


CLEARVIEW DEMOLITION LTD.

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ECP CONTACT:

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Exposure Control Plan (ECP)

Sweeping (construction dust - containing concrete)

Outside for 4 to 8 hours (avg.) per work shift

JBSITE:

Western Cleanwood Preservers

June 1st, 2021 to October 29th, 2021

9815 Robson Road,

Surrey, BC V3V 2R9

Jobsite Sector:

Industrial, Institutional, and Commercial

Project Type:

Demolition

⚠ Sweeping (construction dust - containing concrete) without proper dust controls can generate high levels of hazardous RCS dust. Breathing in this fine dust can cause serious lung diseases such as silicosis, lung cancer, pulmonary tuberculosis, and chronic pulmonary disease. Exposures may also be related to the development of autoimmune disorders, chronic renal diseases, and other adverse health effects. Acute silicosis can occur just weeks or months after a high exposure, and can be fatal. The other delayed health effects can appear years later.

Each year, more workers in BC workplaces are exposed to RCS dust than to asbestos or lead.

For more information on the RCS dust exposure risk, see **section 1.0 EXPOSURE HEALTH RISKS**.

----- ECP SUMMARY

1.0 EXPOSURE HEALTH RISKS

2.0 ECP PURPOSE

3.0 RESPONSIBILITIES

4.0 EXPOSURE (NO CONTROLS)

5.0 EXPOSURE PREVENTION & CONTROL

6.0 EXPOSURE (WITH CONTROLS)


7.0 RESIDUAL EXPOSURE CONTROL (PPE)

8.0 DOCUMENTATION

----- SITE-SPECIFIC WORK PROCEDURES



Exposure Control Plan (ECP) Summary

EMPLOYER DETAILS			ECP CONTACT
	CLEARVIEW DEMOLITION LTD. 8285 Lickman Road Chilliwack, BC V2R 3Z9	604-792-3330 info@clearviewdemo.ca clearviewdemo.ca	Dimitrios Samaras Health & Safety Coordinator 604-341-2763 jimmy@clearviewdemo.ca

SILICA PROCESS			
Work Activity	Work Area		Duration per shift (avg.)
Sweeping (construction dust - containing concrete)	Outside		4 to 8 hours
Jobsite Location	Jobsite Sector	Project Type	
Western Cleanwood Preservers June 1st, 2021 to October 29th, 2021	9815 Robson Road, Surrey BC V3V 2R9	Industrial, Institutional, and Commercial	Demolition

EXPOSURE HEALTH RISK
<p>Sweeping (construction dust - containing concrete) without proper dust controls can generate high levels of hazardous RCS dust. Breathing in this fine dust can cause serious lung diseases such as silicosis, lung cancer, pulmonary tuberculosis, and chronic pulmonary disease. Exposures may also be related to the development of autoimmune disorders, chronic renal diseases, and other adverse health effects. Acute silicosis can occur just weeks or months after a high exposure, and can be fatal. The other delayed health effects can appear years later. Each year, more workers in BC workplaces are exposed to RCS dust than to asbestos or lead.</p>

ECP PURPOSE
<p>This ECP sets out the plan CLEARVIEW DEMOLITION LTD. will implement to protect workers from hazardous exposure to RCS dust based on information relating to the identified silica process assessed through the <i>BCCSA Silica Control Tool™</i>, and the site specific details set out herein. A specific ECP is developed for each different kind of silica process identified as needed at Western Cleanwood Preservers.</p>

RESPONSIBILITIES		
Employer Responsibilities	Supervisor Responsibilities	Worker Responsibilities
<p><i>Ensure:</i></p> <ul style="list-style-type: none"> Effective controls are selected, implemented and documented; Materials and resources necessary to fully implement and maintain this ECP are available; Supervisors and workers are silica safety trained; Written records as identified in this ECP are maintained; Annual ECP review (or more if conditions change) is conducted; Co-ordination of a safe work environment for workers. 	<p><i>Ensure:</i></p> <ul style="list-style-type: none"> Copy of ECP available at the jobsite; ECP is distributed and reviewed with workers; Workers are provided with instruction re: work activity hazards & safe work procedures; Controls and equipment as identified in this ECP are inspected; Respirators are fit-tested with results recorded; Work is directed to minimize and control exposure risk. 	<p><i>Ensure:</i></p> <ul style="list-style-type: none"> RCS dust hazards and ECP details are known and understood; PPE is used effectively and safely; Work procedures are followed as per supervisor instructions; Unsafe conditions and acts are reported to supervisor; RCS dust exposure incidents / signs or symptoms of silica illness are reported.

EXPOSURE ANALYSIS (NO CONTROLS)		
Est. Exposure Level (No Controls)	Exposure Limit	Action Level
0.187 mg/m³	0.025 mg/m³ Est. Exposure Level exceeds by 748%	0.0125 mg/m³ Est. Exposure Level exceeds by 1496%
Risk Classification		
HAZARDOUS LEVEL		
We recommend to proceed as HAZARDOUS exposure level or perform an air sampling test.		

ENGINEERING CONTROLS	ADMINISTRATIVE CONTROLS	
<ul style="list-style-type: none"> Wetting separate from tool 	<ul style="list-style-type: none"> Barriers Exposure Emergency Preparedness Housekeeping Hygiene 	<ul style="list-style-type: none"> Inspections & Maintenance Silica Safety Instruction & Training Work Shift Scheduling

EXPOSURE ANALYSIS (WITH CONTROLS)		
Est. Exposure Level (with Controls)	Exposure Limit	Control impact on dust
0.132 mg/m³	0.025 mg/m³ Est. Exposure Level exceeds by 528%	0.055 mg/m³ Dust reduced by 30%
Risk Classification		
HAZARDOUS LEVEL		
We recommend to proceed as HAZARDOUS exposure level or perform an air sampling test.		

RESIDUAL EXPOSURE CONTROL (PPE)		
Respirator Usage	Required Protection Factor	Respirator Type & Filter
PROTECTION REQUIRED	10	Half facepiece, non powered with N100 filter <ul style="list-style-type: none"> Please note, the respirator type above is an example of a respirator type that may meet the required protection factor. Users may elect to use alternate respiratory protection equipment that meets the required protection factor rating. Any respirator choice must be fitted an N100, P100 or R100 filter. Respirators and filters must be NIOSH approved.
Other PPE		
Washable or Disposable Coveralls		
Risk Classification (Final)		
LOW RISK LEVEL / PROCEED WITH CAUTION		
We recommend to proceed as LOW risk level or perform an air sampling test. PROCEED WITH CAUTION ONLY USING REQUIRED PPE AND RESPIRATOR PROGRAM.		

DOCUMENTATION

- ˘ Documents and materials that augment this ECP submitted to the employer's ECP contact;
- ˘ ECP Summary available on jobsite as physical copy. Complete ECP available on jobsite as physical or digital copy;
- ˘ All workers involved must have free access to this ECP and an opportunity to ask questions;
- ˘ All documentation filed at head office for 10 years;
- ˘ ECP must be reviewed at least annually, and updated as needed due to any changes.

Disclaimer

Some information in this ECP has been generated from the *BCCSA Silica Control Tool™*, based on the input of the web application user and the data contained at www.SilicaControlTool.com. The *BCCSA Silica Control Tool™* utilizes silica control research and educational resources for the purpose of creating jobsite-specific ECP's.

The BCCSA is not responsible for, and expressly disclaims all liability for, damages of any kind arising out of use, reference to, or reliance on any information from the web application that may be contained in this ECP.

The user hereby acknowledges that the information used in this ECP in no way replaces professional advice relating to development of an ECP and the fulfillment of all other legal requirements relating to silica dust exposures in the user's particular circumstances.

1.0 Exposure Health Risks

Many work activities that create dust can expose workers to high levels of RCS dust. Breathing in this fine dust can cause serious lung diseases such as, silicosis, lung cancer, pulmonary tuberculosis, and chronic pulmonary disease. Exposures may also be related to the development of autoimmune disorders, chronic renal diseases, and other adverse health effects. Acute silicosis can occur just weeks or months after a high exposure, and can be fatal. The other delayed health effects can appear years later.

Each year, more workers in BC workplaces are exposed to RCS dust than to asbestos or lead.

2.0 Purpose

The Exposure Control Plan (ECP) sets out the plan **CLEARVIEW DEMOLITION LTD.** will implement to protect workers from hazardous exposure to RCS dust. Required by the Occupational Health & Safety Regulation (OHSR), the ECP co-ordinates and communicates what will be executed to address the RCS dust exposure risk for a particular *silica process*. A silica process is a "process that may result in the release RCS dust in concentrations likely to exceed the exposure limit" (proposed section 6.110 of the OHSR). A new ECP is required for each different kind of silica process identified as needed at a jobsite.

3.0 Responsibilities

The employer, the supervisors and the workers all have responsibilities to ensure the correct implementation of the ECP:

3.1 Employer Responsibilities

Ensure:

- ✓ Effective controls are selected, implemented and documented;
- ✓ Materials and resources necessary to fully implement and maintain this ECP are available;
- ✓ Supervisors and workers are silica safety trained;
- ✓ Written records as identified in this ECP are maintained;
- ✓ Annual ECP review (or more if conditions change) is conducted;
- ✓ Co-ordination of a safe work environment for workers.

3.2 Supervisor Responsibilities

Ensure:

- ✓ Copy of ECP available at the jobsite;
- ✓ ECP is distributed and reviewed with workers;
- ✓ Workers are provided with instruction re: work activity hazards & safe work procedures;

- ✓ Controls and equipment as identified in this ECP are inspected;
- ✓ Respirators are fit-tested with results recorded;
- ✓ Work is directed to minimize and control exposure risk.

3.3 Worker Responsibilities

Ensure:

- ✓ RCS dust hazards and ECP details are known and understood;
- ✓ PPE is used effectively and safely;
- ✓ Work procedures are followed as per supervisor instructions;
- ✓ Unsafe conditions and acts are reported to supervisor;
- ✓ RCS dust exposure incidents / signs or symptoms of silica illness are reported.

4.0 Exposure (No Controls)

4.1 Overview

The use of existing monitoring data from equivalent work operations is determined through an OHSR acceptable method that is conducted and overseen by the *UBC School of Population and Public Health at the Faculty of Medicine*.

4.2 Exposure Analysis (NO CONTROLS)

EXPOSURE ANALYSIS (NO CONTROLS)		
Est. Exposure Level (No Controls)	Exposure Limit	Action Level
0.187 mg/m³	0.025 mg/m³ Est. Exposure Level exceeds by 748%	0.0125 mg/m³ Est. Exposure Level exceeds by 1496%
Risk Classification		
HAZARDOUS LEVEL		
We recommend to proceed as HAZARDOUS exposure level or perform an air sampling test.		

WARNING

This exposure risk must be controlled:

The estimated exposure level is above the exposure limit by 748%. To be able to perform this work activity at this jobsite, the OHSR requires the exposure level be *below* the exposure limit. The risk must be reduced below the exposure limit by applying control measures that are appropriate, consistent, and recognized as effective systems and strategies under normal conditions.

The estimated exposure level is above the action level by 1496%. The OHSR requires provisions be initiated to protect workers from the expected RCS dust risk. These provisions include development and implementation of an ECP. An OHSR-compliant ECP will address all of the required provisions under normal conditions.

As crystalline silica is linked to cancer, the OHSR requires workplace exposures be reduced to levels that are *as low as reasonably achievable* (ALARA).

5.0 Exposure Prevention & Control

5.1 Overview

THE OHSR REQUIRES EMPLOYERS TO SELECT RCS DUST CONTROLS BASED ON THE FOLLOWING HIERARCHY: (1) Elimination & Substitution; (2) Engineering controls; (3) Administrative controls; and (4) PPE.

USE OF RESPIRATORS AS A PRIMARY CONTROL IS NOT ACCEPTABLE WHEN OTHER METHODS ARE AVAILABLE AND PRACTICAL. Respirators can be used in conjunction with dust reduction systems such as ventilation systems or wet systems to reduce worker exposure to silica, unless air monitoring information suggests otherwise. Respirator selection is dependent on the amount of residual RCS dust expected (with primary controls implemented). Workers are not allowed to use/wear single-use disposable respirators for any type of work involving RCS dust.

DRY SWEEPING AND THE USE OF COMPRESSED AIR ARE PROHIBITED FOR RCS DUST REMOVAL AND CLEANUP. Dry sweeping and compressed air can cause RCS dust to become airborne, creating a hazardous secondary exposure risk. A HEPA vacuum (or similar device) and/or wet cleanup methods must be used for work area cleanup and decontamination.

5.2 Elimination & Substitution

The employer has tried to identify reasonably practicable approaches to eliminate or reduce the need for Sweeping (construction dust - containing concrete) at this jobsite. It has been determined that it is not reasonably practicable to avoid the use of construction dust or sweeping, by replacing them with substances or processes that, under normal conditions of use, would eliminate the risk of worker exposure to RCS dust.

5.3 Engineering Controls

The following engineering controls will be implemented:

ENGINEERING CONTROLS with PROPER PRACTICES

5.3.1 Water Spray and/or LEV Systems (including vacuum attachments and other dust removal extraction attachments)

Wetting separate from tool

The following proper practices have been provided by BCCSA safety experts:

- ˆ Spray concrete during cutting.
- ˆ Spray dust clouds in the air during cutting.
- ˆ High pressure spraying.
- ˆ Always remain ON regardless of wind direction.

5.3.2 Other Engineering Controls

None of these controls have been selected

5.4 Administrative Controls

The following administrative controls for RCS exposure control will be implemented:

ADMINISTRATIVE CONTROLS with PROPER PRACTICES

5.4.1 Correct Use & Maintenance

Inspections & Maintenance

The following proper practices have been provided by BCCSA safety experts:

- ✓ Thorough and consistent inspections of all dust control equipment, tools and systems to ensure they are in good condition.
- ✓ Use of quality dust removal devices and knowledge of how to operate and maintain them in accordance with the manufacturers' instructions.
- ✓ Inspect work area prior to operation (to ensure separation from source systems in place) and after operation (to ensure proper decontamination).
- ✓ Proper storage of inspection and maintenance records, as required.

5.4.2 Removal & Cleanup

Housekeeping

The following proper practices have been provided by BCCSA safety experts:

- ✓ Dry sweeping should not be used.
- ✓ The use of compressed air for cleaning is prohibited.
- ✓ The location and method used to store waste material must not allow RCS dust to re-enter the work area.

Hygiene

The following proper practices have been provided by BCCSA safety experts:

- ✓ Workers should have disposable or washable clothes to change into at the jobsite.
- ✓ Before workers leave the jobsite, they should shower (if practical) or wash with water at a hygiene facility, and then change into clean clothes.
- ✓ Workers should not take dusty clothing home to wash. The individual washing clothing should take care that dust exposure does not occur.
- ✓ Workers should not smoke, eat, or drink in the work area.
- ✓ Meals and drinks stored outside the work area.

5.4.3 Instruction & Training

Silica Safety Instruction & Training

The following proper practices have been provided by BCCSA safety experts:

- ✓ Training to be performed by a qualified person.
- ✓ Additional training or reference material on RCS dust exposure to be made available to workers upon request.

5.4.4 Separation from Source

Barriers

The following proper practices have been provided by BCCSA safety experts:

- ✓ Establish a barrier (such as with hazard warning ribbon, tape, or pylons) based on the work area characteristics.
- ✓ Post warning signs with work schedules around the work area.

5.4.5 Medical & Emergency

Exposure Emergency Preparedness

The following proper practices have been provided by BCCSA safety experts:

- ✓ Dealing with an accidental release is a new exposure and requires new assessment, planning, and ECP.

5.4.6 Project Planning & Scheduling

Work Shift Scheduling

The following proper practices have been provided by BCCSA safety experts:

- ˆ When possible, limit each worker's exposure to a silica process in order to ensure personal exposure is below the exposure limit.
- ˆ When applicable, schedule work shifts off-hours when less people at the jobsite.
- ˆ When applicable, schedule work shifts when is expected to rain to assist as secondary material wetting control.

6.0 Exposure (with Controls)

6.1 Overview

The use of existing monitoring data from equivalent work operations is determined through an OHSR acceptable method that is conducted and overseen by the *UBC School of Population and Public Health at the Faculty of Medicine*.

6.2 Exposure Analysis (WITH CONTROLS)

EXPOSURE ANALYSIS (WITH CONTROLS)		
Est. Exposure Level (with Controls)	Exposure Limit	Control impact on dust
0.132 mg/m³	0.025 mg/m³ Est. Exposure Level exceeds by 528%	0.055 mg/m³ Dust reduced by 30%
Risk Classification		
HAZARDOUS LEVEL		
We recommend to proceed as HAZARDOUS exposure level or perform an air sampling test.		

WARNING

This exposure risk must be further controlled:

The estimated exposure level is above the exposure limit by 528%. The OHSR requires the risk be additionally controlled by applying PPE controls.

The chosen engineering and administrative controls with corresponding proper practices are consistent with both a short- and long-term commitment to protecting workers from RCS dust.

7.0 Residual Exposure Control (PPE)

RESIDUAL EXPOSURE CONTROL (PPE)		
Respirator Usage	Required Protection Factor	Respirator Type & Filter
PROTECTION REQUIRED	10	<p>Half facepiece, non powered with N100 filter</p> <ul style="list-style-type: none"> Please note, the respirator type above is an example of a respirator type that may meet the required protection factor. Users may elect to use alternate respiratory protection equipment that meets the required protection factor rating. Any respirator choice must be fitted an N100, P100 or R100 filter. Respirators and filters must be NIOSH approved.
Other PPE		
Washable or Disposable Coveralls		
Risk Classification (Final)		
<div style="background-color: #e67e22; color: white; padding: 5px; display: inline-block;">LOW RISK LEVEL / PROCEED WITH CAUTION</div>		
We recommend to proceed as LOW risk level or perform an air sampling test. PROCEED WITH CAUTION ONLY USING REQUIRED PPE AND RESPIRATOR PROGRAM.		

8.0 Documentation

8.1 ECP Distribution

A printed copy of your *ECP Summary* should be at the jobsite, at all times. Your complete ECP can be available for viewing at the jobsite as a printed or digital copy. All workers involved must have free access to the ECP. Workers must have the opportunity to ask questions and seek clarifications. The employer should ensure that all workers understand the information contained in the ECP, and have a means to verify that.

8.2 Record Keeping

Documents and materials referable to the ECP should be submitted to the employer's ECP contact for record keeping purposes.

The employer must keep on file for at least 10 years all documentation relating to previous monitoring data that the employer relies on as evidence of "equivalent operations" (Proposed section 6.112.4 of the OHSR).

In addition to the ECP, the employer should keep any ECP support documentation and materials. These include (but not necessarily limited to):

- ✓ Respiratory Protection Program
- ✓ Inspection Records
- ✓ Instruction & Training Records
- ✓ Fit-test Records
- ✓ Accident/Incident Investigation Reports
- ✓ Air Sampling Tests (as may be determined to be required)

8.3 ECP Review

The complete ECP must be reviewed at least annually, and updated as needed due to any changes. ECP reviews and updates must be done in consultation with the joint health and safety committee and/or management and worker representatives, as applicable.

Signature if required

APPENDIX: Site-Specific Work Procedures

Attached as an appendix item to this ECP are additional work procedures / instructions for this work activity given the specific conditions at the jobsite.