employ three well-established techniques:

- Local exhaust ventilation (LEV)
- Wet dust suppression (WDS)
- Restricting or isolating the work activity with barriers or full enclosures (this may be the only option where LEV or WDS is not practical or effective)

**Local exhaust ventilation (LEV)—safe work practices**

When LEV is used in our work, we will employ the following systems and safe work practices:

- Vacuum attachment systems to capture and control the dust at its source whenever possible.
- Dust control systems (used regularly and well maintained).
- HEPA or good quality, multi-stage vacuum units approved for use with silica dust. [The vacuum units should be capable of creating a target airflow of at least 70 cfm. This should achieve a face velocity at the shroud of about 1.3 m/s (260 fpm)—the higher the face velocity, the more dust captured at source.]
- Work planning, so that work can be completed when wet (dust release can be significantly reduced).
- Good housekeeping work practices (for example, use vacuums with high-efficiency particulate air (HEPA) filters, or use wet sweeping).
- Train workers and supervisors on how to properly use and maintain the equipment.

**Wet methods for dust control—safe work practices****Water spray systems**

These systems are designed to apply water to the surface to wet the surface and prevent the resulting dust from becoming airborne. Many construction tools/equipment types can be purchased with wet spray attachments. Water can also be manually applied to the surface before and during the work (grinding, drilling, cutting, etc).

A drawback to this method of dust control is that the dust is not collected—the wet slurry must be cleaned up so that the dust does not dry and become airborne.

**Barriers and enclosures—safe work practices****Barriers / Enclosures**

Barriers (if/when required) are used to isolate the work area from the rest of the project and to prevent entry by unauthorized workers. They do not prevent dust drift and should only be used where natural ventilation is sufficient and dust release is controlled.

Enclosures (if/when required) can contain a dusty atmosphere. They can consist of a partial structure (poly draping or partial plywood hoarding) or a full enclosure equipped with some capacity for maintaining a lower than ambient pressure inside (negative pressure). For partial enclosures, airflow in the enclosure could be created by setting up a ventilating (blower) fan where the dusty air would be discharged to an unoccupied outdoor location. This option should only be used when dust levels are low or to supplement LEV or wet methods such as in stairwells.

**Administrative controls**

Administrative controls involve activities that are not directly related to the actual physical work, but are important strategies to support the exposure control plan and ensure that all workers are protected from exposure to silica dust. Examples of administrative controls include

- Posting warning signs (if/when required)
- Rescheduling disturbing the silica containing substance at different times than other work
- Relocating unprotected workers away from dusty work

We will follow these safe work practices:

- Exposure control plans and the site risk assessment/workplan will be submitted to the H&S Manager prior to the start of work.
- We will establish procedures for housekeeping, restricting work areas, personal hygiene, worker training, and supervision.
- As part of our project planning, we will assess when silica dust may be generated and plan ahead to eliminate or control the dust at the source. We recognize that awareness and planning are key factors in the prevention of silicosis.
- Warning signs will be posted to warn workers about the hazards of silica and to specify any protective equipment required (for example, respirators).
- Work schedules will be posted at the boundaries of work areas contaminated with silica dust.
- Work that generates silica dust will be conducted after hours, when access to other unprotected workers cannot be restricted.



**Personal protective equipment****Respirators**

- Respirators should not be relied on as a primary means of preventing or minimizing exposure to silica dust.
- Select respiratory protective equipment (RPE) very carefully, as different types can give widely varying levels of protection. Employers may be able to rely on available exposure data to select the appropriate respiratory protection. Improper selection can result in serious worker exposure.
- A review of several research reports indicates that when effective engineering controls (e.g., LEV and wet methods) are used, a half-face air purifying respirator may be adequate to protect workers from harmful exposure to silica dust.

**Respiratory protection**

- All workers who wear respirators will do so in adherence with our respirator program.
- Respiratory protection will be selected based upon the site-specific risk assessment.
- Only NIOSH-approved respirators will be used.
- Workers who wear respirators will be clean-shaven. Filtering face-piece respirators give little or no protection to workers with beards, and even a minor growth of stubble can severely reduce the effectiveness of respiratory protection.
- All workers who wear respirators will be fit-tested.
- Workers will be properly trained in the use of respirators, and a high standard of supervision, inspection, and maintenance will be followed.

**Protective clothing (PPE)**

Workers will wear protective clothing as specified in our task-specific safe work procedures to prevent contamination of worker clothing. Workers will not use compressed air to clean themselves, their clothing, or their equipment.

**Education and training**

We will ensure that workers are informed about the contents of the ECP and are provided with adequate education and training to work safely with and around materials that contain silica.

We will train all workers potentially exposed to airborne silica dust in the following:

- Hazards associated with exposure to silica dust
- The risks of exposure to silica
- Signs and symptoms of silica disease
- Safe work procedures to be followed (e.g., setup of enclosures, disposal of silica waste, personal decontamination)
- Use of respirators and other personal protective equipment (e.g., wearing of personal protective equipment, and cleaning and maintenance of respirators)
- Use of control systems (e.g., LEV and wet methods)
- How to seek first aid (for example, the location and use of eyewash stations)
- How to report an exposure to silica dust

Records of training will be kept, as specified in the Occupational Health and Safety Regulation.

**Documentation**

Records will be kept of the following:

- All workers who are exposed to respirable silica dust while on the job
- Worker education and training sessions
- Respirator fit-testing
- Equipment maintenance and repair
- Worksite inspections

The exposure control plan will be reviewed at least annually and updated as necessary by the employer, in consultation with the workplace health and safety committee or the H&S Manager.

**Appendix B: Sample site-specific exposure control plan forms**

# SILICA DUST EXPOSURE CONTROL PLAN

Date control plan completed:			
Prime contractor:		Superintendent:	
Project manager:		CSO/First aid attendant:	
Project:		Address:	
Company completing work:			
Address:		Contact:	
Contact phone:		Contact fax:	
On-site supervisor(s):			
Worker(s):			
Scope of work to be completed:			
Work start date:		Duration: <input type="checkbox"/> Days <input type="checkbox"/> Months <input type="checkbox"/> Years	
Employer responsible for:			
Supervisor responsible for:			
Worker responsible for:			
<b>HAZARDS IDENTIFIED</b> (other than silica dust)		<b>CONTROL MEASURE(S)</b>	
<input type="checkbox"/> Falls			
<input type="checkbox"/> Slipping			
<input type="checkbox"/> Confined space			
<input type="checkbox"/> Workers above			
<input type="checkbox"/> Workers below			
<input type="checkbox"/> Noise			
<input type="checkbox"/> Electrical			
Overview of work procedure (How are you going to work safely?):			
Workers trained in (training records must be available for review):			
Proper use of grinding equipment		Y <input type="checkbox"/> N <input type="checkbox"/>	Proper use of admin controls
Proper use of engineering controls		Y <input type="checkbox"/> N <input type="checkbox"/>	Proper use of PPE
Proper disposal methods		Y <input type="checkbox"/> N <input type="checkbox"/>	Other (fall protection, swing stages, etc)
			Y <input type="checkbox"/> N <input type="checkbox"/>
Respirators (Refer to ECP for respirator requirements)			
Required: Y <input type="checkbox"/> N <input type="checkbox"/>		Available: Y <input type="checkbox"/> N <input type="checkbox"/>	Fit-tested: Y <input type="checkbox"/> N <input type="checkbox"/>
PPE required for scope of work (other than respirator)			
<input type="checkbox"/> Coveralls <input type="checkbox"/> Gloves <input type="checkbox"/> Rubber boots <input type="checkbox"/> Eye protection <input type="checkbox"/> Reflective vest <input type="checkbox"/> Hearing protection			
Documents to be attached to control plan ( <input checked="" type="checkbox"/> if present)			
<input type="checkbox"/> Exposure control program <input type="checkbox"/> Respiratory protection program <input type="checkbox"/> Training records <input type="checkbox"/> SWP (tools and equipment)			

# SILICA DUST EXPOSURE CONTROL PLAN

Project management signature	Position:	Date:
Contractor supervisor signature	Position:	Date:

Task/risk management matrix (relating to silica dust) use table 1 for codes, separate with a comma (,)

#	Date/Duration	Task	Controls		PPE	Supplies/ Equipment
			Engineering	Administrative		

Notes (For task/risk management matrix above. Use # to indicate which task the note relates to.)

**SITE INSPECTION CHECKLIST** (complete pre-work & periodically during project)

Engineering controls	Problem noted (DETAIL)	Problem corrected (DETAIL)
Available at site <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
Operating correctly <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
Used appropriately <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
Effective in dust control <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
<b>Administrative controls</b>		
Available at site <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
Used appropriately <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
In place before work start <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
Effective <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
<b>Cleanup</b>		
Vacuum used properly <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
Large pieces picked up <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
Vacuum capacity maintained <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
Pre-filters in place <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
Vacuum attachments used <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
Collection bags in place <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		
Waste properly disposed of <span style="float: right;">Y <input type="checkbox"/> N <input type="checkbox"/></span>		

# SILICA DUST EXPOSURE CONTROL PLAN

**TABLE 1** (Codes for task/risk management matrix)

Engineering controls		Administrative controls		PPE		Supplies/Equipment	
1	Exhaust fan	1	Signage	1	Respirator	1	Hand grinder
2	LEV	2	After hours work	2	Gloves	2	Ceiling grinder
3	Wetting	3	Scheduling	3	Coveralls	3	Floor grinder
4	Partial enclosure			4	Hearing protection	4	Disposal bags
5	Full enclosure			5	Eye protection	5	HEPA filter (vacuum)
6	Shroud			6	Reflective vest	6	HEPA filter (respirator)
7	Barriers			7	Rubber boots (CSA)	7	Shovel
				8	Fall arrest	8	Lifeline

# Site-specific silica exposure control plan

Location: \_\_\_\_\_ Date: \_\_\_\_\_

## Work description:

### Primary silica control options (check those options used and explain use if needed)

- ◆ Substitution controls (using procedures or products that do not create silica; must review MSDSs)

Other means of demo: \_\_\_\_\_  
Different products: \_\_\_\_\_  
Other substitutions: \_\_\_\_\_

- ◆ Engineering controls (when using ventilation, draw air out and don't expose others to exhaust dusts)

Vacuuming: \_\_\_\_\_  
Wetting: \_\_\_\_\_  
Ventilation: \_\_\_\_\_  
Isolation: \_\_\_\_\_  
Other means: \_\_\_\_\_

- ◆ Administration controls (reducing exposure by work schedules, timing, or planning options)

Control points: \_\_\_\_\_  
Work schedule: \_\_\_\_\_  
Other means: \_\_\_\_\_

### Secondary silica control options (check those options used and explain use if needed)

- ◆ Personal protective equipment

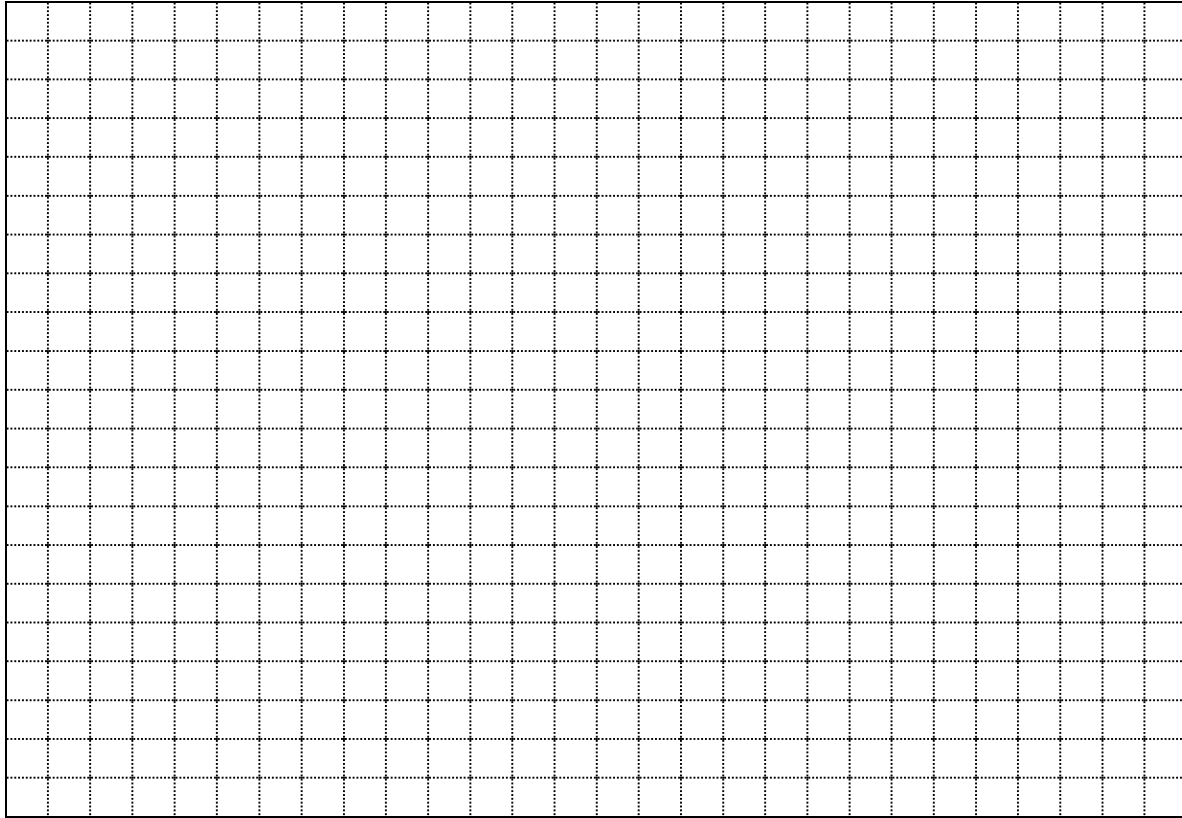
Half-mask respirators: \_\_\_\_\_ Cartridge type: \_\_\_\_\_ Fit tests confirmed: \_\_\_\_\_  
Full-face respirators: \_\_\_\_\_ Cartridge type: \_\_\_\_\_ Fit tests confirmed: \_\_\_\_\_  
Supplied air units: \_\_\_\_\_  
Coveralls required: \_\_\_\_\_

- ◆ Hygiene and decontamination options (reducing exposures after work has stopped or during breaks)

Water or washing facilities on site: \_\_\_\_\_  
Vacuuming clothing/self: \_\_\_\_\_

Safe work procedures and other details: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Ventilation plan (sketch)**



← Show direction of airflow including makeup air locations and discharge air outlets

\_\_\_\_\_  
Area or location in building of ventilation plan (e.g., floor #, wing)

\_\_\_\_\_  
Date plan was reviewed by workers and posted for workers to see

\_\_\_\_\_  
Types of neg. air fans & no.'s \*

\* Indicate on plan by number the location of the negative air fans

**Ventilation safety checklist**

- Makeup air free of possible contaminants
- Exhaust fan operation has failure warning
- Dilution fans not stirring up dust
- Wetting of materials used to keep dust down
- Workers not placed between contaminants created and exhaust inlet ports
- Discharge air not affecting others
- All workers equipped with approved respirators

*Note: Attach additional sheets if needed or other documents if required due to hazards or work conditions.*

\_\_\_\_\_  
Print supervisor's name

\_\_\_\_\_  
Supervisor's signature