

School District 85



Robert Scott Elementary
6855 Market Street, Port Hardy, BC
Asbestos Management Inventory



North West
Environmental Group Ltd.

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1 Introduction

North West Environmental Group Ltd. (NWest) was retained by School District 85 (the Client) to conduct an asbestos management inventory (AMI) at Robert Scott Elementary located at 6855 Market Street, Port Hardy, BC (site). The non-destructive assessment was conducted by NWest representatives, Luke Kozlowski and Paddy Greig on August 26, 2020.

The purpose of this assessment is to provide information regarding the presence and condition of asbestos and suspect asbestos containing building materials in the building structure. This inventory assessment involved the identification of asbestos containing materials and a condition assessment in support of the building owner/manager's regular monitoring of asbestos containing material conditions so that materials in good condition may be safely managed in place until they are removed, and damaged materials can be repaired or otherwise addressed in a timely manner. Regular inspections of asbestos containing building materials are required to mitigate the potential for occupant and worker exposure. This report may be used for day to day building maintenance activities involving minor disturbance of materials.

This assessment supports compliance with the following provincial legislation:

-) BC Workers Compensation Act – Part 2, Division 4 (General Duties of Employers, Workers and Others), Section 25 (General duties of owner).
-) BC Occupational Health and Safety Regulation – Part 6.4 (Asbestos-General Requirements, Inventory).

This asbestos management inventory assessment does not replace the requirement for the owner to undertake a pre-renovation or pre-demolition project-specific hazardous materials assessment as required by the BC Occupational Health and Safety Regulation section 20.112.

Note: ongoing repairs, maintenance, and renovations may result in some changes to the building after this report was printed.

2 Scope of Work and Exclusions

All accessible areas of the facility were included in this assessment. Whenever practicable, representative building material samples were collected for asbestos analysis. See Appendix E for assessment methodologies.

This assessment was non-destructive (e.g., inspection holes to assess otherwise intact systems such as wall cavities were not made) and non-invasive (e.g., assessment of cupboards, closets, and similar personal spaces were not undertaken; ceiling tiles were not removed to assess above-ceiling materials). As such, concealed asbestos containing materials may be present.

The following NWest historical data and information is included herein:

-) Project number 30010, “Asbestos Inventory and Condition Assessment Robert Scott Elementary”, issued on November 10, 2016.
-) Project number 10573 bulk asbestos sampling analytical report from Robert Scott Elementary.

Areas/systems not included in the assessment are summarised in the following table.

Table 2-1. Assessment Exclusions

Area/System	Rationale
Roof	Non-destructive assessment
Attic	Non-destructive assessment
Wall/ceiling cavities	Non-destructive assessment
Concrete block walls	Non-destructive assessment
Equipment/System	Outside assessment scope of work
Underground/buried equipment and systems	Outside assessment scope of work
Indoor air quality assessment	Outside assessment scope of work
Contents	Outside assessment scope of work

3 Regulatory Framework

The methods used for assessment, sample collection, and analysis were in accordance with applicable regulations and are acceptable to WorkSafeBC. See Appendix D for details on the applicable regulatory framework and additional standards that apply to this project.

4 Facility Description

The following is a summary of the building. Area calculations are approximate.

Table 4-1. Building Summary

Building System	Details
Construction date	Original construction: 1954 Renovation/Addition(s): 1974
Number of floors/levels	2
Area	31,710 ft ²
Exterior Materials	
Roofing	Tar and gravel
Exterior	Cement board siding, stucco siding, concrete block, and wood soffit
Interior Materials	
Ceiling	Acoustic ceiling tile, drywall, texture coat and wood
Walls	Drywall, ceramic tile, concrete and concrete block
Floors	Sheet flooring, floor tile, carpet, wood and concrete
Insulation	Not destructive assessment
HVAC (system type and insulation type)	Forced air electric
Pipe lagging	Fibreglass
Lighting	Fluorescent and incandescent

5 Asbestos Management Inventory and Recommendations

This section summarises the observations made, and the analytical results for material samples collected during the site assessment. Photo plates are presented in Appendix A, analytical laboratory reports are included in Appendix B, and drawings showing sample locations are presented in Appendix C.

The following table summarizes the results of the inventory, condition assessment, and recommended management actions for known and suspect asbestos-containing materials (ACMs). The recommendations are derived by the friability, accessibility, and condition of the ACMs. See Appendix F for details. Quantities are estimated.

Table 5-1. Asbestos-Containing Materials Summary

Description	System	Locations	Status	Quantity	Accessibility	Friability	Condition	Mgmt Recommendation
Stucco	Siding	Exterior	Suspect	50% of Building Exterior	Access A – Accessible to all building users	Non-Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Cement board	Siding	Exterior	Suspect	50% of Building Exterior	Access A – Accessible to all building users	Non-Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Concrete block wall	Siding	Exterior	Suspect	400 ft ²	Access A – Accessible to all building users	Non-Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Concrete block wall	Wall	Classroom: 1 Crawl Space, 2-6 Wing Hallway, Entry Corridor Adjacent Library, Library, Mechanical Room (Basement Storage), North South Hall by Entryway, East West Hall by Entryway, Office B, Office C, Staff Room, Staff Room Corridor, Woman’s Washroom	Suspect	1900 ft ²	Access A – Accessible to all building users	Non-Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact



Warning: in the event any additional suspect materials are encountered during renovation/repair activities, work on those materials should stop immediately and remain undisturbed until testing confirms the presence or absence of asbestos or other hazardous material

Description	System	Locations	Status	Quantity	Accessibility	Friability	Condition	Mgmt Recommendation
Drywall with joint compound	Wall	Classroom: 1, 2, 3, 4, 4A, 5, 5A, 6, 7, 8, 9, 10, 11, 12, D, E, F, K Corridor Adjacent Basement Washrooms, Washroom Adjacent Classroom E, Crawl Space, Boiler/Hot Water Room, First Aid Room (7B), Janitor Room, 9-12 Wing Handicap Washroom, 9-12 Wing Janitor Room, Basement Janitor Room, Library, Main Office, First Aid Room Adjacent Main Office, Mechanical Room (Exterior Access), Men's Washroom, East West Hall by Entryway, Office A, Office B, Office C, Staff Room, Staff Room Corridor, 9-12 Wing Stairway to Basement, Basement Classroom Corridor, Basement Entry Adjacent Stairs, Store Room, Woman's Washroom	Confirmed	17,810 ft ²	Access A – Accessible to all building users	Non-Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Drywall with joint compound	Ceiling	Meeting room, Corridor Adjacent Basement Washrooms, Boiler/Hot Water Room, Girls Washroom, Gym Kitchen, Janitor Room, 9-12 Wing Handicap Washroom, 9-12 Wing Janitor Room, Basement Janitor Room, First Aid Room Adjacent Main Office, Mechanical Room (Basement Storage), Mechanical Room (Exterior Access), Men's Washroom, Store Room, Woman's Washroom	Confirmed	2,440 ft ²	Access A – Accessible to all building users	Non-Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Texture coat	Wall	Electrical Room, Mechanical Room Adjacent Electrical Shop	Suspect	610 ft ²	Access B – Accessible to maintenance workers	Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Ceramic tile 1 – 4"x4" beige	Wall	Boys Washroom, 9-12 Wing Boys Washroom, Basement Boys Washroom, Washroom Adjacent Classroom E, 9-12 Wing Girls Washroom, Basement Girls Washroom, Girls Washroom	Suspect	2,910 ft ²	Access A – Accessible to all building users	Non-Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact



Warning: in the event any additional suspect materials are encountered during renovation/repair activities, work on those materials should stop immediately and remain undisturbed until testing confirms the presence or absence of asbestos or other hazardous material

Description	System	Locations	Status	Quantity	Accessibility	Friability	Condition	Mgmt Recommendation
Ceramic tile 2 – 2"x2" brown	Floor	Boys Washroom, 9-12 Wing Boys Washroom, Basement Boys Washroom, Washroom Adjacent Classroom E, 9-12 Wing Girls Washroom, Basement Girls Washroom, Girls Washroom, Janitor Room	Suspect	1,260 ft ²	Access A – Accessible to all building users	Non-Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Sheet flooring 2 – Beige and grey streaks	Floor	Classroom: 2, 3, 7, D, E, F, K Boys Washroom, Corridor Adjacent Basement Washrooms, Washroom Adjacent Classroom E, First Aid Room (7B), Janitor Room, 9-12 Wing Janitor Room, Basement Janitor Room, Men's Washroom, Office C, Basement Entry Adjacent Stairs, Store Room, Woman's Washroom	Confirmed	3,200 ft ²	Access A – Accessible to all building users	Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Sheet flooring 5 – Beige red mosaic	Floor	Gym Stage Stairs	Confirmed	25 ft ²	Access A – Accessible to all building users	Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Floor tile 2 – 9"x 9" Beige	Floor	Classroom: D Gym Mechanical Room	Confirmed	180 ft ²	Access A – Accessible to all building users	Non-Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Floor tile 3 – Beige with red streaks	Floor	Gym Storage	Suspect	145	Access A – Accessible to all building users	Non-Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact



Warning: in the event any additional suspect materials are encountered during renovation/repair activities, work on those materials should stop immediately and remain undisturbed until testing confirms the presence or absence of asbestos or other hazardous material

Description	System	Locations	Status	Quantity	Accessibility	Friability	Condition	Mgmt Recommendation
Acoustic ceiling tile 1 – Vertical fissure and pinholes	Ceiling	Classroom: 1, 2, 3, 4, 4A, 5, 5A, 6, 7, 8, 9, 10, 11, 12, D, E, F, K 9-12 Wing Boys Washroom, Basement Boys Washroom, Washroom Adjacent Classroom E, First Aid Room (7B), 9-12 Wing Girls Washroom, Basement Girls Washroom, 9-12 Wing Hallway, 2-6 Wing Hallway, Entry Corridor Adjacent Library, Library, Staff Room, Staff Room Corridor, 9-12 Wing Stairway to Basement, Basement Classroom Corridor, Basement Entry Adjacent Stairs	Confirmed	23,070 ft ²	Access A – Accessible to all building users	Friable	Stained and slightly damaged tiles throughout listed areas	Action 3 - ACM removal required for compliance
Acoustic ceiling tile 3 – 12"x12" vertical fissure small and large pinhole	Ceiling	Main Office, First Aid Room Adjacent Main Office, Office A, Office B, Office C	Suspect	845 ft ²	Access A – Accessible to all building users	Friable	Stained and slightly damaged tiles throughout listed areas	Action 3 - ACM removal required for compliance Test prior to impact
Acoustic ceiling tile 5 – 2'x4' lateral fissure small and large pinhole	Ceiling	Basement Classroom Corridor, Basement Entry Adjacent Stairs	Suspect	25 ft ²	Access A – Accessible to all building users	Friable	Stained and slightly damaged tiles throughout listed areas	Action 3 - ACM removal required for compliance Test prior to impact
Acoustic ceiling tile 6 – 2'x4' small and large pinhole	Ceiling	Basement Classroom Corridor	Suspect	10 ft ²	Access A – Accessible to all building users	Friable	Stained and slightly damaged tiles throughout listed areas	Action 3 - ACM removal required for compliance Test prior to impact
Caulking – Acoustical sink insulation (Black)	Sink	Classroom: 2, 6 Staff Room	Confirmed	3 sinks	Access A – Accessible to all building users	Non-Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact



Warning: in the event any additional suspect materials are encountered during renovation/repair activities, work on those materials should stop immediately and remain undisturbed until testing confirms the presence or absence of asbestos or other hazardous material

Description	System	Locations	Status	Quantity	Accessibility	Friability	Condition	Mgmt Recommendation
Mastic 1 – Grey (painted white in some locations)	Ducting	Classroom: 7, 12, D, E, F, K Boys Washroom, Corridor Adjacent Basement Washrooms, Crawl Space, Mechanical Room Adjacent Electrical Shop, Basement Girls Washroom, Gym Mechanical Room, Basement Janitor Room, Library, Mechanical Room (Basement Storage), Mechanical Room (Exterior Access),	Suspect	Select areas on ducting in areas listed	Access A – Accessible to all building users	Non- Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Mastic 2 – Gold	Sink	Classroom: 1, 3, 4, 5A, 7, 8, 9, 10, 11, 12, D, E, F, K Washroom Adjacent Classroom E, Gym Kitchen, 9-12 Wing Handicap Washroom,	Suspect	18 sinks	Access A – Accessible to all building users	Non- Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Window putty 1 – Black	Window	Classroom: 1, 2, 3, 4, 4A, 5, 5A, 6, 7, 8, 9, 10, 11, 12, D, E, F 9-12 Wing Boys Washroom, 9-12 Wing Girls Washroom, Library, Main Office, Office A, Office B, Staff Room, 9-12 Wing Stairway to Basement	Suspect	90 windows	Access A – Accessible to all building users	Non- Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Stair tread – Marbled grey	Stairs	9-12 Wing Stairway to Basement	Suspect	200 ft ²	Access A – Accessible to all building users	Non- Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Penetration caulking – Red	Wall	Boiler/Hot Water Room	Suspect	Select locations throughout areas listed	Access B – Accessible to maintenance workers	Non- Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Parging – Grey	Wall	Crawl Space	Suspect	Select locations throughout areas listed	Access B – Accessible to maintenance workers	Non- Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Cement pipe	Plumbing	Crawl Space	Confirmed	55 linear feet	Access B – Accessible to maintenance workers	Non- Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Cement pipe – Painted blue	Plumbing	Gym	Suspect	50 linear feet	Access C(e) – Exposed over 8 ft	Non- Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact



Warning: in the event any additional suspect materials are encountered during renovation/repair activities, work on those materials should stop immediately and remain undisturbed until testing confirms the presence or absence of asbestos or other hazardous material

Description	System	Locations	Status	Quantity	Accessibility	Friability	Condition	Mgmt Recommendation
Bell and spigot pipe gaskets	Plumbing	Crawl Space, Mechanical Room Adjacent Electrical Shop	Suspect	103 gaskets	Access B – Accessible to maintenance workers	Non- Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Pipe gaskets	Piping	Boiler/Hot Water Room	Suspect	4 gaskets	Access B – Accessible to maintenance workers	Non- Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact
Baseboard adhesive	Wall	Throughout building	Suspect	Throughout building	Access A – Accessible to all building users	Non- Friable	Good	Action 5 – Proactive ACM removal / Action 7 – Routinely monitor condition Test prior to impact

Note: asbestos-containing materials may be present in concealed or excluded locations and/or systems. See Section 2 of this report.

Materials suspected to contain asbestos which are often concealed in buildings and require destructive assessment to evaluate may be present which include, but are not limited to:

-) Electrical wiring and cables
-) Buried asbestos cement pipes
-) Formed cement products
-) Bell and spigot piping gaskets
-) Incandescent light fixtures (heat shields)
-) Floor leveling compound
-) Vermiculite in wall cavities including concrete block void spaces
-) Penetration caulking and/or parging

A summary of materials known or presumed not to contain asbestos is presented as follows:

Table 5-2. Non-Asbestos-Containing Materials

Location(s)	Material Description	Sample Quantity	Comments
Classroom: 1, 2, 3, 4, 4A, 5, 5A, 6, 7, 8, 9, 10, 11, 12, D, E, F, K Meeting Room, Electrical Shop, Mechanical Room Adjacent Electrical Shop, 9-12 Wing Hallway, 2-6 Wing Hallway, North South Hall by Entryway, East West Hall by Entryway, Office A	Vinyl drywall panel	0	Drywall with no joint compound does not contain asbestos
Classroom: 4A, 5A Meeting Room, 9-12 Wing Hallway, North South Hall by Entryway, East West Hall by Entryway, Basement Classroom Corridor	Acoustic ceiling tile 2 – Patterned fissure small and large pinhole	0	Date stamp indicated 2018 production



Warning: in the event any additional suspect materials are encountered during renovation/repair activities, work on those materials should stop immediately and remain undisturbed until testing confirms the presence or absence of asbestos or other hazardous material

Location(s)	Material Description	Sample Quantity	Comments
Gym	Acoustic ceiling tile 4 – Perforated wood board	0	Wood composite ceiling tiles do not contain asbestos
Classroom: 1, 4 Gym Stage, 9-12 Wing Hallway, 2-6 Wing Hallway, Entry Corridor Adjacent Library, 9-12 Wing Handicap Washroom, First Aid Room Adjacent Main Office, North South Hall by Entryway, East West Hall by Entryway	Sheet flooring 1 – Peach with gray and teal streaks	1	None
Classroom: 6	Sheet flooring 3 – Grey with black and white stone	1	None
Classroom: 9, 12	Sheet flooring 4 – Beige mosaic	1	None
Gym Kitchen	Sheet flooring 6 – White with beige speckles	1	None
Classroom 10	Sheet flooring – Green	0	Installation post 2016 assessment
Classroom: 4, 8, 11, E Main Office, Office A, Office B, Staff Room, Staff Room Corridor	Wood laminate flooring	0	Wood laminate not suspect of containing asbestos
Basement Janitor Room	Fibreglass pipe insulation	0	Confirmed visually

Materials assumed not to contain asbestos include:

-) post-1990 construction materials with the exception of formed cement products, vermiculite, fire stop caulking, gaskets.
-) wood and wood composite materials
-) carpet
-) plastics in non-industrial applications
-) metals
-) glazing
-) exterior below-grade drainage and plumbing systems
-) ceramic tile, excluding adhesives, grout, and thinset mortar



Warning: in the event any additional suspect materials are encountered during renovation/repair activities, work on those materials should stop immediately and remain undisturbed until testing confirms the presence or absence of asbestos or other hazardous material

6 General Recommendations

Based on observations made and analytical results, NWest makes the following recommendations.

1. Ensure that the inventory is kept current with respect to presence and condition of asbestos-containing materials, and a record is kept of any changes made to the inventory.
2. Retain a current version of the inventory until all the asbestos-containing materials are removed from the Site.
3. Ensure that a copy of the current version of the inventory is readily available at the Site.
4. Ensure that all asbestos-containing materials present at the Site are identified by signs, labels or, when these are not practicable, other effective means.
5. A qualified person must undertake a pre-renovation/demolition project-specific hazardous materials assessment prior to planned work other than minor maintenance activities that impacts building materials or systems that conforms to the requirements of the BC Occupational Health and Safety Regulation section 20.112. A qualified person must complete a risk assessment and safe work procedures for all hazardous materials that may be impacted by maintenance and/or renovation work. Removal or disturbance of hazardous materials must be undertaken by a qualified contractor employing WorkSafeBC-approved procedures.
6. Maintenance work must STOP if previously unidentified suspected hazardous materials are encountered or inadvertently damaged or disturbed during maintenance activities. These suspect materials must be left undisturbed until a qualified person has determined the status of the material.
7. Damage to asbestos-containing materials must be repaired or otherwise rendered non-hazardous to unprotected workers and occupants without delay (e.g. enclose damaged materials with a dust barrier).

Appendix A. Photo Plates

The following photo plates provide a general documentation of the building materials that were sampled and analyzed, and observations made during the assessment. They are meant to summarize the results of analysis and observations and are not intended to include all hazardous materials, or their locations, observed during the assessment.



Photo 1
Description: Drywall with joint compound
Location: Store Room
Asbestos: 1.4%-3.9% Chrysotile
Sample(s): 30010-7, 9, 10, 11, 13



Photo 2
Description: Sheet flooring 2 – Beige and grey streaks
Location: Classroom 3
Asbestos: 2.9% Chrysotile
Sample(s): 30010-1



Photo 3
Description: Sheet flooring 5 – Beige red mosaic
Location: Gym Stage Stairs
Asbestos: 7.1% Chrysotile
Sample(s): 30010-25



Photo 4
Description: Floor tile 2 – 9”x9” Beige
Location: Gym Mechanical Room
Asbestos: 3.1% Chrysotile
Sample(s): 30010-24

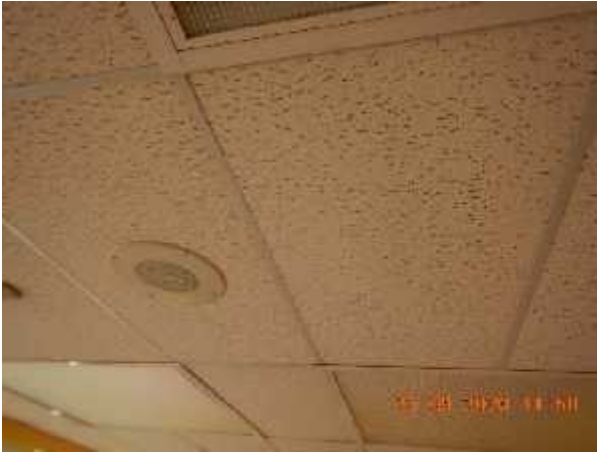


Photo 5
Description: Acoustic ceiling tile 1 – Vertical fissure and pinholes
Location: Staff Room
Asbestos: 3% Amosite
Sample(s): 39957-Xb



Photo 6
Description: Caulking – Acoustical sink insulation (Black)
Location: Classroom 2 Sink
Asbestos: 2.5% Chrysotile
Sample(s): 30010-6



Photo 7
Description: Cement pipe
Location: Crawl Space
Asbestos: 15% Chrysotile
Sample(s): 30010-17



Photo 8
Description: Stucco
Location: Exterior
Asbestos: Suspect



Photo 9
Description: Cement board
Location: Exterior
Asbestos: Suspect



Photo 10
Description: Concrete block wall
Location: Exterior
Asbestos: Suspect



Photo 11
Description: Texture coat
Location: Electrical Room
Asbestos: Suspect



Photo 12
Description: Ceramic tile 1 – 4"x4" beige
Location: Men's Washroom
Asbestos: Suspect concealed asbestos leveling compound(s)



Photo 13
Description: Ceramic tile 2 – 2"x2" brown
Location: Men's Washroom
Asbestos: **Suspect concealed asbestos leveling compound(s)**



Photo 14
Description: Floor tile 3 – Beige with red streaks
Location: Gym Storage
Asbestos: **Suspect**



Photo 15
Description: Acoustic ceiling tile 3 – 12"x12" vertical fissure small and large pinhole
Location: Main Office
Asbestos: **Suspect**



Photo 16
Description: Acoustic ceiling tile 5 – 2'x4' lateral fissure small and large pinhole
Location: Basement Classroom Corridor
Asbestos: **Suspect**



Photo 17
Description: Acoustic ceiling tile 6 – 2'x4' small and large pinhole
Location: Basement Classroom Corridor
Asbestos: Suspect



Photo 18
Description: Mastic 1- Grey (painted white in some locations)
Location: Classroom D
Asbestos: Suspect



Photo 19
Description: Mastic 2 – Gold
Location: Classroom 7
Asbestos: Suspect



Photo 20
Description: Window putty 1 – Black
Location: Classroom 11
Asbestos: Suspect



Photo 21
Description: Stair tread – Marbled grey
Location: 9-12 Wing Stairway to Basement
Asbestos: Suspect



Photo 22
Description: Penetration caulking – Red
Location: Boiler/Hot Water Room
Asbestos: Suspect



Photo 23
Description: Parging – Grey
Location: Crawl Space
Asbestos: Suspect



Photo 24
Description: Cement pipe – Painted blue
Location: Gym
Asbestos: Suspect



Photo 25
Description: Bell and spigot pipe gaskets
Location: Crawl Space
Asbestos: Suspect



Photo 26
Description: Pipe gaskets
Location: Boiler/Hot Water Room
Asbestos: Suspect



Photo 27
Description: Baseboard adhesive
Location: Classroom 3
Asbestos: Suspect

Appendix B. Analytical Reports



Warning: in the event any additional suspect materials are encountered during renovation/repair activities, work on those materials should stop immediately and remain undisturbed until testing confirms the presence or absence of asbestos or other hazardous material

Bulk Sample Report

Asbestos Analysis of Bulk Materials using Polarized Light Microscopy

Client: School District 85 - Vancouver Island North

Date: September 27, 2016

Contractor: School District 85 - Vancouver Island North

Client Job or PO#:

Project: Robert Scott Elementary AB Inventory

Project number: 30010

Sample No	Location	Date Analysed	Analyst	Client Description	Phase	%	Asbestos	%	Other Materials	%	Comments
30010-1	Office C	Aug-26-2016	IATL	Sheet Flooring - SF2 - Beige with Gray Streaks	Grey	100	Chrysotile	2.9	Non-Fibrous	97.1	
30010-2	First Aid Room	Aug-26-2016	IATL	Sheet Flooring - SF1- Peach with Gray and Teal Streaks	Tan	100	None Detected	0	Cellulose (20%) Non-Fibrous (80%)	100	
30010-3 Layer 1	Janitor Room	Aug-26-2016	IATL	Drywall Joint Compound - White Cementitious	Drywall Joint Compound - White	50	None Detected	0	Non-Fibrous	100	
30010-3 Layer 2	Janitor Room	Aug-26-2016	IATL	Drywall Joint Compound - White Cementitious	Mastic - Tan	50	None Detected	0	Non-Fibrous	100	
30010-4 Layer 1	Janitor Room	Aug-26-2016	IATL	Drywall Joint Compound - White Cementitious	Drywall Joint Compound - White	50	None Detected	0	Non-Fibrous	100	
30010-4 Layer 2	Janitor Room	Aug-26-2016	IATL	Drywall Joint Compound - White Cementitious	Mastic - Tan	50	None Detected	0	Non-Fibrous	100	
30010-5 Layer 1	Computer Lab	Aug-26-2016	IATL	Other - Carpet on Leveling Compound and Wood	Drywall Joint Compound - White	50	None Detected	0	Non-Fibrous	100	
30010-5 Layer 2	Computer Lab	Aug-26-2016	IATL	Other - Carpet on Leveling Compound and Wood	Mastic - Tan	50	None Detected	0	Non-Fibrous	100	
30010-6	Classroom 2	Aug-26-2016	IATL	Caulking - Acoustical Sink Insulation	Black	100	Chrysotile	2.5	Non-Fibrous	97.5	
30010-7 Layer 1	Classroom 4	Aug-26-2016	IATL	Other - Drywall with Joint Compound	Sheetrock - Off White	50	None Detected	0	Cellulose (10%) Non-Fibrous (90%)	100	

Note: Samples were analyzed by method: EPA/600/R-93/116" Bulk Asbestos Analysis by Polarized Light Microscopy". For heterogenous materials the concentration may vary. No reproduction without permission.



LAB# 202314

Sample No	Location	Date Analysed	Analyst	Client Description	Phase	%	Asbestos	%	Other Materials	%	Comments
30010-7 Layer 2	Classroom 4	Aug-26-2016	IATL	Other - Drywall with Joint Compound	Drywall Joint Compound - White	50	Chrysotile	1.4	Non-Fibrous	98.6	
30010-8	Classroom 6	Aug-26-2016	IATL	Sheet Flooring - SF3- Gray with Black and White Stone	Grey	100	None Detected	0	Synthetic (5%) Non-Fibrous (95%)	100	
30010-9	Staff Room	Aug-26-2016	IATL	Drywall Joint Compound - White Cementitious	White	100	Chrysotile	3.9	Non-Fibrous	96.1	
30010-10	Entry by Library	Aug-26-2016	IATL	Drywall Joint Compound - White Cementitious	White	100	Chrysotile	3.2	Non-Fibrous	96.8	
30010-11	Computer Lab	Aug-26-2016	IATL	Drywall Joint Compound - White Cementitious	White	100	Chrysotile	3.1	Non-Fibrous	96.9	
30010-12	Classroom 12	Aug-26-2016	IATL	Sheet Flooring - SF4- Beige Mosaic	White	100	None Detected	0	Cellulose (15%) Non-Fibrous (85%)	100	
30010-13	Classroom D (basement)	Aug-26-2016	IATL	Drywall Joint Compound - White Cementitious	White	100	Chrysotile	2.8	Non-Fibrous	97.2	
30010-14 Layer 1	Classroom D (basement)	Aug-26-2016	IATL	Sheet Flooring - SF2 - Beige with Gray Streaks	Sheet Flooring - Tan	50	Chrysotile	1.9	Non-Fibrous	98.1	
30010-14 Layer 2	Classroom D (basement)	Aug-26-2016	IATL	Sheet Flooring - SF2 - Beige with Gray Streaks	Mastic - Black	50	None Detected	0	Non-Fibrous	100	
30010-15 Layer 1	Classroom D (basement)	Aug-26-2016	IATL	Floor Tile - Under Carpet along Wall	Floor Tile - Grey	50	None Detected	0	Non-Fibrous	100	
30010-15 Layer 2	Classroom D (basement)	Aug-26-2016	IATL	Floor Tile - Under Carpet along Wall	Mastic - Black	50	None Detected	0	Non-Fibrous	100	
30010-16	Mechanical Room	Aug-26-2016	IATL	Caulking - Gray	Insulation - Grey	100	None Detected	0	Synthetic (10%) Non-Fibrous (90%)	100	
30010-17	Crawl Space	Aug-26-2016	IATL	Other - Cement Pipe	Grey	100	Chrysotile	15	Non-Fibrous	85	
30010-18	Electrical Shop	Aug-26-2016	IATL	Texture Coat - White Cementitious	White	100	None Detected	0	Non-Fibrous	100	
30010-19	Electrical Shop	Aug-26-2016	IATL	Texture Coat - White Cementitious	White	100	None Detected	0	Non-Fibrous	100	
30010-20	Overview	Aug-26-2016	IATL	Other - Cement Board	Grey	100	None Detected	0	Cellulose (5%) Non-Fibrous (95%)	100	
30010-21	Overview	Aug-26-2016	IATL	Texture Coat	Blue	100	None Detected	0	Non-Fibrous	100	
30010-22	Overview	Aug-26-2016	IATL	Caulking	Clear	100	None Detected	0	Non-Fibrous	100	

Note: Samples were analyzed by method: EPA/600/R-93/116" Bulk Asbestos Analysis by Polarized Light Microscopy". For heterogenous materials the concentration may vary. No reproduction without permission.



LAB# 202314

Sample No	Location	Date Analysed	Analyst	Client Description	Phase	%	Asbestos	%	Other Materials	%	Comments
30010-23	Gym Kitchen	Aug-26-2016	IATL	Sheet Flooring - SF6-White with Beige Speckles	White	100	None Detected	0	Cellulose (15%) Non-Fibrous (85%)	100	
30010-24	Gym Mechanical Room	Aug-26-2016	IATL	Floor Tile - FT2-9x9 Beige	Beige	100	Chrysotile	3.1	Non-Fibrous	96.9	
30010-25	Gym Stage	Aug-26-2016	IATL	Sheet Flooring - SF5-Red Mosaic	White	100	Chrysotile	7.1	Non-Fibrous	92.9	

Note: Samples were analyzed by method: EPA/600/R-93/116" Bulk Asbestos Analysis by Polarized Light Microscopy". For heterogenous materials the concentration may vary. No reproduction without permission.



**North West
Environmental Group Ltd.**

Asbestos Analysis of Bulk Materials using Polarized Light Microscopy

#3 – 835 Devonshire Road
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e-mail:northwest@nwest.bc.ca

Client: **School District 85 - Vancouver Island North**

Thursday, August 20, 2009

Client Job or PO # 0

Site: **Robert Scott Elementary**

NW Project Number: 10573

Sample Number	Location	Date Analysed	Analyst	Description	Phase	%	Asbestos	%	Other Materials	%
10573-01	Office	08/19/09	EM	Drywall Filler	White Non-Fibrous Heterogeneous	100	Chrysotile	2	Non-Fibrous	98
10573-02	Room 4	08/19/09	EM	Drywall Filler	Grey/Green Non-Fibrous Heterogeneous	100	Chrysotile	2	Non-Fibrous	98
10573-03	Staff Room	08/19/09	EM	Drywall Filler	Grey/White Non-Fibrous Heterogeneous	100	Chrysotile	2	Non-Fibrous	98
10573-04	Library	08/19/09	EM	Drywall Filler	Grey/White Non-Fibrous Heterogeneous	100	Chrysotile	2	Non-Fibrous	98
10573-05	Room 8	08/19/09	EM	Drywall Filler	Grey Non-Fibrous Heterogeneous	100	Chrysotile	< 1	Non-Fibrous	100
10573-06	Room 10	08/19/09	EM	Drywall Filler	Grey/Green/Beige Non-Fibrous	100	Chrysotile	< 1	Non-Fibrous	100
10573-07	Lower Level Electrical Room	08/19/09	EM	Drywall Filler	Grey/White/Pink Non-Fibrous Homogeneous	100	None Detected	0	Non-Fibrous	100
10573-08	Stage	08/19/09	EM	Floor Tile	Beige Non-Fibrous Heterogeneous	100	Chrysotile	8	Non-Fibrous	92
10573-09	Room 6	08/19/09	EM	Sheet Flooring	Grey/Tan/White Non-Fibrous Heterogeneous	100	None Detected	0	Non-Fibrous	100
10573-10	Kitchen	08/19/09	EM	Sheet Flooring	Grey/Beige Non-Fibrous Heterogeneous	100	None Detected	0	Non-Fibrous	100
10573-11	Stage	08/19/09	EM	Duct Caulking	Grey Non-Fibrous Homogeneous	100	None Detected	0	Non-Fibrous Cellulose	98 2
10573-12	Computer Room	08/19/09	EM	Duct Caulking	Grey/Beige Non-Fibrous Heterogeneous	100	None Detected	0	Non-Fibrous	100



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Environmental Group Ltd.**

Asbestos Analysis of Bulk Materials using Polarized Light Microscopy

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Client: **School District 85 - Vancouver Island North**

Thursday, August 20, 2009

Client Job or PO # 0

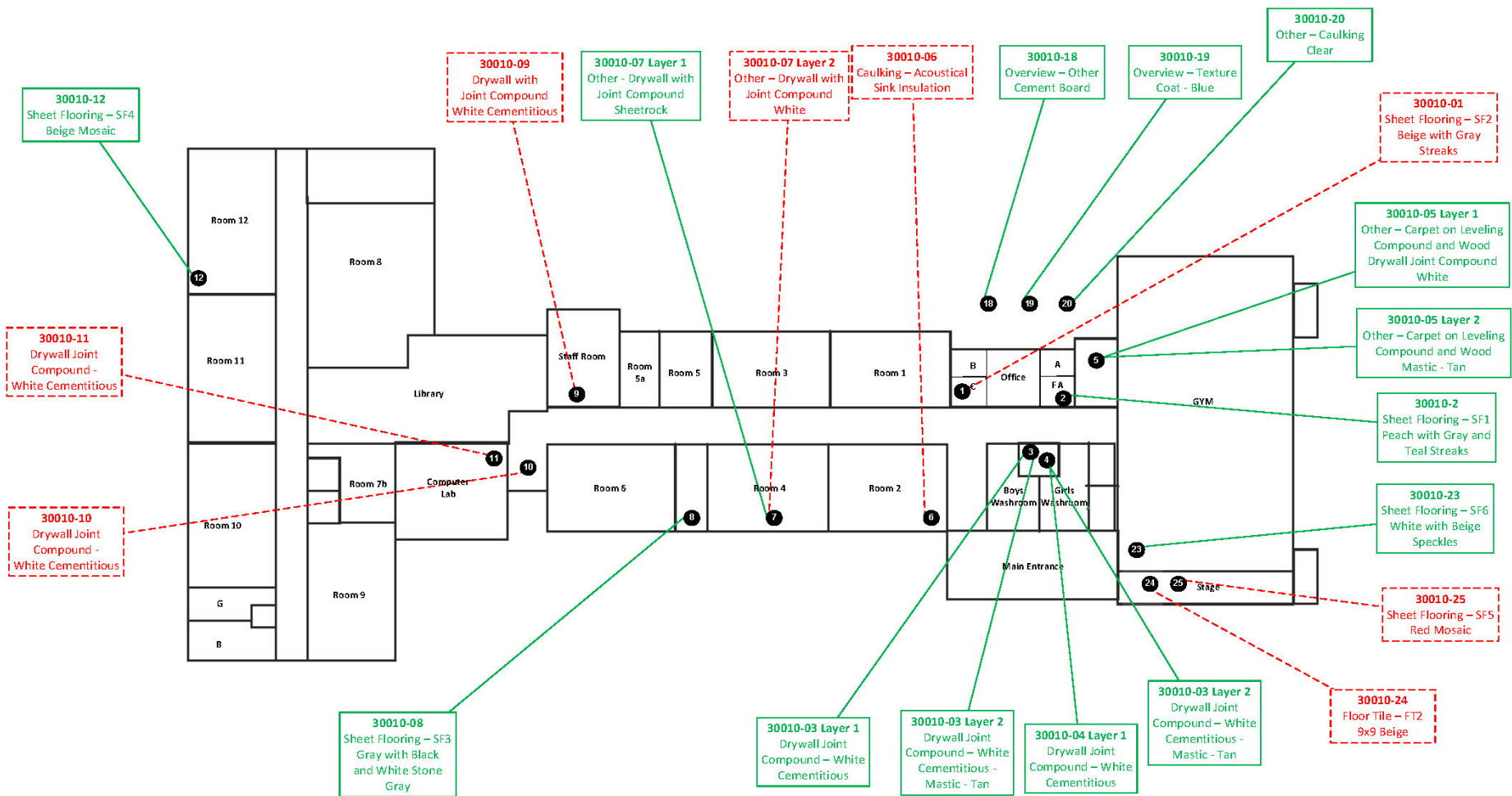
Site: **Robert Scott Elementary**

NW Project Number: 10573

Sample Number	Location	Date Analysed	Analyst	Description	Phase	%	Asbestos	%	Other Materials	%
10573-13	Room 12	08/19/09	EM	Duct Caulking	Beige Non-Fibrous Homogeneous	100	None Detected	0	Non-Fibrous	100
10573-14	Lower Level Janitor Room	08/19/09	EM	Duct Caulking	Grey Non-Fibrous Homogeneous	100	None Detected	0	Non-Fibrous	100
10573-15	Lower Level Under Office	08/19/09	EM	Duct Caulking	Grey Non-Fibrous Homogeneous	100	None Detected	0	Non-Fibrous	100
10573-16	Office	08/19/09	EM	Ceiling Tile	Brown/White Fibrous Heterogeneous	100	None Detected	0	Cellulose Non-Fibrous	90 10
10573-17	Library	08/19/09	EM	Ceiling Tile	Grey Fibrous Heterogeneous	100	Amosite	3	Mineral Wool Non-Fibrous	85 12
10573-18	Lower Level Workshop	08/19/09	EM	Ceiling Texture	White Non-Fibrous Homogeneous	100	None Detected	0	Non-Fibrous	100

Appendix C. Sample Location Drawings





Drawing Not to Scale

Sample Result Key

123 No Asbestos Detected

123 Material Contains Asbestos

123 Lead (Pb) Sample

ADDRESS/LOCATION:
 Robert Scott Elementary School
 6855 Market Street, Main Level
 Port Hardy, BC V0N 2P0
 DRAWING TITLE:
 School District 85

PROJECT NO.: 30010

DATE: 09/02/2016

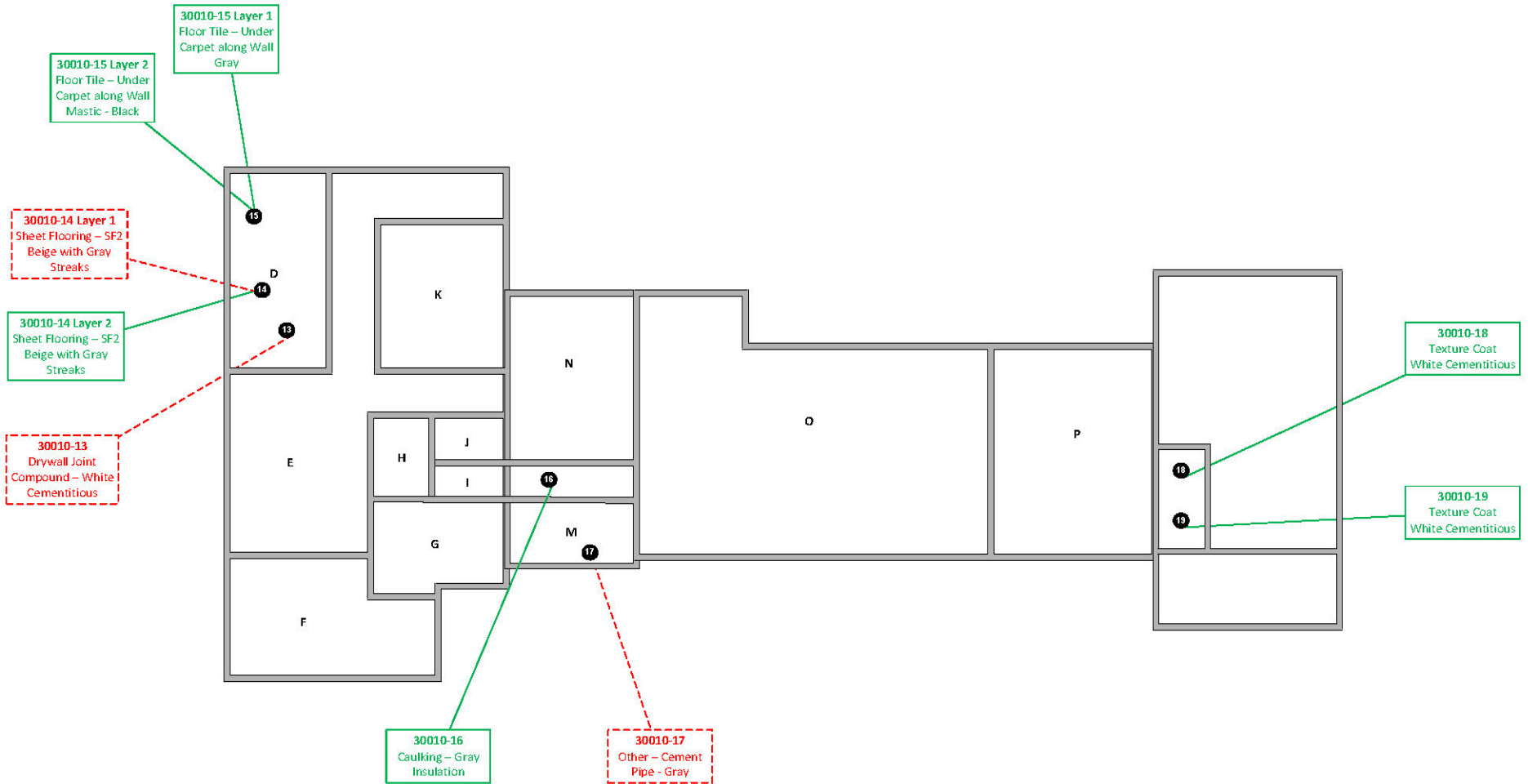
SURVEYED BY: Julie Scott/Moncrieff/
 Bill Sullivan

DRAWING NO.: 009



#201-415 Gorge Road East

Victoria B.C. V8T 2W1



Drawing Not to Scale

Sample Result Key

123 No Asbestos Detected

123 Material Contains Asbestos

123 Lead (Pb) Sample

ADDRESS/LOCATION:
 Robert Scott Elementary School
 6855 Market Street, Lower Level
 Port Hardy, BC V0N 2P0
 DRAWING TITLE:
 School District 85

PROJECT NO.: 30010
 DATE: 09/02/2016
 SURVEYED BY: Julie Scott/Moncrieff/
 Bill Sullivan
 DRAWING NO.: 0010



#201-415 Gorge Road East
 Victoria B.C. V8T 2W1

Appendix D. Regulatory Framework

1. **Workers Compensation Act**, Part 2, Division 4 (General Duties of Employers, Workers and Others), Section 25 (General duties of owner).
2. **BC Occupational Health and Safety Regulation**, BC Reg. 296/97, including amendments.
3. **Safe Work Practices for Handling Asbestos**, WorkSafeBC, current edition.
4. **Hazardous Waste Regulation**, BC Ministry of Environment, including amendments.
5. **Transportation of Dangerous Goods Regulations SOR / 2008-34**, Transportation of Dangerous Goods Act, SOR/2008/34 including amendments.

Appendix E. Methodology

The assessment adhered to applicable regulations and followed industry-accepted standards and methodologies.

Note: Not all of the following materials and/or methods were necessarily included in this assessment.

Asbestos

An initial walk-through was conducted of the assessment areas for building materials and machinery or equipment to make a preliminary determination if asbestos could be present.

To confirm or discount the presence of asbestos, representative bulk samples were collected. The sample locations in the building are identified with a unique sample number. Whenever practicable, a representative number of material samples were collected as per WorkSafeBC guidance. Some materials could not be representatively sampled due to accessibility or if sample collection would damage the remaining material.

Bulk samples were submitted for analysis in accordance with the following method: EPA 600 R-93 / 116-1993. Samples consisting of greater than 0.5% asbestos were reported as an asbestos-containing material as per WorkSafeBC. See Appendix G for details on how asbestos-containing materials are evaluated to determine management actions.

Vermiculite samples were submitted for analysis in accordance with the Research Method for Sampling and Analysis of Fibrous Amphibole in Vermiculite Attic Insulation (EPA/600/R-04/004, January 2004, US EPA.) Samples of loose fill vermiculite insulation found to contain any trace of asbestos were reported as

Appendix F. Evaluation of Asbestos-Containing Materials

Evaluation of asbestos-containing materials (ACMs) is based on the condition of the material, its accessibility, and its friability. The following are guidelines used to evaluate ACMs and the action, if any, required to safely manage them.

Spray Applied Fireproofing, Insulation and Texture Finishes

In evaluating the condition of ACM spray applied as fireproofing, thermal insulation or texture, decorative or acoustic finishes, the following criteria apply.

GOOD	Surface of material shows no significant signs of damage, deterioration or delamination. Up to one percent visible damage to surface is allowed within range of GOOD. Evaluation of sprayed fireproofing requires the assessor to be familiar with the irregular surface texture typical of sprayed asbestos products. GOOD condition includes un-encapsulated or unpainted fireproofing or texture finishes, where no delamination or damage is observed, and encapsulated fireproofing or texture finishes where the encapsulation has been applied after the damage or fallout occurred.
POOR	Sprayed materials show signs of damage, delamination or deterioration. More than one percent damage to surface of ACM spray.
DEBRIS	Spray materials are dislodged from surface application source. The identified debris is noted as being separated from the original source.

Mechanical Insulation

In evaluating the condition of mechanical insulation (on boilers, breeching, ductwork, piping, tanks, equipment etc.) the following criteria are used.

GOOD	Insulation is completely covered in jacketing and exhibits no evidence of damage or deterioration. No insulation is exposed. Includes conditions where the jacketing has minor surface damage (i.e., scuffs or stains), but the jacketing is not penetrated.
FAIR	Minor penetration damage to jacketed insulation (cuts, tears, nicks, deterioration or delamination) or undamaged insulation that has never been jacketed. Insulation is exposed but not showing surface disintegration. The extent of missing insulation should be minor to none.
POOR	Original insulation jacket is missing, damaged, deteriorated or delaminated. Insulation is exposed and significant areas have been dislodged. Damage cannot be readily repaired.
DEBRIS	Insulation materials are dislodged from surface application source. The identified debris is noted as being separated from the original source.

Non-Friable and Potentially Friable Materials

Non-friable materials generally have little potential to release airborne fibres, even when damaged by mechanical breakage. However, some non-friable materials, i.e., exterior asbestos concrete products, may have deteriorated so that the binder no longer effectively contains the asbestos fibres. In such cases of significantly deteriorated non-friable material, the material will be treated as a friable product.

Accessibility

The accessibility of building materials known or suspect of being ACM is rated according to the following criteria.

Access (A)	Areas of the building within reach (from floor level) of all building users. Includes areas such as gymnasiums, workshops, and storage areas where activities of the building users may result in disturbance of ACM not normally within reach from floor level.
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Access (B)	Frequently entered maintenance areas within reach of maintenance staff, without need for a ladder. Includes: frequently entered pipe chases, tunnels and service areas or areas within reach from a fixed ladder or catwalk (e.g., tops of equipment, mezzanines).
Access (C) Exposed	Areas of the building above 2.5 metres where use of a ladder is required to reach the ACM. Only refers to ACM materials that are exposed to view, from the floor or ladder, without removing or opening other building components such as ceiling tiles, or service access doors or hatches. Does not include infrequently accessed service areas of the building.
Access (C) Concealed	Areas of the building which require removal of a building component including lay-in ceilings and access panels into solid ceiling systems. Includes rarely entered crawlspaces, attic spaces etc. Observations are limited to the extent visible from the access points.
Access (D)	Areas of the building behind inaccessible solid ceiling systems, walls, or mechanical equipment, etc., where demolition of the ceiling, wall or equipment etc., is required to reach the ACM. Evaluation of condition and extent of ACM is limited or impossible, depending on the assessor's ability to visually examine the materials in Access D.
ACM in Plenum	Areas of the building where air movement through open or closed air spaces or plenums can be accesses by Access X, where X is any of the Accesses A-D, inclusive.

Action Matrix

The following Action Matrix determines what, if any, action is required to safely manage ACMs.

Access	Condition			
	Good	Fair	Poor	Debris
(A)	Action 5/7	Action 5/6	Action 3	Action 1
(B)	Action 7	Action 6/5	Action 3	Action 1
(C) Exposed	Action 7	Action 6	Action 4	Action 2
(C) Concealed	Action 7	Action 7	Action 4	Action 2
(D)	Action 7	Action 7	Action 7	Action 7
(X)	Action 5/7	Action 5/6	Action 3	Action 1

Action Table

The following is a description of the action required to manage ACMs, based on the outcome of the evaluation.

Action 1	Immediate Clean Up of Debris That is Likely to be Disturbed Restrict access/shut off air handling system if disturbance of the ACM DEBRIS is likely, and clean up ACM DEBRIS immediately. Utilize proper asbestos procedures. This action is required for compliance with regulatory requirements.
Action 2	Entry into Areas with ACM Debris At locations where ACM DEBRIS can be isolated in lieu of removal or clean up, use appropriate means to limit entry to the area. Restrict access to the area to persons utilizing moderate risk asbestos-work precautions. The precautions will be required until the ACM DEBRIS has been cleaned up, and the source of the DEBRIS has been stabilized or removed.
Action 3	ACM Removal Required for Compliance Remove ACM for compliance with regulatory requirements. Utilize asbestos procedures appropriate to the scope of the removal work.
Action 4	Access into Areas Where ACM is Present and Likely to be Disturbed by Access Use asbestos precautions when entry or access into an area is likely to disturb the ACM. ACTION 4 must be used until the ACM is removed (Use ACTION 1 or 2 if DEBRIS is present).
Action 5	Proactive ACM Removal

	Remove ACM in lieu of repair, or at locations where the presence of asbestos in GOOD condition is not desirable.
Action 6	ACM Repair Repair ACM found in FAIR condition, and not likely to be damaged again or disturbed by normal use of the area or room. Upon completion of the repair work, treat ACM as material in GOOD condition and implement ACTION 7. If ACM is likely to be damaged or disturbed during normal use of the area or room, implement ACTION 5.
Action 7	Routine Surveillance Institute routine surveillance of the ACM. Trained workers or contractors must use appropriate asbestos precaution during disturbance of the remaining ACM.

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