CITY OF SURREY

BYLAW NO. 19616

A bylaw to enter into a heritage revitalization agreement

. . . . . .

WHEREAS:

A. The Council may by bylaw pursuant to Part 15 of the Local Government Act, R.S.B.C. 2015, Chapter 1, as may be amended from time to time, enter into a heritage revitalization agreement with the owner of heritage property;

B. The Council considers that certain lands, premises and improvements have *heritage value* and *heritage character* and ought to be conserved, which are situate within the City and described as:

Parcel Identifier: 030-376-343
Lot 1 Section 8 Township 8 New Westminster District Plan EPP70288

17710 - 56A Avenue

(the "Lands");

C. The owner of the Lands and the City of Surrey have agreed on the nature, character and extent of the *heritage value* and *heritage character* of the Lands and on the nature, extent and form of conservation necessary to protect the *heritage value* and *heritage character* of the Lands;

NOW THEREFORE, the City Council of the City of Surrey, enacts as follows:

1. The City is authorized hereby to enter into that certain Heritage Revitalization Agreement appended to this Bylaw as Schedule "I" (the "Heritage Revitalization Agreement") in respect of the Lands.

2. The Mayor and the City Clerk are authorized on behalf of the Council to sign the Heritage Revitalization Agreement and to register a notice on the title of the Lands.

3. Schedule "I" forms a part of this Bylaw.

4. This Bylaw may be cited for all purposes as "City of Surrey Heritage Revitalization Agreement Bylaw, 2018, No. 19616"

PASSED FIRST READING on the 25th day of June 2018.

PASSED SECOND READING on the 25th day of June 2018.

PASSED THIRD READING on the 25th day of June 2018.

RECONSIDERED AND FINALLY ADOPTED, signed by the Mayor and Clerk, and sealed with the Corporate Seal on the 9th day of July 2018.

MAYOR

CLERK

SCHEDULE "I"

[To City of Surrey Heritage Revitalization Agreement Bylaw, 2018, No. 19616]

HERITAGE REVITALIZATION AGREEMENT

This Agreement made the 10 day of July, 20 18

BETWEEN:

CITY OF SURREY,
as represented by Realty Section, Engineering Department
13450 104 Avenue
Surrey, British Columbia V3T 1V8

(the "Owner")

OF THE FIRST PART

AND:

CITY OF SURREY, a municipal corporation,
and having offices at 13450 104 Avenue
Surrey, British Columbia V3T 1V8

(the "City")

OF THE SECOND PART

WHEREAS:

A. The Owner is the registered owner in fee simple of the following lands and premises situate in the City of Surrey, British Columbia and described as:

Parcel Identifier: 030-376-343
Lot 1 Section 8 Township 8 New Westminster District Plan EPP70288

17710 - 56A Avenue

(the "Lands");

B. The improvements and features on the Lands identified in and described by text, photographs, plans and drawings attached to this Agreement as Appendix "A" (the "Conservation Plan") and Appendix "B" (the "McGinn Engineering & Preservation Ltd. Plan") as the Old Anniedale School (the "School") are considered by the City and the Owner to have *heritage value* and *heritage character;*

C. The School is listed on the Surrey Heritage Register;

D. The School has been previously identified as having *heritage value* and *heritage character* in Surrey Municipal Heritage Site Designation Bylaw, 1986, No. 8579 (the "Designation Bylaw");

E. A heritage alteration permit shall be issued pursuant to the Designation Bylaw for the purpose of relocating the School from its present location at 9744 176 Street, Surrey, BC to the Lands;

F. The Owner and the City desire to conserve the *heritage value* and *heritage character* of the School on the Lands;

G. For the purpose of conservation of the *heritage value* and *heritage character* of the School, the Owner and the City have agreed to enter into this Agreement setting out the terms and conditions of continuing protection for the *heritage value* and *heritage character* of the School;

H. The Owner has agreed to the terms for compensating the City for the loss in *heritage value* in accordance with Section 2(f) of this Agreement in the event the School is moved or destroyed other than through natural causes or those causes outside of the Owner's reasonable control;

I. All provisions of this Agreement applicable to the Lands also apply to the School;

NOW THEREFORE THIS AGREEMENT WITNESSES that in consideration of the mutual premises of the parties hereto and for other good and valuable consideration (the receipt and sufficiency of whereof is hereby by the parties acknowledged) the Owner and the City covenant and agree with one another pursuant to Section 610 of the Local Government Act, R.S.B.C. 2015, Chapter 1, as amended, re-enacted or consolidated from time to time and any successor statute (the "Local Government Act"), as follows:

Conservation Plan

1. (a) The Conservation Plan and the McGinn Engineering & Preservation Ltd. Plan form part of this Agreement. To the extent that the text, photographs, plans and drawings constituting the Conservation Plan and the McGinn Engineering & Preservation Ltd. Plan require interpretation, the City shall be, in the first instance, the interpreter of the Conservation Plan and the McGinn Engineering & Preservation Ltd. Plan and shall determine the matter. If the Owner is dissatisfied with the City's interpretation, then Section 15 of this Agreement shall apply.

(b) Part I of the Conservation Plan identifies, details and describes the character, extent and nature of the improvements and features on the Lands that have *heritage value* and *heritage character*. Part II of the Conservation Plan sets out the maintenance strategy, general standards and exemptions for the *conservation* and maintenance of all improvements and features on the Lands that have *heritage value* and *heritage character*. Part III of the Conservation Plan sets out the standards and specifications for relocation, restoration, rehabilitation, replication, repair, replacement or maintenance of the School on the Lands to be undertaken and completed pursuant to this Agreement, including, but not limited to: the structure, building envelope and exterior; doors; roof structure and cladding; and finishes of the building.

Owner's Obligations to Protect, Conserve, Maintain and Rebuild

2. The Owner covenants and agrees that:

(a) The School shall not be *altered,* including alterations required or authorized by this Agreement, except as agreed to in writing by the City.

(b) Each action of relocation, restoration, rehabilitation, replication, repair, replacement or maintenance required by Parts I, II, and III of the Conservation Plan and the McGinn Engineering & Preservation Ltd. Plan shall be commenced and completed in accordance with the timing, phasing, standards and specifications set out the Conservation Plan and the McGinn Engineering & Preservation Ltd. Plan.

(c) The School shall be maintained to the minimum standards and in accordance with the guidelines and requirements set out in the Conservation Plan and the McGinn Engineering & Preservation Ltd. Plan.

(d) In the event the School is damaged, other than through causes outside of the Owner's reasonable control, the Owner of the Lands accepts the obligation to undertake all necessary construction to restore the damaged portion or portions of the School to its original condition. The Owner is required to apply for and to hold a heritage alteration permit specifying the measures to be taken to restore the damaged portion or portions of the School. The heritage alteration permit shall be subject to review and approval by the Heritage Advisory Commission. The restoration of the School shall reflect the character-defining elements and design components including, but not limited to: simple rectangular form, scale and massing with mansard roof; exterior elements such as wooden drop siding; double-hung wooden-sash 4-over-4 windows; banked in quadruple assembly on the east façade, and two in single assembly on the west facade, all as subject to approval by the City Architect or designate.

(e) In the event the School is destroyed, other than through natural causes or those causes outside of the Owner's reasonable control, the Owner of the Lands accepts the obligation to undertake all necessary construction to create a replica of the School. The Owner is required to apply for and to hold a heritage alteration permit specifying the measures to be taken to create a replica of the School. The heritage alteration permit shall be subject to review and approval by the Heritage Advisory Commission. The construction of the replica of the School shall reflect the character-defining elements and design components as described in Section 2(d), all as subject to approval by the City Architect or designate.

(f) In the event that the School is destroyed, other than through natural causes or those causes outside of the Owner's reasonable control, in addition to the construction of a replica described in 2(e), the Owner covenants and agrees to compensate the City for the loss in *heritage value* to the community in the amount of $29,526.25 indexed to the Vancouver Consumer Price Index (CPI) with 2018 being the base year, except that if the School is destroyed through natural causes, including but not limited to, flood, earthquake and accidental fire as determined by the City in its sole discretion, and a replica is constructed by the Owner that is acceptable to the Heritage Advisory Commission or any successor decision making body in is sole discretion, then payment of compensation by the Owner to the City is not required.

(g) The Owner shall do or cause to be done all such things, and shall take or cause to be taken all such actions, as are necessary to ensure that the restrictions and requirements set out in Parts II and III of the Conservation Plan and in the McGinn Engineering & Preservation Ltd. Plan are fully observed, and the Owner shall not do, cause or allow to be done anything that would be in breach of the restrictions and requirements of this Agreement.

(k) Where required by the City in a heritage alteration permit, the Owner shall provide security to the City to guarantee the performance of the terms, requirements and conditions contained in the Conservation Plan and the McGinn Engineering & Preservation Ltd. Plan.

(l) The Owner may apply to the City for funding including, but not limited to, monies for exemption from taxes, or any provision for assistance as specified in Section 25 of the Community Charter, S.B.C. 2003, c.26 (the "Community Charter").

Variations to Bylaws

3. Not applicable to the Lands.

Construction and Maintenance

4. Wherever under this Agreement the Owner relocates, restores, rehabilitates, replicates, repairs, replaces, maintains or in any way alters the School or constructs or maintains other works to protect or conserve the School, all such work shall be done at the Owner's sole expense strictly in accordance with the Conservation Plan and the McGinn Engineering & Preservation Ltd. Plan and as agreed by the City in writing and all improvements or features shall be diligently and continuously maintained in good repair and efficient operating condition by the Owner at the Owner's sole expense in accordance with good engineering, design, heritage and conservation practice.

No Liability to City

5. In no case shall the City be liable or responsible in any way for:

(a) any personal injury, death or consequential damage of any nature whatsoever, howsoever caused, that may be suffered or sustained by the Owner or by any other person who may be on the Lands; or

(b) any loss or damage of any nature whatsoever, howsoever caused to the Lands or any improvements or personal property thereon belonging to the Owner or to any other person,

arising directly or indirectly from compliance with the restrictions and requirements of this Agreement, wrongful or negligent failure or omission to comply with its restrictions and requirements, or refusal, omission or failure of the City to enforce or require compliance by the Owner with the restrictions or requirements or with any other term, condition or provision of this Agreement.

Reasonable Care and Risk

6. The Owner shall at all times, in complying with the restrictions or requirements of this Agreement, take reasonable care not to injure any person or cause or allow damage to any property, and shall take reasonable care not to cause, suffer, permit or allow any condition to exist that might reasonably lead to, cause or result in injury to any person or property including persons and property on adjacent lands. It shall be the sole responsibility of the Owner to comply and maintain compliance with the restrictions and requirements in a safe manner, and without reasonably foreseeable risk to person or property. Compliance with the restrictions and requirements in this Agreement shall be at the sole and exclusive risk and cost of the Owner.

Modification

7. If, in fulfilling its responsibilities and obligations pursuant to this Agreement, the Owner perceives or becomes aware of any unreasonable risk of injury to persons or damage to property or other potential loss that cannot be reasonably avoided, alleviated, reduced or eliminated except by measures that would be a breach of the restrictions, requirements of this Agreement, the Owner shall notify the City in writing of the nature and extent of the risk and of the measures proposed by the Owner to be undertaken at its sole cost to reduce, alleviate, avoid or eliminate the risk. Risk shall remain with the Owner.

Indemnity

8. The Owner shall at all times indemnify and save harmless the City and its elected and appointed officials, employees, contractors and agents of and from all loss and damage, and all actions, claims, costs, demands, expenses, fines, liabilities and suits of any nature whatsoever by whomsoever brought for which the City shall or may become liable, incur or suffer by reason of existence and effect whether direct or indirect of the restrictions or requirements of this Agreement, or breach or non-performance by the Owner of any covenant, term or provision hereof, or by reason of any work or action of the Owner in performance of this Agreement, or by reason

of any work or action of the Owner in performance of its obligations, or by reason of any wrongful act or omission, default or negligence of the Owner.

Alternative Remedies

9. Any performance by the City pursuant to a statutory right to perform the obligations of an Owner arising out of this Agreement may be exercised fully in accordance with the Local Government Act and the Community Charter, and shall be without prejudice to any and all other remedies at law and equity available to the City, and no reference in this Agreement to, or exercise of any specific right or remedy by the City, shall preclude the City from exercising any other right or remedy.

Damages

10. The Owner covenants and agrees that the measure of damages for any breach of the restrictions or requirements of this Agreement shall include, but shall not be limited to, the actual cost and expense of all administration, labour, materials, equipment, services and work required for all remedial acts necessary to fully restore, rehabilitate, replace, repair or maintain the School. The nature and extent of any breach of the said restrictions and requirements, and the nature and extent of any relocation, restoration, rehabilitation, replacement, maintenance or remedial work or action of any nature required to remedy such breach shall be determined by the City by reference to the Conservation Plan and the McGinn Engineering & Preservation Ltd. Plan, and Sections 2 and 4 of this Agreement.

No Waiver

11. No restrictions, requirements or other provisions in this Agreement shall be deemed to have been waived by the City unless a written waiver authorized by resolution of the Council and signed by an officer of the City has first been obtained, and without limiting the generality of the foregoing, no condoning, excusing or overlooking by the City on previous occasions of any default nor any previous written waiver shall be taken to operate as a waiver by the City of any subsequent default or in any way to defeat or affect the rights of remedies to the City.

Statutory Authority and Proprietary Rights

12. Nothing in this Agreement shall limit, impair, fetter, or derogate from the statutory powers of the City all of which powers may be exercised by the City from time to time and at any time to the fullest extent that the City is enabled and no permissive bylaw enacted by the City, or permit, license or *approval*, granted, made or issued hereunder, or pursuant to statute, by the City shall stop, limit or impair the City from relying upon and enforcing this Agreement.

Compliance with Laws

13. Despite any provision of this Agreement, the Owner shall comply with all laws, including bylaws of the City and all regulations and orders of any authority having jurisdiction, and to the extent only that such laws, regulations and orders are mandatory and necessarily require the breach of any restriction or positive obligation of this Agreement to be observed or performed by the Owner, or less than strict compliance with the terms hereof, then the Owner upon sixty (60) days' written notice to the City shall be excused from complying with such restrictions or performing such obligation and such restriction or obligation shall be suspended but only to the extent and for the time that such mandatory law, regulation or order is inconsistent with compliance with the said restrictions or obligations.

Notice

14. Any notice to be given under this Agreement shall be in writing and may be either delivered personally or sent by prepaid registered mail and if so mailed shall be deemed to have been given five (5) days following the date upon which it was mailed. The address of the parties for the purpose of notice shall be as follows:

If to the City:

Attention: City Clerk
CITY OF SURREY
13450 104 Avenue
Surrey, British Columbia V3T 1V8

If to the Owner:

Attn: Realty Section, Engineering Department
CITY OF SURREY
13450 104 Avenue
Surrey, British Columbia V3T 1V8

Any party may at any time give notice in writing to the other of any change of address and after the third day of giving of the notice, the address specified in the notice shall be the address of the party for the giving of notices.

If title to the Lands is transferred to a new Owner, the new Owner shall provide notice in writing to the City within 15 days of such a transfer providing the name of the new Owner, the contact for notice if it is different than the Owner and the new Address to which notices are to be sent.

Arbitration

15. The Owner, if dissatisfied with the City's interpretation of the Conservation Plan and the McGinn Engineering & Preservation Ltd. Plan and any determination pursuant to Section 1(a) of this Agreement may require that the matter be decided and determined by binding arbitration as follows:

(a) The Owner must, within thirty (30) days of any exercise of discretion by the City, give notice to the City of its intention to dispute and in such

notice shall name a member in good standing of the Architectural Institute of British Columbia who has agreed to act as an arbitrator;

(b) The City shall within thirty (30) days of receipt of the aforesaid notice either accept the Owner's arbitrator, or name another with the same qualifications willing to act, and shall give notice of the same to the Owner;

(c) Where each of the Owner and the City have named an arbitrator, the two arbitrators shall within thirty (30) days of the City's notice pursuant to Section 15(b) appoint a third arbitrator having the same qualifications and the three arbitrators shall decide the dispute;

(d) Where the City accepts the arbitrator first selected by the Owner, that arbitrator shall act as a single arbitrator and forthwith decide the dispute;

(e) Any arbitrator's decision in respect of the exercise of discretion by the City shall be final, conclusive and binding on all parties;

(f) The arbitrator shall award the prevailing party full compensation for all costs and expenses of the arbitrator, costs and fees of the proceedings and solicitor-client costs and expenses; and

(g) The arbitrator shall issue a final decision regarding the dispute within twenty-five (25) business days after the arbitrator's appointment, subject to extension of that time by agreement of the parties.

16. Without limiting the City's power of inspection conferred by statute and in addition to that power, the City shall be entitled at all reasonable times and with reasonable notice to enter onto the Lands from time to time for the purpose of ensuring that the Owner is fully observing and performing all of the restrictions and requirements in this Agreement to be observed and performed by the Owner, and wherever possible, when an inspection of the Lands is undertaken, the City shall provide reasonable notice to the Owner.

Headings

17. The headings in this Agreement are inserted for convenience only and shall not affect the construction of this Agreement or any of its provisions.

Schedules

18. All schedules to this Agreement are incorporated into and form part of this Agreement.

Number and Gender

19. Whenever the singular or masculine or neuter is used in this Agreement, the same shall be construed to mean the plural or feminine or body corporate where the context so requires.

Interpretation

20. Terms used in this Agreement that are italicized are defined in the Local Government Act, and the Heritage Conservation Act, R.S.B.C. 1996, Chapter 187, as amended, re-enacted or consolidated from time to time and any successor statute, and shall take their meaning from those Acts.

Successors Bound

21. All restrictions, rights and liabilities imposed upon or given to the respective parties under this Agreement shall extend to and be binding upon their respective heirs, executors, administrators, successors and assigns. When the Owner is more than one party they shall be bound jointly and severally by the terms, covenants and agreements on the part of the Owner.

Notice to be Filed

22. Notice of this Agreement and amendments to it will be filed in the Land Title Office and once filed, this Agreement and amendments will be binding on all persons who acquire an interest in the Lands.

IN WITNESS WHEREOF the Owner and the City have executed this Agreement as of the date first above written.

CITY OF SURREY

Nicholas Rawcliffe
Manager, Realty Services

CITY OF SURREY

Linda Hepner
Mayor

Jane Sullivan
City Clerk

Appendix "A"

CONSERVATION PLAN

PART I – HISTORICAL AND ARCHITECTURAL BACKGROUND

1. Description of Historic Place

The Old Anniedale School is a wood frame building, rectangular in plan, with a hipped roof. The entrance has an enclosed porch, to the right of which hangs the school bell. The building is clad in drop siding with vertical siding cladding the foundations. It was moved in 1975 from its original site at the corner of 96th Avenue and 184th Street to 9744 176 Street. It was moved again from that location to its present location in 2018.

2. Heritage Value of Historic Place

The Old Anniedale School has historic value as one of the earliest schools in Surrey. It opened in 1891 with thirteen pupils and, until it closed in 1954, it played a vital role in the life of the community's children. During all the years of its operation it had the local distinction of having the highest percentage of its graduates obtain university degrees. The building was designed by the British Columbia Department of Lands and Works and it was constructed by Samuel Edge.

The Old Anniedale School is also significant for its association with the development of the Tynehead and Anniedale neighbourhoods, first settled in the 1860s by the Bothwell brothers, who pre-empted land along the Coast Meridian Road (168th Street) near the headwaters of the Serpentine River. Surveyed in 1859, the Coast Meridian was defined by the meridian of longitude closest to the Pacific coast at the 49th parallel. Settlement occurred as logging, farming and fishing developed in the area.

3. Character Defining Elements

Key elements that define the heritage character of the School include its:

- Simple rectangular form, scale and massing with mansard roof;
- Exterior elements such as wooden drop siding; and
- Double-hung wooden-sash 4-over four windows; banked in quadruple assembly on the east façade, and two in single assembly on the west façade.

PART II – MAINTENANCE STANDARDS AND PERMIT APPROVALS

1. General

A. Requirement to Commence Renovations

Moving of the School may commence at any time following the issuance of a Heritage Alteration Permit and as authorized by the issuance of a building permit.

Restoration of the School, including works that are consistent with Part III – Restoration Standards and Specifications, may commence at any time following the adoption of a bylaw to enter into this Agreement and the issuance of a building permit authorizing the works.

B. Maintenance Strategy

The strategy to ensure ongoing conservation of the School shall consist of a Maintenance Plan and a Funding Strategy.

The Maintenance Plan shall be prepared with input from a conservation architect or qualified heritage consultant that is acceptable to the City. Issues to be addressed in the Maintenance Plan include water penetration and damage from sun, wind, weather and animals. Maintenance includes, but is not limited to, painting or staining, sealing, weather-stripping and the like.

The Funding Strategy shall include, but is not limited to, whether or not the Owner intends to absorb all the costs, undertake fundraising or seek government financial incentives, including those available from the City.

The Owner shall submit a Maintenance Plan and Funding Strategy for review and approval by the General Manager, Planning and Development and , if deemed necessary by the General Manager, Planning and Development, the Heritage Advisory Commission within one (1) year of the adoption of a bylaw to enter into this Agreement.

The Maintenance Plan and Funding Strategy for the School shall include, but is not limited to, the following:

(a) A description and a time schedule for the renovations, repair, and replacement of the exterior elements, *landscaping* or other identified works on the Lands that constitute the character-defining elements and as identified in Part III – Renovation Standards and Specifications;

(b) A description and time schedule for the ongoing maintenance of the elements, *landscaping* or other identified works on the Lands and other relevant details. Maintenance includes: painting, staining and sealing of the exterior cladding and trims, weather stripping, re-roofing, replacement of windows, doors and exterior cladding or trims to match the existing materials;

(c) Ongoing maintenance of *landscaping*;

(d) A description of any matters noted in Part III – Renovation Standards and Specifications or in the plans attached to this Agreement as requiring further details; and

(e) A financial plan detailing the funding for the renovation and maintenance outlined above, including corporate sponsorships, annual budgets by the Owner or tenant, applications for government grants, strata fees, and other relevant details.

C. Amending an Established Maintenance Strategy

An Owner may apply to the City to amend an existing Maintenance Plan and Funding Strategy. Any amendment is subject to approval by the General Manager, Planning and Development and, if deemed necessary by the General Manager, Planning and Development, the Heritage Advisory Commission.

2. Standards

The "Standards and Guidelines for the Conservation of Historic Places in Canada", established under the Historic Places Program or successor guidelines as may be approved by the City are to apply to all construction, maintenance, restoration or renovation works undertaken under Parts II or III on the School.

3. Timing and Phasing

This provision does not apply to the lands.

4. Heritage Alteration Permit(s) Approval

A. Changes to the building, structure, exterior appearance of the School, features on the Lands identified in the Conservation Plan, McGinn Engineering & Preservation Ltd. Plan. or character-defining elements may require the Owner to apply for a heritage alteration permit or obtain approval from the City.

Proposed changes shall be referred to the Planning & Development Department of the City prior to the commencement of any work to determine if the changes require or do not require a heritage alteration permit.

B. A heritage alteration permit may not be required for alterations including, but not limited to, the following:

(a) changes to the Conservation Plan or the McGinn Engineering & Preservation Ltd. Plan that are considered by the City Architect to be minor in nature and not affecting the character-defining elements of the School;

(b) restorations considered by the City Architect to be consistent with the original design, being made to replace stylistically foreign elements and done in consultation with an independent conservation architect or qualified heritage consultant acceptable to the City; or

(c) simple repair and maintenance of existing elements not affecting the *building* structure, exterior or interior appearance of the School.

C. A heritage alteration permit shall be required for all but minor alterations including, but not limited to, the following:

(a) changes to the School structure;

(b) changes to the exterior appearance of the School;

(c) replacement of existing elements and/or construction of additions to the School;

(d) changes to the external appearance of the School due to interior renovations.

If a heritage alteration permit is determined to be required, the Owner shall apply to the City for a heritage alteration permit before undertaking any of the works listed in this Section 4.C.

After the heritage alteration permit application is submitted, the heritage alteration permit will be considered for issuance by City Council upon the recommendation of the General Manager, Planning and Development and the Heritage Advisory Commission, or by a City official delegated by City Council.

5. Building Permit Approval

Construction, alterations or other actions to be authorized by a building permit shall be consistent with the provisions of the Conservation Plan, McGinn Engineering & Preservation Ltd. Plan, and with heritage alteration permits sanctioning construction, alterations or other actions.

As the School is recognized as a historic site, Building Code equivalencies may be used to lessen visual impacts on the historical appearance or authenticity of the *building*. To utilize Building Code equivalencies, the Owner shall retain a qualified architect that is acceptable to the City Architect.

6. Conditions

A. The works specified in Part III and attachments to this Conservation Plan shall be supervised by a conservation architect or qualified heritage consultant acceptable to the City.

B. The works specified in Part III and attachments to this Conservation Plan shall be approved by a conservation architect or qualified heritage consultant acceptable to the City prior to the City granting final building approval.

PART III – RESTORATION STANDARDS AND SPECIFICATIONS

1. Foundation:

See Section 4.1.4 "New Foundation & Foundation Wall" of the McGinn Engineering & Preservation Ltd. Plan.

2. Roof Structure and Cladding:

See Section 4.1.3 "Roof Structure Upgrades" of the McGinn Engineering & Preservation Ltd. Plan.

3. Chimney Restoration:

See Section 4.1.9 "Chimney Restoration" of the McGinn Engineering & Preservation Ltd. Plan.

4. Front & Side Stair Reconstruction:

See Section 4.1.10 "Front & Side Reconstruction" of the McGinn Engineering & Preservation Ltd. Plan.

5. Exterior Door Preservation:

See Section 4.2.5 "Exterior Door Preservation" of the McGinn Engineering & Preservation Ltd. Plan.

6. Interior Feature Preservation

See Section 4.2.6 "Interior Feature Preservation" of the McGinn Engineering & Preservation Ltd. Plan.

7. Colour scheme:

See Section 4.1.11 "Exterior Painting" of the McGinn Engineering & Preservation Ltd. Plan.

If the exterior paint colour of the School is to be changed, the change shall be done in consultation with the City and reflect as best as can be determined the original appearance of the School or heritage colours appropriate for the period of the School.

Changes to the exterior colour scheme shall not be undertaken without being reviewed and approved by the City Architect. The City Architect may consult with the Heritage Advisory Commission about the colour scheme.

Prior to final paint application, samples of the colours should be placed on the *building* to be viewed in natural light. Final colour selection can then be verified. Matching to any other paint company products should be verified by the heritage consultant.

8. Interior:

See Section "4.2.6 "Interior Features" of the McGinn Engineering & Preservation Ltd. Plan.

9. Other:

The general intent is to promote restoration and retention of existing materials and elements wherever possible. If restoration is not feasible, replacements shall be constructed to match existing in terms of form, detailing and materials. Where original features have already been removed, altered or replaced by stylistically foreign elements, new replacements shall be consistent with the original design and done in consultation with an independent conservation architect or qualified heritage consultant acceptable to the City.

Minor changes to the provisions of Part III that do not affect the character defining elements or that improve the authenticity of the restorations, may be approved by the City Architect, in consultation with the Heritage Advisory Commission.

(Note: Terms used in Appendix "A" of this Agreement that are italicized are defined in Surrey Zoning Bylaw, 1993, No. 12000, as amended, and shall take their meaning from the Bylaw.)

Appendix "B"

HERITAGE CONSERVATION PLAN
Old Anniedale School, 17710 – 56A Avenue, Conservation Plan
McGinn Engineering & Preservation Ltd., May 2018

(The " McGinn Engineering & Preservation Ltd. Plan.")

(Attachment beginning on the next page)

CONSERVATION PLAN

OLD ANNIEDALE SCHOOL

9744 176 STREET, SURREY, BC

MAY 2018

TDM PROJECTS INC.
6420 Rosebery Ave.
West Vancouver, BC. V7W 2C6

McGinn Engineering & Preservation Ltd.
Barry McGinn Architect.

TABLE OF CONTENTS

Early photograph of the Old Anniedale School

1 HERITAGE VALUE ASSESSMENT

** Heritage Value Assessment of Old Anniedale School is adapted from the Canadian Register of Historic Places (in the Appendix)*

1.1 History/Description of Old Anniedale School

The Old Anniedale School is a wood frame building, rectangular in plan, with a hipped roof. The entrance has an enclosed porch, to the right of which hangs the school bell. The building is clad in drop siding with vertical siding cladding the foundations. It was moved in 1975 to its present location from its original site at the corner of 96th Avenue and 184th Street.

Old Anniedale School and surroundings, 1891

1.2 Summary of Heritage Value

The Old Anniedale School has historic value as one of the earliest schools in Surrey. It opened in 1891 with thirteen pupils and, until it closed in 1954, it played a vital role in the life of the community's children. During all the years of its operation it had the local distinction of having the highest percentage of its graduates obtain university degrees. The building was designed by the British Columbia Department of Lands and Works and it was constructed by Samuel Edge.

The Old Anniedale School is also significant for its association with the development of the Tynehead and Anniedale neighbourhoods, first settled in the 1860s by the Bothwell brothers, who pre-empted land along the Coast Meridian Road (168th Street) near the headwaters of the Serpentine River. Surveyed in 1859, the Coast Meridian was defined by the meridian of longitude closest to the Pacific coast at the 49th parallel. Settlement occurred as logging, farming and fishing developed in the area.

(Source: Heritage Planning Files, City of Surrey)

1.3 Character Defining Elements

The character-defining elements of the Old Anniedale School include its:

- simple rectangular form, scale and massing with mansard roof
- exterior elements such as wooden drop siding
- double-hung wooden-sash 4-over-four windows; banked in quadruple assembly on the east facade, and two in single assembly on the west façade

2 POLICY FRAMEWORK

2.1 Heritage Designation

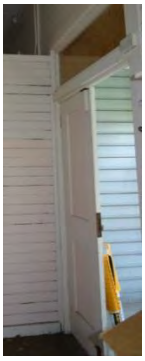
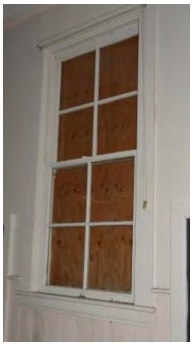
The Old Anniedale School is currently listed in the Surrey's Community Heritage Register as site number 21 with its significance classified as 'Historical.' It is protected by Heritage Designation By-law, 1986, No. 8579.

2.2 Current Zoning Designation

Old Anniedale School is currently located in the *RA-One Acre Residential* zone. In this zone, the current assembly use is an existing non-conforming use. The current building is in compliance of lot coverage, building height, and minimum front and side yard setbacks.

3 CONDITION ASSESSMENT

CONDITION ASSESSMENT TABLE			
REF.	**ELEMENT**	**DESCRIPTION/CONDITION**	**IMAGE REFERENCE**
3.1.1	Form, Scale & Massing	No significant alterations or additions have affected the building's form scale and massing and these aspects of the building are essentially original.	

CONDITION ASSESSMENT TABLE			
REF.	**ELEMENT**	**DESCRIPTION/CONDITION**	**IMAGE REFERENCE**
3.1.2	Cladding, Fascia & Soffits	The original wood clapboard cladding is still largely intact, likely with select replacement of isolated boards over time as general maintenance required. The existing wood clapboard, fascia, and soffits are in good condition, with only the paint showing signs of peeling.	 
3.1.3	Doors	The original wood frame and panel doors are existing and in fair condition. The original vintage hardware is existing and should be retained.	 
3.1.4	Windows	The original 4-over-4 windows have been boarded up from the outside, but are in good condition with the glass still intact. The interior window mouldings, trim and sills are still intact and in good condition.	  

CONDITION ASSESSMENT TABLE			
REF.	**ELEMENT**	**DESCRIPTION/CONDITION**	**IMAGE REFERENCE**
3.1.5	Roof Surface	The cedar shingle roof surface is not original, but is in good condition, only showing minor signs of warping and biological growth.	
3.1.6	Rainwater Evacuation System	Currently there is only one gutter, on the one side elevation with the side door. It is attached to a rainwater leader. The remaining eaves (including those on the front porch) do not have gutters or leaders.	
3.1.7	Chimney	The original brick chimney is in poor condition. Several bricks are severely spalled and the mortar joints have washed out. The sheet metal flashing at the roof is deformed and deteriorated. It appears that the chimney was reconstructed from the 6th brick course up. This was perhaps done during the move in 1975. It is the reconstructed portion that is in poor condition. There is considerable evidence of water ingress from failed and corroded sheet-steel chimney step flashing at the interior ceiling.	
3.1.8	Entry Stairs	The entry stairs at the main entry and the side entry are in poor condition. The treads have deteriorated. The railings do not comply to the current building code.	 

CONDITION ASSESSMENT TABLE			
REF.	**ELEMENT**	**DESCRIPTION/CONDITION**	**IMAGE REFERENCE**
3.1.9	School Bell	The historic bell, while of heritage character, is not an original feature to the building. It could be retained and displayed on the interior as part of an exhibit. The current location of the bell is originally the location of a painted sign that should be reinstated.	 
3.1.10	Interior Features	Many of the original interior features have survived and are in good condition. The original 5-panelled doors, door hardware, door trim, wood wainscoting, moldings, blackboards and original schoolhouse style light fixtures are all intact and in good condition. The original washbasin is existing in the sink room, and should be retained as a heritage feature, but not plumbed.	 
3.1.11	Electrical Distribution	The original electrical infrastructure was upgraded after the move in 1975. It appears to be in generally good condition, although some later wiring is not code-compliant.	

CONDITION ASSESSMENT TABLE			
REF.	**ELEMENT**	**DESCRIPTION/CONDITION**	**IMAGE REFERENCE**
3.1.12	Woodstove	The current wood stove is not original, but contributes to the heritage character of the space.	
Structure	*For a full analysis of the structure of the Old Anniedale School, refer to the report in the Appendix (TDM Projects Ltd.). The condition of the structure is summarized here:*		
3.1.13	Structure: Basement	The 6'-4" concrete foundation wall is in very good condition. The steel needle beams that were used in the move have remained in place. They are in good condition and are more than adequate for the load. Some of the wood joists have been doubled and new joists have been added over time. The 4" seats are adequate.	
3.1.14	Structure: Main Floor	The walls are framed with rough cut 2 x4's at 16" o.c. The ceiling joists are rough cut 2x6's, also 16" o.c.	

CONDITION ASSESSMENT TABLE			
REF.	**ELEMENT**	**DESCRIPTION/CONDITION**	**IMAGE REFERENCE**
3.1.15	Structure: Roof	The rafters are rough cut 2x6's at 3'-0" o.c. and is in good condition, however, they are likely 'birdmouthed' and possibly toe-nailed to the top plate, which does not comply with current building code.	

3.2 Proposed Conservation Strategies

The Parks Canada Standards & Guidelines for the Conservation of Historic Places in Canada (2010) has been adopted by the Government of B.C. and most Federal agencies, for the assessment of the treatment of historic places. Under the Standards and Guidelines, the conservation strategies proposed for the proposed façade restoration of Old Anniedale Schoolhouse may include aspects of preservation, restoration and rehabilitation, as defined below:

Preservation

The action or process of protecting, maintaining and/or stabilizing the existing materials, form and integrity of an historic place or of an individual component, while protecting its heritage value.

Restoration

The action or process of accurately revealing, recovering, or representing the state of a historic place, or of an individual component, as it appeared in a particular period in its history, while protecting its heritage value.

Rehabilitation

The action or process of making possible a continuing or compatible contemporary use of an historic place or an individual component, through repair, alterations, and/or additions, while protecting its heritage value.

In reality, all three of these conservation approaches will come into play in the proposed rehabilitation and upgrade at the Old Anniedale Schoolhouse.

4 PRIORITIZED UPGRADE PLAN

The Conservation Plan has been organized under the following categories, based on current condition and performance, owner priorities, code compliance and safety considerations, maintenance of envelope and heritage character integrity, improvements to occupant use and comfort and costs:

Priority 1: Currently Critical	*Should be addressed within a 1 year time frame*
Priority 2: Recommended	*Recommended to enhance building accessibility, safety, and heritage qualities.*

4.1 Priority 1: Currently Critical

4.1.1 Building Relocation

Numerous groups are interested in moving the building. A new Museum Heritage Park Location on the north side of the Surrey Museum has been selected as the new location for the building. Relocation of the Old Anniedale School will involve the detachment, temporary interior bracing, bracing of entry, transportation, and the securing of the building on a new foundation. The two existing steel beams can be used for the move, and can remain in place at the new location.

4.1.2 Building Relocation – BC Hydro Line Relocations

The transport of the building will require the temporary relocation of BC Hydro, Telus & cable lines along the path of travel.

4.1.3 Roof Structure Upgrades

a) The rafters must be connected to the wall plate by steel strap tie to stiffen the roof structure, and bring it into compliance with current code.

b) The two hip joints of the rafters should be upgraded with steel angle connectors to brace the roof from uplift forces of wind and seismic events.

4.1.4 New Foundation & Foundation Wall

A new reinforced concrete foundation and foundation wall will be required at the new location. The new foundation wall supporting the original floor structure and surviving needle beams from the last building move will be configured to allow the new main floor elevation to match the original main floor height above grade. This work will involve: excavation, forming of strip footings and the reinforced foundation wall, crawlspace slab, and installation of rigid insulation on the inside of the foundation wall. A basement is not being considered as the original building did not have a basement, and the building was originally situated closer to grade.

4.1.5 HAZMAT Remediation

A HAZMAT report was conducted by Epoch Environmental (found in the appendix). The building requires remediation of all gypsum and underlying lathe and plaster, mostly above the wainscot to the

ceiling in the classroom space. The building also requires the removal vermiculite in the attic and, likely, in the wall cavity. (refer to HAZMAT report for full analysis).

4.1.6 New GWB Finishes to Classroom Interior Above Wainscot

To replace the finishes removed in the HAZMAT remediation.

4.1.7 Service System Trenching for New Electrical Service

New trenching will be required to supply electrical service conduit to the building in the new location, and has been allowed for in the current Museum Addition contract.

4.1.8 New Electrical Service

A new electrical sub-panel serving the building and tied into the Museum site services under a different contract, will be provided.

4.1.9 Chimney Restoration

The chimney should be reconstructed, replacing the severely spalled bricks with new brick. Attention should be paid to the placement of the new brick so that it is not highly visible from the ground. Use of the salvaged brick in the most visible areas of the chimney is desirable. A new, reinforced, cast-stone chimney cap should be fabricated and installed to match the original in size and profile.

4.1.10 Front & Side Stair Reconstruction

New stairs should be reconstructed. The height may vary depending on the selected future site, but it is recommended the Schoolhouse floor level be closer to grade. In one historic photograph, the stair is only 3 steps high. The new stairs should have rounded nosing and a closed riser, as seen in historic photography, and painted in a dark colour. Handrails should be constructed to meet current code.

4.1.11 Exterior Painting

The existing exterior paint has reached the end of its service life and is peeling in many locations. To protect the wood, and increase its longevity, the exterior of the building should be prepped by scraping off of all loose paint, spot primed and repainted. Trim, door and window elements including: fascia, corner trim, window & door trim, window frame, door, and water table should be painted in an off-white. Clapboard above the water table should be painted in a light colour, to be selected by a heritage consultant, or selected from Benjamin Moore's "Historical Vancouver True Colors" palette.

4.1.12 Rainwater Evacuation System

Installation of a new gutter on all roof eaves, including front entry porch, new downpipes routing rainwater to the site storm drainage system will be provided under the separate Museum Addition contract.

4.1.13 Foundation Drainage System

Installation of a new foundation drainage system routing foundation drainage to the site storm drainage system will be provided under the separate Museum Addition contact.

4.2 Priority 2: Recommended

4.2.1 Accessible Entry

An accessible ramp will be constructed to the side entry to allow for barrier-free accessibility into the building, with new door opener with interior/exterior push button operator for the side door. The accessible ramp is part of the Museum Addition contract.

4.2.2 Upgrade Interior Lighting

New energy efficient LED lighting, should be installed in the original glass schoolhouse pendant fixtures.

4.2.3 New Fire Alarm System

The building will be tied into the overall Museum fire alarm system with separate indication of devices (pull stations, sprinkler zone valve).

4.2.4 Sprinkler System

Sprinkler systems have been accepted by Authorities Having Jurisdiction as providing a significant improvement in life safety, as well as property protection. The latter is a distinct advantage to combustible heritage buildings in terms of heritage resource protection. A new sprinkler system to NFPA 13 will be installed in the building as separate zone within the larger Museum sprinkler system, with the water supply and trenching part of the Museum Addition contract.

4.2.5 Exterior Door Preservation

The existing original exterior doors, complete with original hardware are in fair condition and require restoration. The original frame and panel doors and the distinctive vintage hardware will be preserved.

4.2.6 Interior Feature Preservation

The interior wood wainscot and ceiling paneling, blackboards, base/trim/casing throughout the interior spaces, and wood paneled doors will be preserved.

4.2.7 New Exit Lighting & Emergency Lighting

To improve safety, new exit lighting and emergency lighting will be installed.

4.2.8 New Heating and Cooling System

A new air-to-air heat pump and electric furnace situated in the concealed space over the rear washroom will supply ceiling grilles and a sidewall return grille to heat the space.

5 CONSERVATION STANDARDS

The following are the standards that define the principles of good conservation practice, and an assessment of how they relate to the proposed interventions for Old Anniedale Schoolhouse.

	CONSERVATION STANDARD	CONSERVATION STRATEGY
GENERAL STANDARDS FOR ALL PROJECTS		
1	*Conserve the heritage value of a historic place. Do not remove, replace or substantially alter its intact or repairable character-defining elements. Do not move a part of a historic place if its current location is a character-defining element.*	The historic school was moved to the current location at the edge of the highway, making it difficult to access and isolating it from any sense of its original context. It will be sensitively restored, rehabilitated and preserved in a manner that maintains and enhances its heritage character within a heritage building precinct north of the Surrey Museum.
2	*Conserve changes to a historic place, which over time, have become character-defining elements in their own right.*	The bell, although of good heritage character, is the not the original, and the hanging structure is of poor character, and should be removed.
3	*Conserve heritage value by adopting an approach calling for minimal intervention.*	The proposed interventions will restore the school to its early appearance or allow sensitive rehabilitation in keeping with the building's heritage value. The proposed new use of educational programming is a continuation of the building's current use and requires no interior alterations.
4	*Recognize each historic place as a physical record of its time, place & use. Do not create a false sense of historic development by adding elements from other historic places or other properties, or by combining features of the same property that never coexisted.*	Proposed interventions will comply with this standard, but also allow respectful rehabilitation to meet modern standards for its continued use by the Surrey community.
5	*Find a use for a historic place that requires minimal or not change to its character-defining elements.*	The building use will continue as an historic one-room school museum, and involve minimal change to the building's character-defining elements to provide a building code-compliant level of life safety.
6	*Protect, and if necessary, stabilize a historic place until any subsequent intervention is undertaken. Protect and preserve archaeological resources in place. Where there is potential for disturbance of archaeological resources, take mitigation measures to limit damage and loss of information.*	A new building foundation is to be constructed at the new site and allow the building to be situated lower to grade with a three-sided wood entry stair as per the original condition.
7	*Evaluate the existing condition of character-defining elements to determine the appropriate intervention needed. Use the gentlest means possible for any intervention. Respect heritage value when undertaking an intervention.*	This report identifies deficiencies and proposed interventions which retain or restore character-defining elements, and allow respectful rehabilitation to allow future use.
8	*Maintain character-defining on an on-going basis.*	A maintenance plan in compliance with

	Repair character-defining elements by reinforcing the materials using recognized conservation methods. Replace in kind any extensively deteriorated or missing parts of character-defining elements, where there are surviving prototypes.	this standard should be implemented.
9	*Make any intervention needed to preserve character-defining elements physically and visually compatible with the historic place and identifiable upon close inspection. Document any intervention for future reference.*	This conservation plan will provide guidance on future interventions to ensure maintenance of the building's heritage character-defining elements. Implementation measures will allow for the oversight of an independent heritage consultant.
ADDITIONAL STANDARDS RELATING TO REHABILITATION		
10	*Repair rather than replace character-defining elements. Where character-defining elements are too severely deteriorated to repair, and where sufficient physical evidence exists, replace them with new elements that match the forms, materials, and detailing of sound versions of the same elements. Where there is insufficient physical evidence, make the form, material and detailing of the new elements compatible with the character of the historic place.*	The proposed intervention approach will comply with this Standard.
11	*Conserve the heritage value and character defining elements when creating any new additions to a historic place and any related new construction. Make the new work physically and visually compatible with, subordinate to, and distinguishable from the historic place.*	No new building additions are being considered and the new accessible ramp will be constructed in concrete and be discernible as a contemporary addition. The guardrail will be detailed in wood to integrate sensitively with the wood character of the building.
12	*Create any new additions or related new construction so that the essential form and integrity of a historic place will not be impaired if the new work is removed in the future.*	No new additions are proposed at this time. Any future additions proposed should comply with this standard.
ADDITIONAL STANDARDS RELATING TO RESTORATION		
13	*Repair rather than replace character-defining elements from the restoration period. Where character defining elements are too severely deteriorated to repair and where sufficient physical evidence exists, replace them with new elements that match the forms, materials, and detailing of sound versions of the same elements.*	The proposed intervention approach will comply with this Standard.
14	*Replace missing features from the restoration period with new features whose forms, materials and detailing are based on sufficient physical, documentary and/or oral evidence.*	The heritage features remain largely intact. Any new bricks used in the chimney reconstruction should match in module, colour and texture and new brick should be used in discreet locations, salvaged brick to be used in more prominent locations.

6 PRELIMINARY OPINION OF PROBABLE REHABILIATION COSTS

5.1.	Priority 1: Currently Critical	
5.1.1.	Building Relocation (within 5 km) – detach, temporarily brace with temporary interior wood bracing and bracing of entry, transport, and secure building on new foundation.	$35,000.00
5.1.2.	Line Relocations (local 5 km route – estimate for BC Hydro, Telus, Cable)	$15,000.00
5.1.3.	Roof Structure Rehabilitation – install connector tie at rafters & end plate, install angle connectors at hip joints.	$5500.00
5.1.4.	New Foundations and foundation wall at new site (excavation, forming of perimeter strip footing and 5' foundation wall for a reinforced concrete foundation, crawlspace slab, rigid insulation to inside of foundation wall) ***{Work included in current Museum Addition Contract}***	$0.00
5.1.5	Hazardous Material Remediation (removal of classroom gypsum, and underlying lath/plaster back to the studs, mostly in areas above the wainscot to ceiling, removal of vermiculite in the attic and likely the wall cavity	$31,000.00
5.1.6	New finished GWB finishes to classroom interior above wainscot, incl. paint	$6200.00
5.1.7	Service system trenching for new electrical service ***{Work included in current Museum Addition Contract}***	$0.00
5.1.8	New electrical service/distribution***{Work partially included in current Museum Addition Contract}***	$3600.00
5.1.9	Chimney Restoration – reconstruct brick chimney w/ new cast stone cap stone.	$15,000.00
5.1.10	Front & Side Stair Reconstruction	$10,000.00
5.1.11	Exterior Painting – prep, spot prime and repaint all exterior wood elements	$9400.00
5.1.12	New gutter, downpipes and connection to site storm drainage system	$3900.00
5.1.13	New foundation drainage and connection to site storm drainage system ***{Work included in current Museum Addition Contract}***	$0.00
	TOTAL PRIORITY 1	**$134,600.00**

5.2	Priority 2: Recommended	
5.2.1.	Accessible Entry – ramp, door opener with int/ext push button operator for exterior accessible door ***{Work partially included in current Museum Addition Contract}***	$3500.00
5.2.2.	Upgrade Interior Lighting – install LED lighting into existing original fixtures	$800.00
5.2.3.	New Fire Alarm System – New fire alarm system with connection to independent monitoring service***{Work partially included in current Museum Addition Contract}***	$2500.00
5.2.4.	Sprinkler System – New sprinkler system to NFPA 13, concealed piping and heads,– $7.40/sq.ft. X 700 sq.ft., new water service for higher water flows - $7000.00***{Work partially included in current Museum Addition Contract}***	$5180.00
5.2.5.	Exterior Door Preservation - retain original frame and panel doors and distinctive vintage hardware	$4800.00
5.2.6.	Interior Feature Preservation - Retain and preserve interior wall and ceiling paneling, surviving trim, frame and panel doors	$4000.00
5.2.7.	New exit lighting and emergency lighting	$3200.00
5.2.8.	New heating and cooling system***{Work partially included in current Museum Addition Contract}***	$14,000.00
	TOTAL PRIORITY 2	**$37,980.00**

The above costs do not include soft costs (consulting fees, project management fees, permits, insurance, etc.) At this early stage of preliminary project costing, we recommend a 25% project contingency allowance.

7 REFERENCES

Canadian Register of Historic Places. *Old Anniedale School*. Retrieved March, 2016 from http://www.historicplaces.ca/en/rep-reg/place-lieu.aspx?id=11420

City of Surrey. *Surrey Community Heritage Register: Old Anniedale School.* Retrieved March, 2016 from http://www.surrey.ca/city-services/3407.aspx

City of Surrey. *Surrey's Heritage Documentation Data Worksheet: Old Anniedale School.* Author Unknown

Parks Canada (2010). *Standards and Guidelines for the Conservation of Historic Places in Canada*. Her Majesty the Queen in Right of Canada.

8 APPENDICES

8.1 Rehabilitation Drawings

8.2 Structural Assessment Report (TDM Projects Ltd.)

8.3 Canadian Register of Historic Places: Old Anniedale School (Parks Canada)

8.4 Original Material & Documentation (City of Surrey)

8.5 HAZMAT Assessment (Epoch Environmental)

HISTORICAL _ ENTRANCE

HISTORICAL _ 1899

2016 _ NORTH ELEVATION

2016 _ WEST ELEVATION

EXISTING BUILDING PHOTOGRAPHS

N

SITE PLAN

CIVIC ADDRESS
9744 176 SREET,
SURREY, BC, V4N 3V3

LEGAL DESCRIPTION
RAEG 020)7.538 acre, PID 008-848-564, DL 390A, Group 2, NWLD, Except Plan PART ON PLAN EPP4939

DRAWING LIST

EX-A1-00	EXISTING FLOOR PLAN & ROOF PLAN
EX-A2-00	EXISTING ELEVATIONS
EX-A3-00	EXISTING SECTION
PR-A1-00	PROPOSED FLOOR PLAN & ROOF PLAN
PR-A2-00	PROPOSED ELEVATIONS
PR-A3-00	PROPOSED SECTION

SPACE TO PLACE LOCATION PLAN

McGinn Engineering & Preservation Ltd.
Barry McGinn Architect.

#803-402 West Pender St.Vancouver, B.C.
Tel: 604-473-9866 Fax: 604-473-9877
Web: www.mcginn-engineering.com

REV.	DESCRIPTION	DATE

PROJECT:

OLD ANNIEDALE SCHOOLHOUSE

9744 176 STREET, SURREY, BC

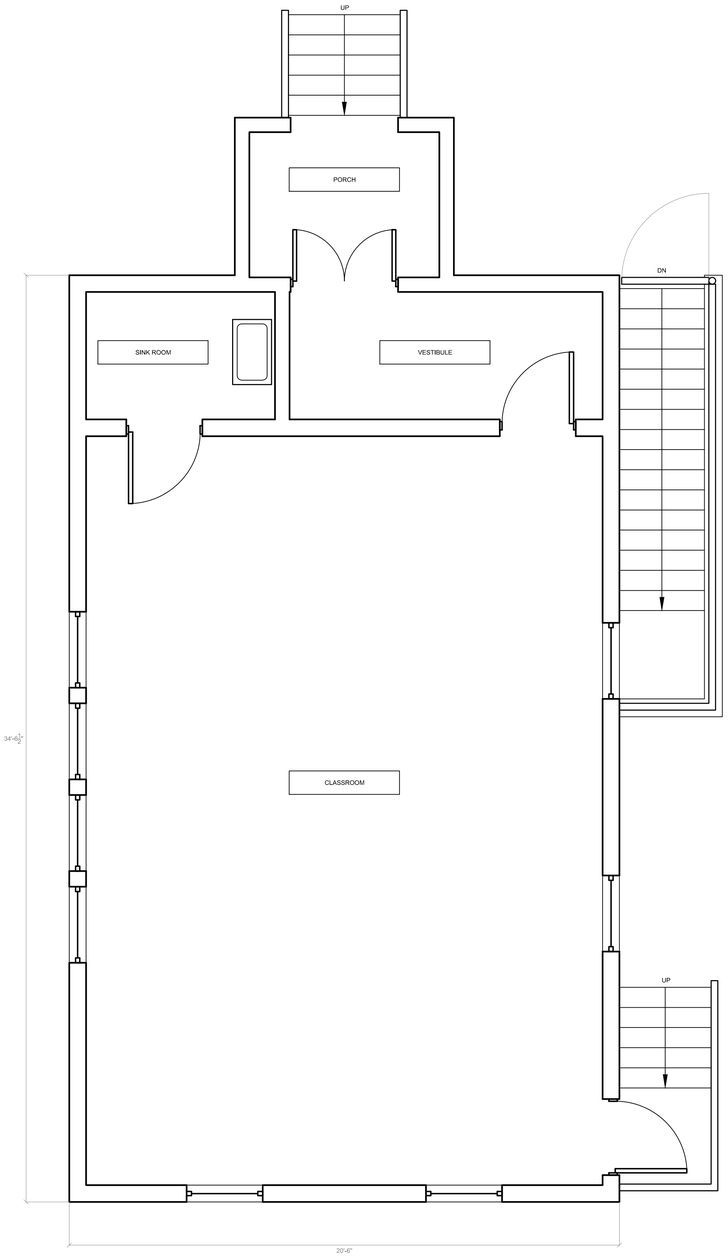
TITLE:

COVER SHEET

DRAWN BY:	SL
DATE:	06/06/2016
SCALE:	1/16" = 1'-0"

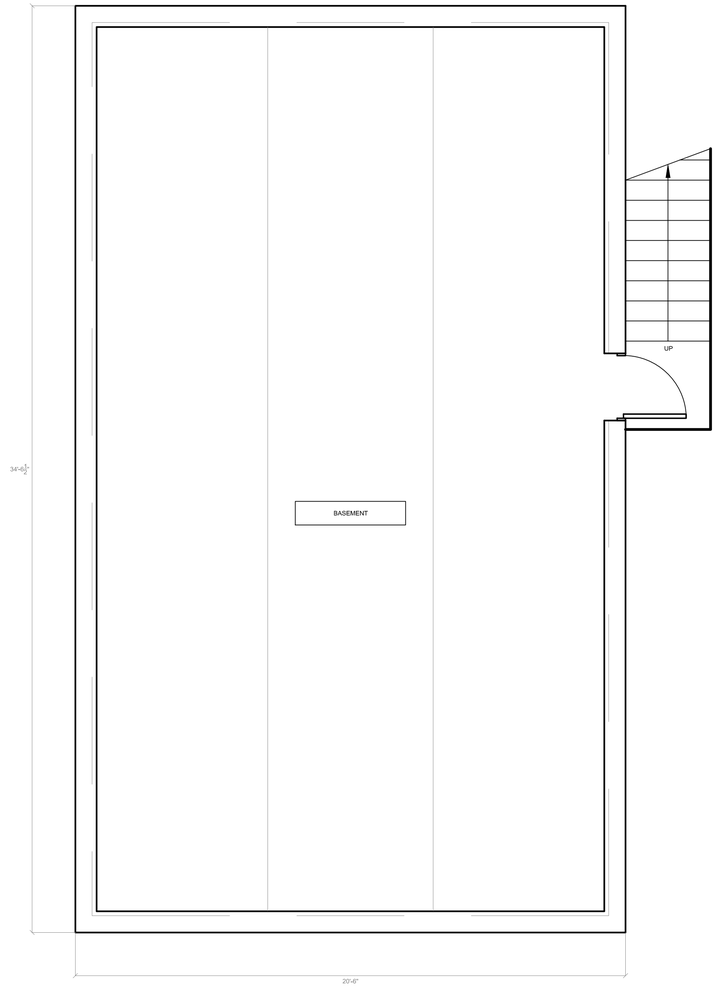
DWG#:

0-00



1 EXISTING MAIN FLOOR PLAN

3/8" = 1'-0"



2 EXISTING BASEMENT PLAN

3/8" = 1'-0"

N

McGinn Engineering & Preservation Ltd.
Barry McGinn Architect.

#803-402 West Pender St.Vancouver, B.C.
Tel: 604-473-9866 Fax: 604-473-9877
Web: www.mcginn-engineering.com

REV.	DESCRIPTION	DATE

PROJECT:

OLD ANNIEDALE SCHOOLHOUSE

9744 176 STREET, SURREY, BC

TITLE:

EXISTING BASEMENT & MAIN FLOOR PLAN

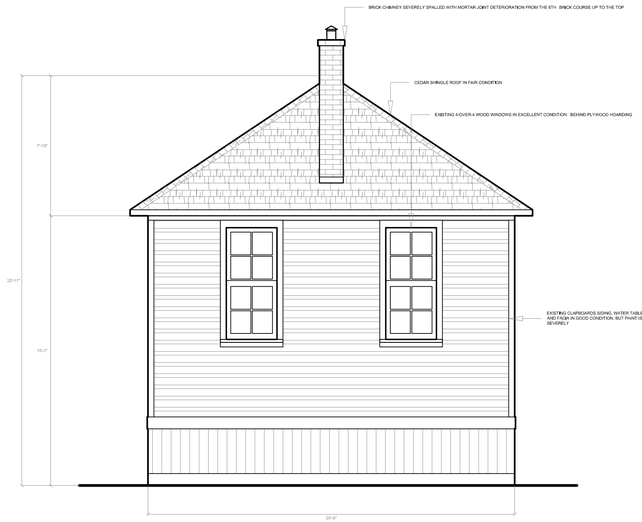
DRAWN BY:	SL
DATE:	06/06/2016
SCALE:	3/8" = 1'-0"

DWG#:

EX-A1-00

4 EXISTING SIDE ELEVATION

1/4" = 1'-0"

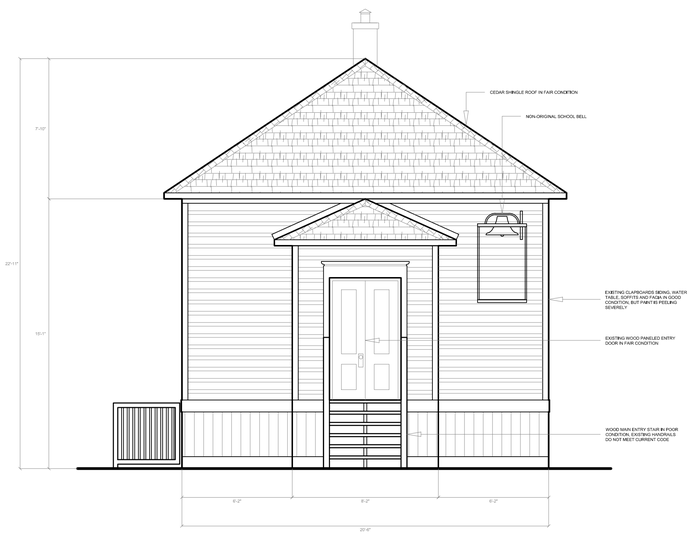


3 EXISTING REAR ELEVATION

1/4" = 1'-0"

2 EXISTING SIDE ELEVATION

1/4" = 1'-0"



1 EXISTING FRONT ELEVATION

1/4" = 1'-0"

McGinn Engineering & Preservation Ltd.
Barry McGinn Architect.

#803-402 West Pender St.Vancouver, B.C.
Tel: 604-473-9866 Fax: 604-473-9877
Web: www.mcginn-engineering.com

REV.	DESCRIPTION	DATE

PROJECT:

OLD ANNIEDALE SCHOOLHOUSE

9744 176 STREET, SURREY, BC

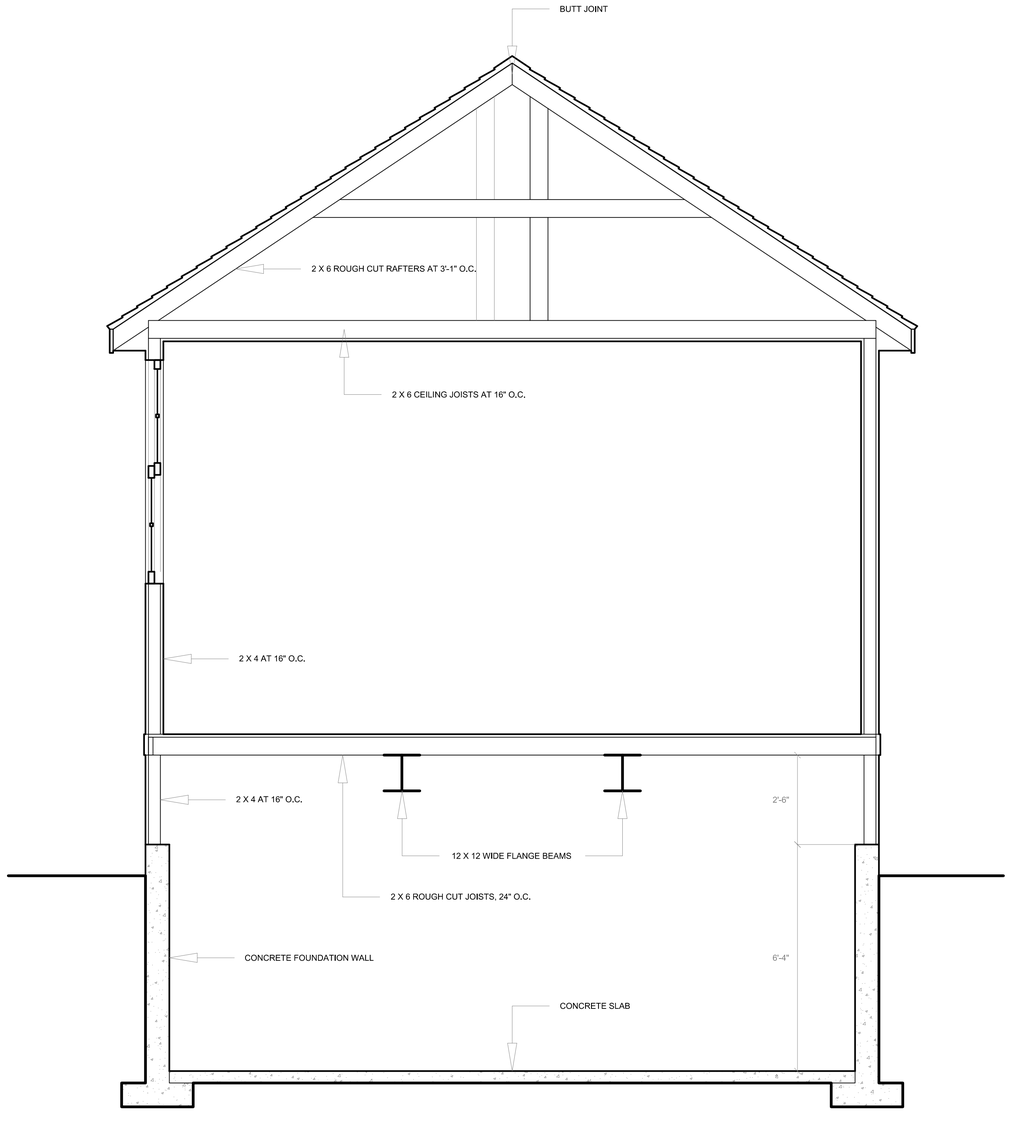
TITLE:

EXISTING ELEVATIONS

DRAWN BY:	**SL**
DATE:	**06/06/2016**
SCALE:	**1/4" = 1'-0"**

DWG#:

EX-A2-00



1 EXISTING BUILDING SECTION
1/2" = 1'-0"

McGinn Engineering & Preservation Ltd.
Barry McGinn Architect.

#803-402 West Pender St.Vancouver, B.C.
Tel: 604-473-9866 Fax: 604-473-9877
Web: www.mcginn-engineering.com

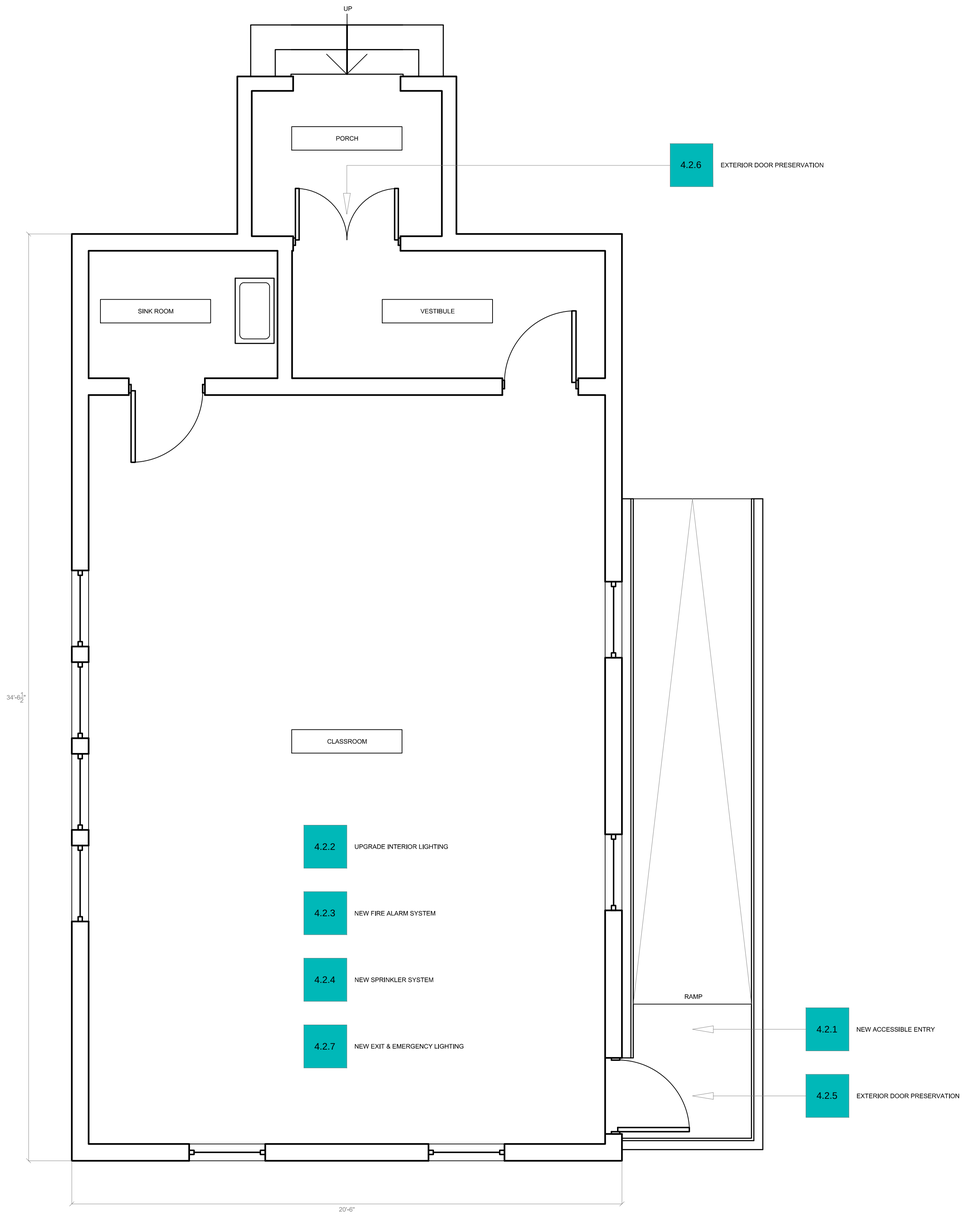
REV.	DESCRIPTION	DATE

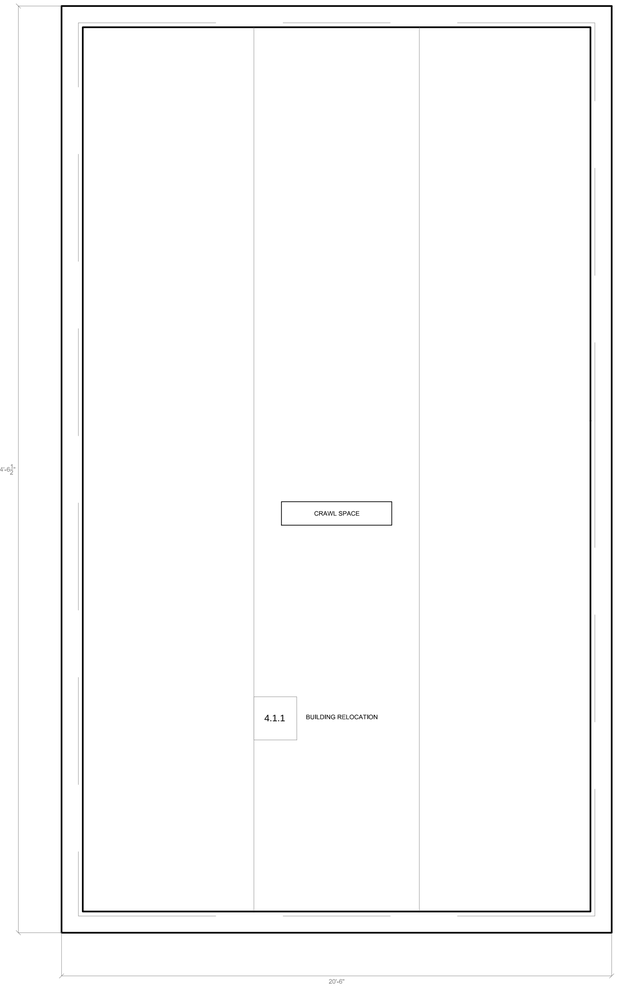
PROJECT:
OLD ANNIEDALE SCHOOLHOUSE
9744 176 STREET, SURREY, BC

TITLE:
EXISTING BUILDING SECTION

DRAWN BY:	**SL**
DATE:	**06/06/2016**
SCALE:	**1/2" = 1'-0"**

DWG#:
EX-A3-00





1 PROPOSED MAIN FLOOR PLAN
3/8" = 1'-0"

2 PROPOSED CRAWLSPACE
3/8" = 1'-0"

N

McGinn Engineering & Preservation Ltd.
Barry McGinn Architect.

#803-402 West Pender St.Vancouver, B.C.
Tel: 604-473-9866 Fax: 604-473-9877
Web: www.mcginn-engineering.com

REV.	DESCRIPTION	DATE

PROJECT:

OLD ANNIEDALE SCHOOLHOUSE

9744 176 STREET, SURREY, BC

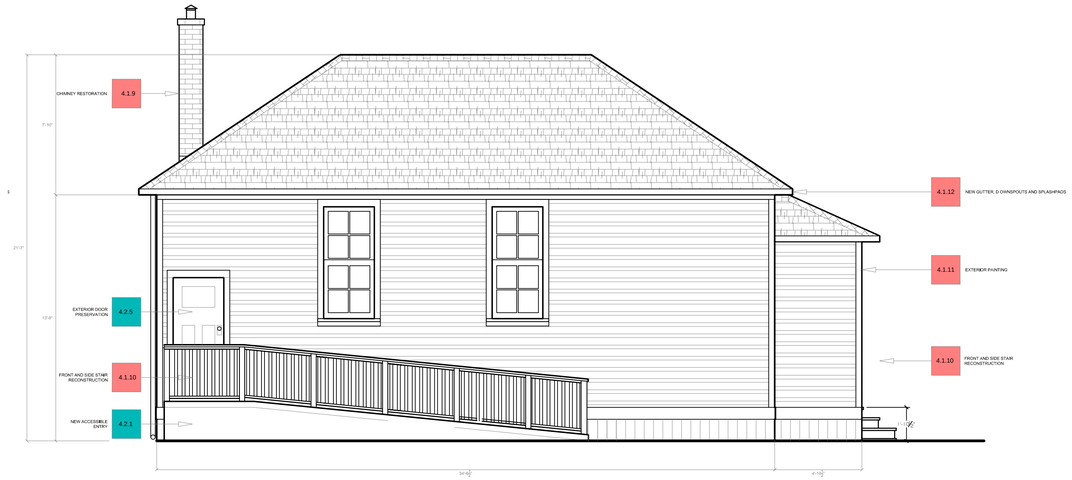
TITLE:

PROPOSED MAIN FLOOR & CRAWLSPACE PLAN

DRAWN BY:	**SL**
DATE:	**01/29/2018**
SCALE:	**3/8" = 1'-0"**

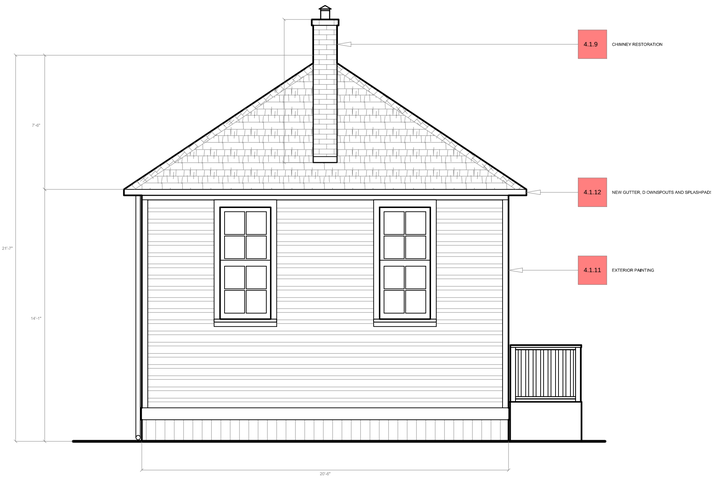
DWG#:

PR-A1-00



4 PROPOSED SIDE ELEVATION

1/4" = 1'-0"



3 PROPOSED REAR ELEVATION

1/4" = 1'-0"

2 PROPOSED SIDE ELEVATION

1/4" = 1'-0"

1 PROPOSED FRONT ELEVATION

1/4" = 1'-0"

McGinn Engineering & Preservation Ltd.
Barry McGinn Architect.

#803-402 West Pender St.Vancouver, B.C.
Tel: 604-473-9866 Fax: 604-473-9877
Web: www.mcginn-engineering.com

REV.	DESCRIPTION	DATE

PROJECT:

OLD ANNIEDALE SCHOOLHOUSE

9744 176 STREET, SURREY, BC

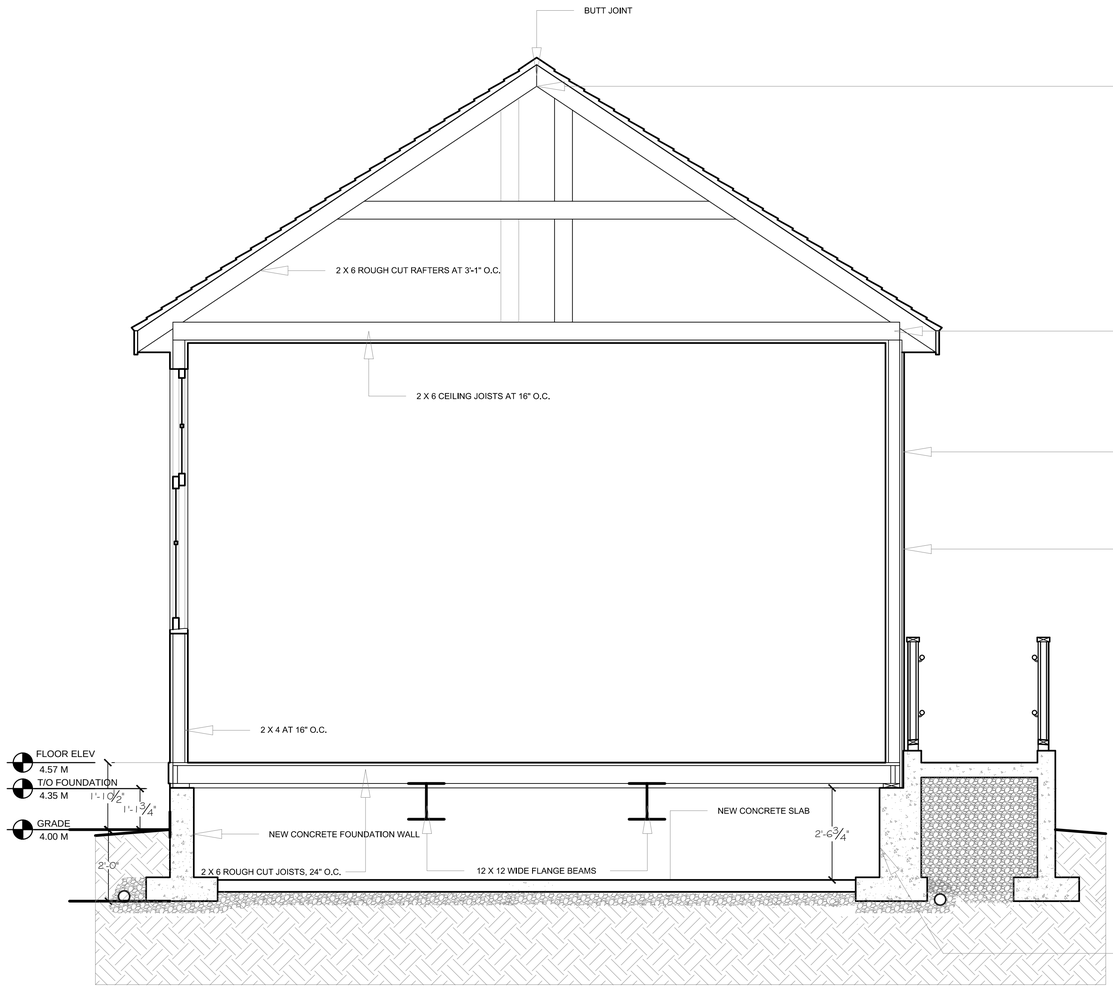
TITLE:

PROPOSED ELEVATIONS

DRAWN BY:	**SL**
DATE:	**01/29/2018**
SCALE:	**1/4" = 1'-0"**

DWG#:

PR-A2-00



4.1.3 ROOF STRUCTURE REHABILITATION: HIP RAFTER CONNECTOR INSTALLATION

4.1.3 ROOF STRUCTURE REHABILITATION: RAFTER-WALL TIE INSTALLATION

4.1.5 HAZMAT REMEDIATION

4.1.6 NEW GWB FINISHES AT AREAS AFFECTED BY REMEDIATION

4.1.4 NEW FOOTINGS AND FOUNDATION WALL

4.1.7 NEW TRENCH FOR ELECTRICAL SERVICE

4.1.8 NEW ELECTRICAL SERVICE

1 PROPOSED BUILDING SECTION

1/2" = 1'-0"

McGinn Engineering & Preservation Ltd.
Barry McGinn Architect.

#803-402 West Pender St.Vancouver, B.C.
Tel: 604-473-9866 Fax: 604-473-9877
Web: www.mcginn-engineering.com

REV.	DESCRIPTION	DATE

PROJECT:

OLD ANNIEDALE SCHOOLHOUSE

9744 176 STREET, SURREY, BC

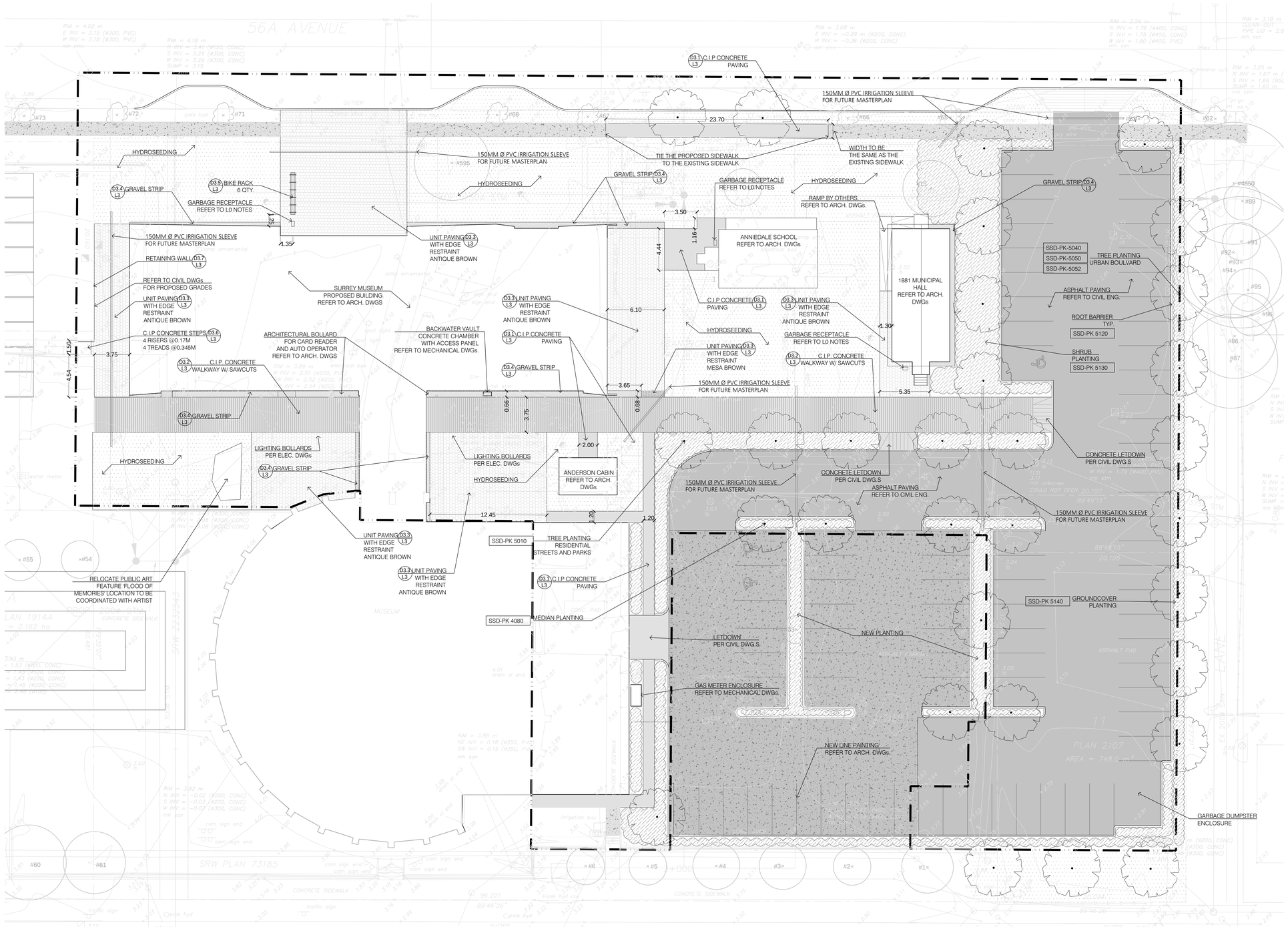
TITLE:

PROPOSED BUILDING SECTION

DRAWN BY:	**SL**
DATE:	**01/29/2018**
SCALE:	**1/2" = 1'-0"**

DWG#:

PR-A3-00



MATERIALS LEGEND

- ASPHALT PAVING (NEW)
- C.I.P. CONCRETE WALKWAY WITH PARALLEL SAW-CUTS SEE DETAIL 3.2
- BROADWAY 3" X 18" NOMINAL, ANTIQUE BROWN PRECAST CONCRETE UNIT PAVERS - SEE DETAIL D3.3
- C.I.P CONCRETE PAVING
- EXISTING CONCRETE PAVING
- HYDROSEEDED LAWN (150MM DEPTH GROWING MEDIUM)
- ASPHALT PAVING (EXISTING)
- GRAVEL STRIP
- SHRUB PLANTING (ALL SHRUB PLANTING TO BE MEDIUM HEIGHT (1M - 1.5M) 450MM DEPTH GROWING MEDIUM
- EXISTING TREE TO BE RETAINED (REFER TO TREE RETENTION PLAN)
- PROPOSED TREE
- LIMIT OF WORK
- SSD-PK 5010 CITY OF SURREY STANDARD DETAIL
- LX DX SPACE2PLACE STANDARD DETAIL

SURVEY BENCHMARK

REV.	DATE	DESCRIPTION	BY
			NR
			NR
			NR
			PW
	2017.09.22	ISSUED FOR CONSTRUCTION	PW

"I, _____, Professional Engineer, in good standing in and for the Province of British Columbia, hereby certify that the works as herein set out on the attached drawings have been designed to good engineering standards and in accordance with the latest edition of the City Of Surrey Design Criteria Manual, the MMCD, and the City of Surrey Standard Construction Documents (General Conditions, Supplementary Specifications and Supplementary Standard Drawings), adopted by the City of Surrey.

CONSULTANT

space2place

CITY OF SURREY

CLIENT

City of Surrey

TITLE Surrey Museum Expansion
Landscape Materials Plan

LEGAL DESCRIPTION:
LOT 1, SECTION 8, TOWNSHIP 8, NEW WESTMINSTER DISTRICT, PLAN BCP11474

CIVIC ADDRESS:
17710 56A AVENUE, SURREY, BC, Canada V3S 5H8

SEAL

SCALE: 1:150 (0 2 4 6M)
DESIGNED PW / JC
DRAWN PW / NR
REVIEWED JC
DATE (2017.09.22)
CONSULTANT PROJ. NO. 16-003
DWG. NO. L2.1
REV. -
SURREY PROJECT NUMBER
SURREY DRAWING NUMBER

DESTROY ALL PRINTS BEARING PREVIOUS NUMBER

TDM PROJECTS INC.
6420 Rosebery Ave.
West Vancouver, BC. V7W 2C6

OLD ANNIEDALE SCHOOL, Surrey, BC

STRUCTURAL ENGINEERING ASSESSMENT

Old Anniedale School is in good condition overall. It was moved to the present location some 40 years ago. Some structural components of the building were improved at the time.

The access stairs to the school building were adequately constructed; however the treads and stringers are well aged and should be replaced. The railings do not comply with the current building code.

The basement of the school has only exterior entry. The 6’-4” high concrete wall is in very good condition. It is topped by 2’-6” high pony wall (see below). The pony wall was constructed after the building was moved to the present location; the steel needle beams used for the move have remained in place and are supported by 1-1/2’ high solid wood stack of 1’x3-1/2” in area that transfers the load to the concrete wall. Though the two steel beams have been welded from shorter segments and have minor cut outs the size of WF 12”x64 (approximate beam size for 12” wide flange) for the span of 28’ is more than adequate as it can carry double the current load for assembly type use.

The original floor joists were rough cut 2x6 at 24” o.c. The joists extend to the exterior sheathing with more than adequate seats on the 4” deep top plate pf the pony wall (see next photo). It appears that during the last renovations some joist may have been damamged and were doubled and also some new joists were added.

This damaged wall at the entry foyer allowed us determine the wall structure. The walls are framed using 2x4 most likely rough cut lumber at 16” o.c. which is also the spacing of the ceiling jooists.

The hip roof structure has 2x6 rough cut rafters at approximately 3’-0” o.c. The rafters extend about a foot past the wall top plate to form the outer roof perimeter including fascia, soffit and gutters. The rafters must be “birdmouthed” and possibly toe nailed to the top plate as they do not match the ceiling joists which are 16” o.c. The common rafter sets have collar ties every 4th set and wind braces at one of the commonm rafter sets inbetween the colalr tie sets. It is generally very well constructed roof though somewhat evading current roof standards. The roof structure complies with current load standards though in order to comply with the 2012 Building Code the rafters would have to be connected to wall plate by ties. As the rafters butt-end at the hip line, installing a steel strap connector would stiffen the roof structure.

One possible connector type that could be installed to tie the roof to the walls.

The rafters support horizontal battens but at some roof areas the battens are doubled by perpendicular installed boards, the boards asw ell as the batten lathe are of varied width as the following photo documents.

One rare occurrence of rafter coinciding with ceiling joist.

The two hip joints of the common rafters and hip rafters are a masterpiece of carpentry with no evidence of nails, strictly relying on compression. However, as winds and seismic events apply to the structure horizontally and uplift forces, it would be desirable to use steel connectors for the hip ridge joint and for the jacks attached to hip rafters.

SST – LS 18 field adjustable angle connector.

Thomas Day-Madunicky, M. Eng., P. Eng. April 30, 2016

Old Anniedale School

9744 176th Street, Surrey, British Columbia, V4N, Canada

Formally Recognized: 1986/06/23

oblique view

OTHER NAME(S)

Anniedale School

Old Anniedale School

LINKS AND DOCUMENTS

City of Surrey Heritage Register

CONSTRUCTION DATE(S)

1891/01/01

LISTED ON THE CANADIAN REGISTER: 2004/11/10

STATEMENT OF SIGNIFICANCE

DESCRIPTION OF HISTORIC PLACE

The Old Anniedale School is a wood frame building, rectangular in plan, with a hipped roof. The entrance has an enclosed porch, to the right of which hangs the school bell. The building is clad in drop siding with vertical siding cladding the foundations. It was moved in 1975 to its present location from its original site at the corner of 96th Avenue and 184th Street.

HERITAGE VALUE

The Old Anniedale School has historic value as one of the earliest schools in Surrey. It opened in 1891 with thirteen pupils and, until it closed in 1954, it played a vital role in the life of the community's children. During all the years of its operation it had the local distinction of having the highest percentage of its graduates obtain university degrees. The building was designed by the British Columbia Department of Lands and Works and it was constructed by Samuel Edge.

The Old Anniedale School is also significant for its association with the development of the Tynehead and Anniedale neighbourhoods, first settled in the 1860s by the Bothwell brothers, who pre-empted land along the Coast Meridian Road (168th Street) near the headwaters of the Serpentine River. Surveyed in 1859, the Coast Meridian was defined by the meridian of longitude closest to the Pacific coast at the 49th parallel. Settlement occurred as logging, farming and fishing developed in the area.

In its current location on the grounds of the modern Anniedale Elementary School, it continues to play a valuable role in the education of the young, by providing for the presentation of 19th Century school lessons in an historical context. Its value to the community was recognized by the Anniedale Parent Teacher Association (PTA) which saved the school from probable demolition in 1975. It was renovated with grants from the federal and municipal governments, and local donations of labour and materials.

Source: Heritage Planning Files, City of Surrey

CHARACTER-DEFINING ELEMENTS

The character-defining elements of the Old Anniedale School include its:
- landmark location, visible from the Trans-Canada Highway
- form, scale and massing
- exterior elements such as wooden drop siding
- double-hung wooden-sash 4-over-four windows; banked in quadruple assembly on the east facade, and two in single assembly on the west facade

RECOGNITION

JURISDICTION

British Columbia

RECOGNITION AUTHORITY

Local Governments (BC)

RECOGNITION STATUTE

Local Government Act, s.967

RECOGNITION TYPE

Heritage Designation

RECOGNITION DATE

1986/06/23

HISTORICAL INFORMATION

SIGNIFICANT DATE(S)

n/a

THEME - CATEGORY AND TYPE

Building Social and Community Life
Education and Social Well-Being

FUNCTION - CATEGORY AND TYPE

CURRENT
Education
One-Room School

HISTORIC

ARCHITECT / DESIGNER

n/a

BUILDER

Samuel Edge

ADDITIONAL INFORMATION

LOCATION OF SUPPORTING DOCUMENTATION

Heritage Planning Files, City of Surrey

CROSS-REFERENCE TO COLLECTION

FED/PROV/TERR IDENTIFIER

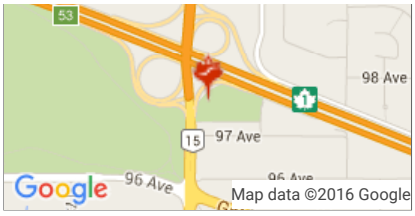
DgRq-23

STATUS

Published

RELATED PLACES

n/a



NEARBY PLACES

Latimer Residence

8534 192nd Street, Surrey, British Columbia

The Latimer Residence is a one-storey wood-frame cottage style home with a barn, located on a treed…

St. Oswald's Anglican Church

19016 96 Avenue, Surrey, British Columbia

Set in a grassy churchyard on a prominent corner location in the neighbourhood of Port Kells, St.…

Old Anniedale School | City of Surrey

Heritage Area: Anniedale

Site #: 21

Location: 9744 176 Street

Registered: June 3, 1997

Significance: Historical

Description: Single rectangular box layout with plain double hung ribbon windows. One of the first schools in Surrey, built c. 1899, and the oldest still standing, originally at 96 Ave and 184 St, used until 1954 and moved in 1975.

Protected by Heritage Designation By-law, 1986, No. 8579 (PDF).

HAZARDOUS MATERIAL INVENTORY INSPECTION AND RISK ASSESSMENT

REPORT ON THE PRESENCE AND CONDITION OF
HAZARDOUS BUILDING MATERIALS AT:

9744 – 176th Street

Surrey, British Columbia

Prepared for:

Barry McGinn Architect / McGinn Engineering & Preservation Ltd.

#803 – 402 West Pender Street
Vancouver, BC
V6B 1T6

Prepared by:

20 YEARS Experience

EPOCH ENVIRONMENTAL CONSULTING

EPOCH Environmental Consulting Limited

Unit 100 - 42 Fawcett Road
Coquitlam, BC
V3K 6X9

April 2016

April 6, 2016

ENVIRONMENTAL CONSULTING

Unit 100 - 42 Fawcett Road
Coquitlam, BC V3K 6X9
Office: (604) 553-3370
Fax: (604) 553-3371
info@epochenvironmental.ca

Barry McGinn Architect /
McGinn Engineering & Preservation Ltd.
#803 – 402 West Pender Street
Vancouver, BC
V6B 1T6

Attention: Mr. Barry McGinn

Re: HAZARDOUS MATERIAL INVENTORY INSPECTION AND RISK ASSESSMENT FOR SUSPECT HAZARDOUS BUILDING MATERIALS AT 9744 – 176TH STREET, SURREY, BRITISH COLUMBIA

Dear Mr. McGinn,

Epoch Environmental Consulting Ltd. (EPOCH) was retained to conduct a hazardous material inventory inspection and risk assessment for suspect lead and asbestos-containing building materials at a commercial building and located at 9744 – 176TH Street, Surrey, British Columbia.

1.0 EXECUTIVE SUMMARY

1.1 ASBESTOS-CONTAINING MATERIALS

The above referenced building is currently unoccupied. If any interior/exterior demolition is required during rehabilitation, then all hazardous material shall be removed prior to any work. An inspection was requested to identify possible asbestos-containing materials from both within and outside the building located at the above referenced address.

The building located at 9744 – 176th Street consists of two levels:

- Main level – classroom; cloak room; and closet;
- Basement level – storage room.

- The interior walls/ceilings of the main levels were observed to consist of plaster and gypsum boards
- Flooring throughout the building was observed to consist of hardwood
- Windows throughout the building were observed to be of older construction;
- The attic was observed to consist of loose fill vermiculite insulation;
- The roof was observed to consist of wood shingles.

Minimum sampling requirements were conducted based on WorkSafeBC guideline 20.112 Hazardous Materials – Asbestos. Please see Appendix [C] for Safe Work practices for Handling Asbestos – Bulk material sample collection guide.

The following materials identified **to contain asbestos** are listed below:

9744 – 176th Street:	- Drywall Joint or Taping Compound; - Vermiculite Insulation.

- Asbestos-containing drywall joint or taping compound (DJC) was identified in the main floor classroom Southwest and Northeast corner. Please note that the areas specified above are the exact locations of the asbestos-containing DJC samples collected. However, **all DJC throughout the building must be assumed as asbestos-containing** unless sufficient additional sampling can prove otherwise by isolating the specific areas which are not comprised of asbestos-containing DJC. Approximately 1000 square feet of gypsum boards with drywall joint compound material is estimated within the building.

- Asbestos-containing vermiculite insulation was observed within the upper attic space (approximately 1000 square feet), under loose fill insulation. This material was also be present and concealed in areas such as within wall cavities or ceiling spaces throughout the building.

- Asbestos-containing paper tape was not observed though this material may also be present at floor exhaust registers / diffusers; behind walls; within crawl space; and, above false ceiling throughout the building.

The following building materials were sampled and analyzed as no asbestos detected:

- Interior plaster walls from the main level;
- Insulating cement or parging from the basement chimney duct penetration;
- Chimney mortar.

<Sample Results in Appendix A>

Potential asbestos-containing materials may be present in concealed areas of the building under newer layer of gypsum; flooring; behind walls and ceilings. If suspicious materials are observed during rehabilitation, work shall stop, and the material further tested for asbestos. Such materials may include flooring (linoleum; vinyl floor tile, or residual flooring) potentially concealed under other flooring layers, wood sub-flooring, and/or carpeted areas within the building; paper tape on the joints or seams of heating ducts located on floor exhaust registers/diffusers; behind walls; crawlspace; and, above false ceiling throughout the building; insulations concealed within furnaces, or behind walls and ceilings (vermiculite) throughout the building, and/or drywall joint compound applied to concealed layers of drywall or additional plaster layers behind walls or ceilings.

Results and location of the sampled materials may be found in Section 4 and 5 of this report.

WorkSafeBC modified "Moderate" to "High Risk" asbestos work procedures will be required to safely remove and to clean-up the **joint taping compound** complete with the drywall as outlined in the "Safe Work Practices for Handling Asbestos' guidelines, 2012 Publication. Modified "Moderate Risk" work Procedure entails additional engineering controls such as the use of HEPA Filtration cabinets, and 3-stage decontamination facility for worker entry / exit into work area. In addition, upgrade in personal respirator protection to either a Full-face Passive respirator (5 f/ml), or a full face powered air purifying respirator PAPR (10f/ml). Air monitoring is recommended for modified "Moderate Risk" work activities.

WorkSafeBC "High Risk" asbestos work procedures will be required to safely remove and to clean-up the **vermiculite insulation** and associated debris as outlined in the "Safe Work Practices for Handling Asbestos' guidelines, 2012 Publication. Air monitoring is required for all "High Risk" work activities.

WorkSafeBC "Moderate Risk" asbestos work procedures will be required to safely remove and clean-up the **potential paper tape** on heating ducts joints as outlined in the "Safe Work Practices for Handling Asbestos' guidelines, 2012 Publication. The paper tape may alternatively be removed complete with the heating ducts, if any exists.

1.2 LEAD-CONTAINING PAINTS AND COATINGS

Surface paints and coatings were analyzed from the building interior and exterior. The representative paints and coatings analyzed from the exterior/interior of the building were identified to contain lead concentrations exceeding 0.06% by weight (or ~0.04 mg/cm^2) as established by WorkSafeBC. Contractor disturbing these materials shall consider potential lead exposure and shall consider lead exposure in their Exposure Control Plan. In addition, develop and implement safe work procedures.

Work procedures must be developed in accordance to WorkSafeBC and inclusive of Part 5.48-5.49 (controlling Exposure), and Part 6.59-6.69 (Lead). EPOCH recommends referencing WorkSafeBC publication, "Lead – Preventing Exposure at Work", 2012; and, the "Lead-Containing Paint and Coatings" guidelines, 2011. These documents will assist current practices for lead information, products, health hazards, worker protection requirement, safe work procedures, and techniques for lead abatement.

Painted/coated surfaces from the building were identified to range up to 8.34 mg/cm^2 lead. Due to the high level of lead identified in the surfaces paints/coatings all similar materials shall also be assumed to contain lead. The paints/coatings may pose a health risk when sanded, abraded and broken. An exposure control plan and related work procedures shall be developed or included for handling lead paints and materials. **Professional abatement by a qualified lead-abatement contractor for lead-based materials and thorough cleaning of any lead dust debris from rehabilitation is recommended.**

1.2.1 DISPOSAL OF LEAD-BASED PAINTS/COATINGS

The surface paints/coatings at the building were identified to contain lead concentrations up to 8.34 mg/cm^2; exceeding 1.0 mg/cm^2 for lead-based paints/coatings as established by the U.S. Housing and Urban Development. Therefore, these and all similar surface paints/coatings are classified as lead-based paints/coatings. Lead-based paints/coatings shall be classified as hazardous waste unless further analysis can prove otherwise. Due to the high level of lead identified in the surface paints/coatings, these and any similar surfaces shall be classified as hazardous waste and shall be disposed in accordance to the Ministry of Environment Waste Management Act - Hazardous Waste Regulations.

Based on the lead-based paints/coatings identified, additional waste characteristic testing by Toxicity Characteristic Leaching Procedure (TCLP) is recommended prior to disposal of lead-based paints/coatings identified at the building. The purpose of this test is to determine the TCLP concentration for disposal requirement with respect to "leachability" or "mobility" of paints/coatings. If the lead-based paints/coatings exceed a leaching lead concentration of 5.0 mg/L, the material and substrate will be classified as Hazardous Waste and therefore will require disposal in accordance to the

Ministry of Environment. If the lead-based paints/coatings do not exceed a leaching lead concentration of 5.0 mg/L, the materials may be disposed of as regular construction waste. This test should be performed prior to any disposal of lead-based painted/coated surfaces. Contractors disposing painted/coated materials to landfill must ensure that the paints/coatings do not exceed Leachate levels. The estimated laboratory cost per sample for TCLP analysis is $180.00. The methodology requires a minimum sample weight of 105 grams for TCLP analysis, and requires invasive or destructive sampling.

1.3 OTHER HAZARDOUS MATERIALS

Other suspect hazardous materials identified in the building at the time of the inspection were:

- Poly chlorinated biphenyl (PCB) in fluorescent light ballasts;
- lead vent pipes on the roof;
- rat droppings.

2.0 INTRODUCTION

A site inspection of the building was conducted by a certified US AHERA Asbestos Inspector on March 29, 2016 by Mr. Alex Lee, B.Sc. (AHERA Cert# G4419), of EPOCH. AHERA certifications were completed with The Asbestos Institute, Phoenix, Arizona. Suspect building materials were collected for asbestos identification. Other hazardous materials (i.e. Mercury thermostat switches, Paints, Chemical & Solvent, and PCB ballast) were also inspected for and noted, if observed.

The WorkSafeBC Occupational Health & Safety regulations; Part 20 Construction, Excavation, and Demolition; Section 20.112 Hazardous Material – states that before any work begins on the demolition or salvage of machinery, equipment, building or structures, the employer or owner must inspect the site to identify any asbestos, lead, or other heavy metals or toxic, flammable or explosive materials that may be handled, disturbed, or removed. In addition, the WorkSafeBC regulations require any identified hazardous materials shall be safely removed or contained prior to building rehabilitation.
<Attached in Appendix C>

Section 6.1 of the OHS Regulation defines asbestos-containing material (ACM) as follows:
means any manufactured article or other material which contains 0.5% or more asbestos by weight at the time of manufacture, or which contains 0.5% or more asbestos as determined in the National Institute for Occupational Safety and Health Manual of Analytical Methods, Method 9002, Issue 2 (microscopy, stereo and polarized light, with dispersion staining) or other method acceptable to the Board (EPA/600/R-93/116).

The Ministry of Environment – Hazardous Waste Regulations, and Transport Canada - Transportation of Dangerous Goods Regulations require that all hazardous materials be recycled, packaged, transported and/or disposed properly.

3.0 SCOPE OF WORK

The scope of work conducted:

- Inspect each floor level and the exterior of the commercial building for visible suspect asbestos-containing building materials;
- Collect and analyze suspected asbestos-containing building material samples;
- Collect and/or analyze suspected paints/coatings for lead;
- Provide risk assessment of identified asbestos material and remedial options;
- Report results of samples analysis;
- Provide general observations of other hazardous materials.

Minimum sampling requirements were conducted based on WorkSafeBC guideline 20.112 Hazardous Materials – Asbestos. Please see Appendix [C] for Safe Work practices for Handling Asbestos – Bulk material sample collection guide.

No detailed investigation for underground storage tank (UST) was conducted within the property.
If an underground storage tank (UST) is encountered during rehabilitation, work shall stop until further assessment is conducted and a proper permit retained for the removal of the tank.

4.0 LABORATORY RESULTS

4.1 ASBESTOS

Nine (9) suspected building material samples were collected for laboratory analysis, to determine the presence of asbestos. The samples were delivered to the laboratory on March 29, 2016, and were analyzed on April 1, 2016.

Three (3) of the nine (9) samples collected for laboratory analysis were analyzed to contain asbestos. <Sample Results in Appendix A>

The collected bulk asbestos-containing materials were delivered to and analyzed at EPOCH Analytical Incorporated in Coquitlam, BC. The bulk material samples were analyzed in accordance to EPA/600/R-93/116 Method for identifying asbestos. The type and concentration of asbestos in the bulk samples were determined by combination of: Polarized Light Microscopy (PLM); morphology; refractive index; extinction; signs of elongation; birefringence and dispersion staining colors. Table 1 summarizes the laboratory results of identified asbestos-containing materials.

Table 1: Laboratory Results

Sample Number	Location	Area	Material Sampled	Asbestos
9744 – 176th Street				
1	Main Level	SW corner wall	Drywall Joint Compound	**Yes**
2	Main Level	NE corner wall	Drywall Joint Compound	**Yes**
6	Attic	Attic Space	Vermiculite	**Yes**

<See attached laboratory analysis results in Appendix A.>

4.2 LEAD-CONTAINING PAINTS AND COATINGS

4.2.1 Lead Identification

During our inspection, it was observed that some enamels, primers, coatings, and oil-based paints applied to the interior or exterior surfaces of the building were suspected of containing lead and/or other heavy metals. All paints/coatings shall be treated as suspect lead unless tested otherwise.

Painted surfaces and coatings were analyzed from the areas listed in Table 2. The surfaces were analyzed with Niton XLp X-Ray Fluorescence (XRF) Lead analyzer, to determine the concentration of lead in paint and other materials. The limit of detection (LOD) for lead in paint using XRF is 0.3 $\mu g/cm^2$ (0.0003 mg/cm^2). The results only relates to the items tested. Other surface paints, coatings or materials may also contain lead.

Surface paints and coatings resulting below the limit of detection (<LOD) cannot be assumed to not contain lead unless further lab analysis methods can prove otherwise. Paint/coating chip samples may be collected and analyzed by a laboratory to determine greater accuracy. Any detectable amount of lead in paints or coatings may pose a health risk when the material is disturbed.

Table 2: Summary of Lead Paints and Coatings Results

Sample Number	Sample Location	Substrate	Colour	Lead Concentration (mg/cm^2)	Lead - Containing / Lead-Based
LP1	East upper siding	Wood	Blue	0.19	Containing
LP2	East middle trim	Wood	White	<LOD	
LP3	East lower siding	Wood	Blue	0.4	Containing
LP4	South exterior corner trim	Wood	White	0.48	Containing
LP5	South stair rail	Wood	Blue	<LOD	
LP6	South stair step	Wood	Blue	<LOD	
LP7	South entry door	Wood	White	0.41	Containing
LP8	South entry door trim	Wood	White	1.7	Lead-based
LP9	NW entry door	Wood	White	0.59	Containing
LP10	NW entry door trim	Wood	White	0.64	Containing
LP11	Front deck ceiling	Wood	White	8.34	Lead-based
LP12	Exterior soffit	Wood	White	5.43	Lead-based
LP13	Exterior fascia	Wood	White	0.28	Containing
LP14	South interior ceiling	Wood	White	0.17	Containing
LP15	Entrance foyer upper wall	Wood	White	0.21	Containing
LP16	Entrance foyer lower wall	Wood	Pink	3.28	Lead-based
LP17	West upper wall	Drywall	White	<LOD	
LP18	West window frame	Wood	White	0.12	Containing

LP19	Interior trims	Wood	White	0.02	
LP20	Interior base-board	Wood	White	<LOD	
CHPA	***Canadian Hazardous Product Act***			**0.009 % wt.**	
WorkSafeBC	***Lead Exposure***			**0.06 % wt. (~0.04 mg/cm^2)**	
HUD	***Housing and Urban Development***			**0.50 % wt. or 1.0 mg/cm^2**	

- **WorkSafeBC** suggests that removal of lead-containing paint/coating which equals or exceeds 600 mg/kg (0.06 % wt. or **~0.04 mg/cm^2**) requires safe work procedures worker protection (HEPA respirator and coveralls) and an exposure control plan be implemented.

- In Canada, the new ***Canadian Hazardous Product Act (CHPA)***, under the Surface Coating Material Regulations (SOR/2005-109) defines that surface paint in ***new*** materials containing lead greater than 0.009% wt. is to be considered lead-containing paints.

- Lead-based paint is defined as paint or other surface coatings that contain lead equal to or exceeding 0.5 percent (%) by weight as per the U.S. Department of ***Housing and Urban Development*** (HUD).

The surface paints/coatings analyzed were identified to range < LOD to 8.34 mg/cm^2. The interior and exterior surface paints/coatings were observed to have lead concentration which exceeds WorkSafeBC guidelines for lead-containing paints/coatings and their removal.

During rehabilitation of the building structure, the contractor shall not sand, crush, pulverize, abrade, or create dust from suspected paint surfaces that may contain lead. Any disturbance of lead-containing paints/coatings shall require a risk assessment conducted, and be controlled through the safe work procedures. See below for WorkSafeBC regulations regarding lead-containing paints/coatings.

Work procedures must be developed in accordance to WorkSafeBC and inclusive of Part 5.48-5.49 (controlling Exposure), and Part 6.59-6.69 (Lead). EPOCH recommends referencing WorkSafeBC publication, "Lead – Preventing Exposure at Work", 2012; and, the "Lead-Containing Paint and Coatings" guidelines, 2011. These documents will assist current practices for lead information, products, health hazards, worker protection requirement, safe work procedures, and techniques for lead abatement.

4.2.2 Lead-Based Paints/Coatings Leachability

Additional waste characteristic testing, Toxicity Characteristic Leaching Procedure (TCLP), is recommended for lead-based paints/coatings identified. The purpose of this test is to determine the TCLP concentration for disposal requirement with respect to "leachability" or "mobility" of paints/coatings and is required prior to any non-regulated disposal of lead-based paints/coatings. The methodology requires a minimum sample weight of 105 grams for TCLP analysis. If the lead-based paints/coatings exceed a leaching lead concentration of 5.0 mg/L, the paint/coatings and substrate will be classified as hazardous waste and therefore will require disposal in accordance to the Ministry of Environment. If the lead-based paints/coatings do not exceed a leaching lead concentration of 5.0 mg/L, the material may be disposed as regular construction waste. Contractors disposing painted/coated materials to landfill must ensure that the paints do not exceed Leachate levels.

5.0 OBSERVATIONS

5.1 ASBESTOS

The following identified asbestos materials and its locations are listed below:

a) Drywall Joint Compound

Drywall joint or taping compound ("DJC") is used generally to fill-in connecting seams and uneven surfaces created by nail or screw holes on drywall boards. The DJC give the drywall a smooth and even finish for painting. DJC is considered friable, however, when applied to drywall – it may be classified as non-friable due to the inability to crush the entire combined material (Drywall & DJC) to dust by simple hand pressure.

DJC samples were collected throughout the building. Asbestos-containing taping compound or mud applied to drywall joints on wall & ceiling were collected and identified in the following areas:

- **Main Level – SW and NW corner,** Drywall Joint Compound;
- Please note that the areas specified above are the exact locations of the asbestos-containing DJC samples collected. However, **all DJC throughout the building must be assumed as asbestos-containing** unless sufficient additional sampling can prove otherwise by isolating the specific areas which are not comprised of asbestos-containing DJC.

The DJC samples collected here were analyzed to contain two percent (2%) Chrysotile asbestos (EA2016-01-402-1/2). The DJC were observed to be in good to fair condition and do not pose an immediate health or exposure risk when left undisturbed by physical contact.

WorkSafeBC modified "Moderate" to "High Risk" asbestos work procedures will be required to safely remove the asbestos-containing joint compound complete with the gypsum board from the surfaces of the walls and ceilings. Modified "Moderate Risk" work procedures include additional engineering controls and upgraded personal protective equipment such as respiratory equipment, dust control – the use of a HEPA filtration system; and, a decontamination facility which include a clean room, wash station and a worker transfer room.

b) Potential Paper Tape

Asbestos paper tape was not observed on the joints or seams of heating ducts, but may be present on ducts potentially located in the crawlspace or in the ceiling space. This material may be also be present at other concealed areas such as floor exhaust registers/diffusers; behind walls; and, above false ceiling within the building.

Asbestos paper tape typically contains 40 – 45 percent (%) Chrysotile asbestos. Asbestos paper tape is considered friable and does not pose an immediate health or exposure risk when left undisturbed by physical contact or damaged.

Removal of the potential paper tape complete with the ducts will require WorkSafeBC "Moderate Risk" asbestos work procedures as outlined in the Safe Work Practices for Handling Asbestos guidelines, 2012 Publication.

c) Vermiculite Insulation

Asbestos-containing vermiculite insulation was observed in the following area:

- **Attic Space – Throughout (under blow-in insulation)**, Vermiculite Insulation.

The collected vermiculite sample was analyzed to contain 1 percent (%) Actinolite asbestos (EA2016-01-402-6). The material is considered friable, was observed in fair condition and does not pose an immediate health or exposure risk when left undisturbed.

Trace vermiculite debris was observed throughout the basement storage room and along the main level walls. It is assumed that vermiculite insulation is concealed behind the main level walls. This material can be potentially disturbed by anyone entering the building. Proper protective equipment should be donned prior to entering the building. EPOCH recommends cleanup and encapsulation of areas where trace vermiculite has been observed.

Removal and clean-up of the vermiculite insulation will require WorkSafeBC "High Risk" asbestos work procedures as outlined in the Safe Work Practices Handling for Asbestos guidelines, 2012 Publication. Mandatory air monitoring is required for all "High Risk" work activities.

d) Other Materials Observed

The following building materials were observed and not suspected to be asbestos-containing:

- Wood panel boards within the main level

5.2 PCB CONTAINING MATERIALS, MERCURY, LEAD, AND OTHER CHEMICALS

A visual inspection of the commercial building was conducted for the presence of the following materials:

- Fluorescent light fixtures suspected of containing PCB ballast,
- Paints or interior/exterior coating, construction material (vent pipes) suspected of containing lead
- Wall-mounted thermostats and other equipment suspected of containing mercury
- Stored chemicals suspected of containing toxic, corrosive, explosive, and flammable content
- Chlorofluorocarbon (CFC's) in refrigeration equipment

PCB Light Ballast

During our site inspection, fluorescent light fixtures were observed in the building and/or suspected of containing PCB's in the ballast. The fluorescent light bulbs may also contain mercury.

Mercury

During our site inspection, no wall-mounted thermostats were observed or suspected of containing liquid mercury in the switch mechanisms. Several fluorescent tubes were observed or suspected of containing mercury.

Lead-Containing Paints and Materials

During our inspection, it was observed that some enamels, primers, and oil-based paints applied to the interior and/or exterior surface of the building were suspected of containing lead and/or other heavy metals. All paints shall be treated as suspect lead paint unless tested otherwise.

If any lead-containing paint is to be removed or disturbed from its substrate, then a risk assessment, exposure control plan, and/or work procedures should be implemented.

Work procedures must be developed in accordance to WorkSafeBC and inclusive of Part 5.48-5.49 (controlling Exposure), and Part 6.59-6.69 (Lead). EPOCH recommends referencing WorkSafeBC publication, "Lead – Preventing Exposure at Work", 2012; and, the "Lead-Containing Paint and Coatings" guidelines, 2011. These documents will assist current practices for lead information, products, health hazards, worker protection requirement, safe work procedures, and techniques for lead abatement.

Lead vent pipes were not observed on the rooftop of the building.

Crystalline Silicates

Silicates can be found in concrete materials. If cutting, drilling, sanding, and /or crushing concrete material during rehabilitation, workers shall me made aware of the potential exposure to silica dust and their employers aware of the required WorkSafeBC regulations.

On-site Chemicals and Other Hazardous Materials

During our site inspection it was observed that the following materials were present and suspected at the time of our inspection:

- Rat/Rodent Droppings

6.0 RECOMMENDATIONS

All identified asbestos-containing materials shall be removed and disposed of in accordance to WorkSafeBC Occupational Health and Safety Regulations; Ministry of Environment – Waste Management Act – Hazardous Waste Regulations; and Transport Canada – Transportation of Dangerous Goods Regulations. All abatement work should be conducted by a qualified asbestos abatement contractor and all waste transported by a licensed waste disposal company, prior to any rehabilitation work on the building.

If any, all non-asbestos-containing drywall or gyproc shall be removed and disposed at an accepting recycling facility. No drywall shall be dumped at a landfill.

If any, all fluorescent lights, suspected of containing PCB ballasts, shall be dismantled and inspected by qualified personnel prior to or in conjunction with the rehabilitation of the building. Removal of the ballast shall be conducted in accordance to WorkSafeBC Occupational Health and Safety Regulations. All identified ballast containing PCB's shall be packaged, transported, and disposed of at an approved facility as per the Ministry of Environment Waste Management Act - Hazardous Waste Regulations and by a qualified and licensed company.

If any, all wall-mounted thermostats and fluorescent tubes containing mercury shall be carefully removed, and either recycled or disposed at an accepting facility as per Ministry of Environment Waste Management Act - Hazardous Waste Regulations.

If any, suspected lead and heavy metal-containing paints should be removed as possibly in-tact with its building material surface (wood, concrete, metals, etc.) by the contractor. Standard demolition work procedures, which includes the continuous use of water by a fire hose equipped with a fog nozzle, to control and assist in minimizing airborne dust. It is recommended that the heavy equipment operator, and workers in the immediate vicinity of the work, wear protective respirators equipped with HEPA filters.

Depending on the *Leachate concentration* of the lead-containing paints, established by the Ministry of Environment, lead containing paints remaining on the attached surface of the building material may be disposed as standard construction waste. If the lead paints exceed the Leachate concentration, it may be classified as hazardous waste, and therefore, will be required to be disposed in accordance to the Ministry of Environment Waste Management Act - Hazardous Waste Regulations.

If any, all ozone depleting substances in refrigeration equipment (fridges, freezers, air conditioning units), paints, and solvents observed within the building(s) and its surrounding property areas shall be collected and either disposed or recycled at an approved facility as per Ministry of Environment Waste Management Act – Hazardous Waste Regulations.

Other hazardous or infectious substances for consideration, such as: rodent dropping and/or carcasses, mold and fungi, and pigeon guano may cause infectious illnesses and/or respiratory diseases in humans. Unprotected trades or workers performing rehabilitation of the building should consider and take necessary precautions, as per the WorkSafeBC Occupational Health and Safety Regulations, to protect themselves from potential exposure of these contaminants. Worker should wear protective disposable clothing and HEPA equipped respirators when working near or in potential health hazards.

7.0 LIMITATIONS & EXCLUSIONS

EPOCH warrants that the finding and conclusions stated in this report are in accordance with generally accepted asbestos evaluation methods. Every effort was taken to minimize the disturbance to the building materials that may have contained asbestos.

Only visible suspect materials from accessible areas were sampled during the assessment. Recommendation and conclusions are based on the conditions observed at the site and should not be extrapolated to other circumstances. It is possible that other conditions may exist which could not be identified during our inspection. However, we believe that the conditions observed, provided an accurate reflection of the condition of the building.

This report was prepared for the exclusive use of the building owner, and their authorized representatives. It is intended to provide a comprehensive assessment of the presence of ACM within the building. No other parties are entitled to this report without the written permission of having first been requested from EPOCH. EPOCH accepts no responsibility for any claims by third party errors in this report.

This report and/or documents relating to this project have been prepared by EPOCH and are considered a product and shall remain a copyright property of EPOCH. The intended client or client's agent may not copy in whole or parts of, give, lend, sell, or otherwise make available the report or any portion of it to any party without the express permission of EPOCH.

The report is based on data and information available and collected at the time of the inspection. This assessment was conducted by an EPOCH representative and is based on the site conditions at the time of the inspection.

If new information becomes available or if any materials were not addressed in this report and is suspected of containing asbestos, EPOCH should be requested to further investigate the matter.

It was not possible to access, inspect, nor sample some equipment components observed at the building. Furnaces were not dismantled for inspection of suspect asbestos materials. Other areas behind walls, above false ceilings, and the building envelope that are inaccessible were also not inspected.

Prior or during rehabilitation, if any other materials are suspected for asbestos, stop work and notify the appropriate individuals to conduct further testing and risk assessment.

If you have any questions or require further assistance, please contact our office.

Sincerely,
EPOCH Environmental Consulting Limited

Alex Lee, B.Sc.
Field Technician
GL160406ALX

Reviewed by:

per: **Adrian Lee, B.Eng., AScT.**
Director / Project Engineer

EPOCH
ENVIRONMENTAL CONSULTING

Appendix A

Bulk Sample Results - Asbestos

April 01, 2016

Epoch Environmental Consulting - HMA

Alex Lee

100 - 42 Fawcett Road
Coquitlam, BC
Canada

Unit 100 - 42 Fawcett Road
Coquitlam, BC V3K 6X9
Tel - (604) 521-6806
Fax - (604) 521-6873
Email - info@ealabs.ca
Web - www.ealabs.ca

Attention: Alex Lee

BULK SAMPLE ASBESTOS IDENTIFICATION RESULTS - 9744 - 176TH STREET SURREY, BC - (E2016-94-01)

Please find enclosed the laboratory's results for the collected bulk material sample(s) submitted for asbestos identification. Examination of these sample(s) for asbestos content was conducted in accordance with EPA/600/R-93/116 or EPA/600/M4-82-020 methodologies using polarized light microscopy (PLM). Multiple layers of samples are analyzed and reported separately. All analysts are derived from calibrated visual estimate and measured in weight percent unless otherwise noted. Please note that the EPA test method has limitation for quantifying the percentage of sample(s) with low asbestos concentration. Transmission electron microscopy (TEM) would be encouraged for customers to obtain accurate results in these situations.

The results relate only to the items tested. If the sample(s) were not collected by EPOCH personnel, the accuracy of the results is limited by the methodology and acuity of the sample collector. The test report shall not be reproduced, except in full, without written approval of the laboratory. The sample(s) not destroyed in the testing will be kept for 30 days before being disposed. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the US federal government.

ACCREDITATIONS

EPOCH Analytical Inc is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos sample analysis under NVLAP Lab Code 200746-0.

If you have any questions or require further assistance, please do not hesitate to contact our office.

Sincerely,
EPOCH Analytical Inc.

NVLAP®
NVLAP Lab Code 200746-0

L Murakami

Leanne Murakami B.A.
Lab Director

EA2016-01-402-N

GL 2016/04/01/lf

Epoch Analytical Inc

Unit 100 - 42 Fawcett Road
Coquitlam, BC V3K 6X9
Tel - (604) 521-6806
Fax - (604) 521-6873
Email - info@ealabs.ca
Web - www.ealabs.ca

Asbestos Bulk Analysis by Polarized Light Microscopy - EPA/600/R-93/116 or EPA/600/M4-82-020

Company / Customer:	Epoch Environmental Consulting - HMA	**EA Number:**	EA2016-01-402-N
Submitted By:	Alex Lee	**Date Received:**	03/29/2016
Address:	100 - 42 Fawcett Road Coquitlam, BC Canada	**Time Received:**	12:01 pm
		Date Analyzed:	04/01/2016
		Date Reported:	04/01/2016
Date Sampled:	03/29/2016	**Submitted By:**	Alex Lee
Client Project Number:	E2016-94-01	**Collected By:**	Alex Lee
Project Location:	9744 - 176th Street Surrey, BC		

Sample ID	Sample Location	Material Description (Fiber Colour)	Estimated Asbestos %	Non-Asbestos Fibers %	Non Fibrous Materials %
1	SW Corner Wall	DJC - Drywall Joint Compound (White)	Chrysotile - 2%		98%
2	NE Corner Wall	DJC - Drywall Joint Compound (White)	Chrysotile - 2%		98%
3	NW Corner Wall	DJC - Drywall Joint Compound (White)	NONE Detected	Cellulose - 5%	95%
4	Chimney Parging	Insulating Cement (Beige)	NONE Detected	Cellulose - 1%	99%
5	Chimney Brick	Mortar (Beige)	NONE Detected		100%
6	Attic Space	Vermiculite Insulation (Grey)	Actinolite - 1%		99%
7	Attic Space	Plaster : Scratch Coat (Tan)	NONE Detected	Organic Fiber - 2%	98%
8	SE Corner Above Storage Room	Plaster : Scratch Coat (Beige)	NONE Detected	Cellulose - 10%	90%
		Plaster : Smooth Coat (White)	NONE Detected		100%
9	SE Corner Above Storage Room	Plaster : Scratch Coat (Beige)	NONE Detected	Cellulose - 10%	90%
		Plaster : Smooth Coat (White)	NONE Detected		100%

Sample ID	Sample Location	Material Description (Fiber Colour)	Estimated Asbestos %	Non-Asbestos Fibers %	Non Fibrous Materials %

Analyzed and Reviewed by:

Leanne Murakami (B.A.)
Lab Director

EPOCH
ENVIRONMENTAL CONSULTING

Appendix B

Lead Surface Paints and Materials Results

On-Site Lead Analysis Results

Address: 9744 – 176th Street, Surrey, BC
Client: City of Surrey
Date: March 29, 2016
Project #: E2016-94-01
Technician: Alex Lee, B.Sc.
Methodology: Niton 300XLP XRF (X-Ray Fluorescence)

Sample Number	Sample Location	Substrate	Colour	Lead Concentration (mg/cm^2)	Lead - Containing / Lead-Based
LP1	East upper siding	Wood	Blue	0.19	Containing
LP2	East middle trim	Wood	White	<LOD	
LP3	East lower siding	Wood	Blue	0.4	Containing
LP4	South exterior corner trim	Wood	White	0.48	Containing
LP5	South stair rail	Wood	Blue	<LOD	
LP6	South stair step	Wood	Blue	<LOD	
LP7	South entry door	Wood	White	0.41	Containing
LP8	South entry door trim	Wood	White	1.7	Lead-based
LP9	NW entry door	Wood	White	0.59	Containing
LP10	NW entry door trim	Wood	White	0.64	Containing
LP11	Front deck ceiling	Wood	White	8.34	Lead-based
LP12	Exterior soffit	Wood	White	5.43	Lead-based
LP13	Exterior fascia	Wood	White	0.28	Containing
LP14	South interior ceiling	Wood	White	0.17	Containing
LP15	Entrance foyer upper wall	Wood	White	0.21	Containing
LP16	Entrance foyer lower wall	Wood	Pink	3.28	Lead-based
LP17	West upper wall	Drywall	White	<LOD	
LP18	West window frame	Wood	White	0.12	Containing
LP19	Interior trims	Wood	White	0.02	
LP20	Interior base-board	Wood	White	<LOD	
CHPA	***Canadian Hazardous Product Act***			**0.009 % wt.**	
WorkSafeBC	***Lead Exposure***			**0.06 % wt. (~0.04 mg/cm^2)**	
HUD	***Housing and Urban Development***			**0.50 % wt. or 1.0 mg/cm^2**	

- < LOD –Below Limit of Detection

Workers and Human Exposure:

WorkSafeBC suggests that removal of lead-containing paint which equals or exceeds 600 mg/kg (0.06 % wt. or ~0.04 mg/cm2) requires safe work procedures worker protection (HEPA respirator and coveralls) and an exposure control plan be implemented.

In Canada, the new Canadian Hazardous Product Act (CHPA), under the Surface Coating Material Regulations (SOR/2005-109) defines that surface paint in new materials containing lead greater than 0.009% wt. is to be considered lead-containing paints.

Lead-based paint is defined as paint or other surface coatings that contain lead equal to or exceeding 0.5 percent (%) by weight or 1.0 mg/cm2 as per the U.S. Department of Housing and Urban Development (HUD).

Disposal Requirement:

When paints have been identified to be lead-based paints, the paint will require waste characterization for disposal through TCLP Leachability Tests. Additional waste characteristic testing (TCLP) testing is recommended for lead-based paints. The purpose of this test is to determine the TCLP concentration for disposal requirement with respect to "leachability" or "mobility" of paints, ceramic tiles, or any materials. If the lead-containing paints or ceramic tiles exceed a leaching lead concentration of 5.0 mg/L, the paint, ceramic tile, and substrate will be classified as Hazardous waste and therefore will require proper disposal in accordance to the Ministry of Environment.

X-Ray Fluorescence:

Surface paints and coatings resulting below the limit of detection (<LOD) cannot be assumed to not contain lead unless further lab analysis methods can prove otherwise. Paint chip samples may be collected and analyzed by a lead-paint laboratory to determine greater accuracy.

Any detectable amount of lead in paints or coatings may pose a health risk when the material is disturbed.

Appendix C

WorkSafeBC Regulations

WORK SAFE BC

WorkSafe Bulletin

Asbestos hazards in demolition, renovation, and salvage

Asbestos causes more worker deaths than any other workplace disease – what can you do?

Asbestos is extremely hazardous to people's health. Demolishing or renovating houses containing asbestos products can release asbestos fibres, which are extremely fine and can stay in the air for hours.

Unprotected workers exposed to asbestos-contaminated air can breathe in the fibres. This may cause serious health problems, such as lung disease and cancer.

What is asbestos?

Asbestos is a strong, fire-resistant mineral fibre. In the past, asbestos was used as insulation against heat or noise, and for fire protection. It was also added to materials such as cement and plaster to give them more structural strength.

Where was asbestos used in older homes?

Until the late 1980s, more than 3,000 products containing asbestos were used in house construction. The drawing on the back of this page shows potential sources of asbestos once commonly used in residential construction. When demolishing or renovating older houses, there is a high probability of encountering asbestos-containing materials, which may release asbestos fibres and put unprotected workers at risk.

What are my responsibilities as an employer or owner/builder?

You are responsible for ensuring the health and safety of all workers present at your workplace. You are also responsible for protecting the public from any asbestos-contaminated air.

When doing any demolition, renovation, or salvage work, you must follow WorkSafeBC OHS regulations, specifically Part 20: Demolition and Part 6: Asbestos.

What do I have to do before demolishing, renovating, or salvaging buildings or structures?

1. You must have a qualified person inspect the site to identify any asbestos that may be handled, disturbed, or removed. OHS Guideline G6.6-3 outlines the acceptable qualifications for persons conducting asbestos hazard assessments.
2. You must submit to WorkSafeBC a Notice of Project form for asbestos at least 24 hours before any asbestos removal or other work begins.
3. You must have trained and qualified asbestos-removal workers properly remove and dispose of all material containing asbestos.

You should receive written confirmation that the asbestos specified for removal on the Notice of Project form has been properly removed.

For more information, refer to OHS Guideline G20.112, which explains the hazards associated with the uncontrolled release of asbestos. It also provides information on the following topics:

- What constitutes a compliant asbestos inspection.
- Arranging for and confirming the safe removal of asbestos.
- What to do if you encounter more materials suspected to contain asbestos during demolition or salvage work.

What should I do if I find more asbestos-containing material once work has started?

Stop work immediately. Have trained and qualified asbestos-removal workers properly remove these materials before resuming work.

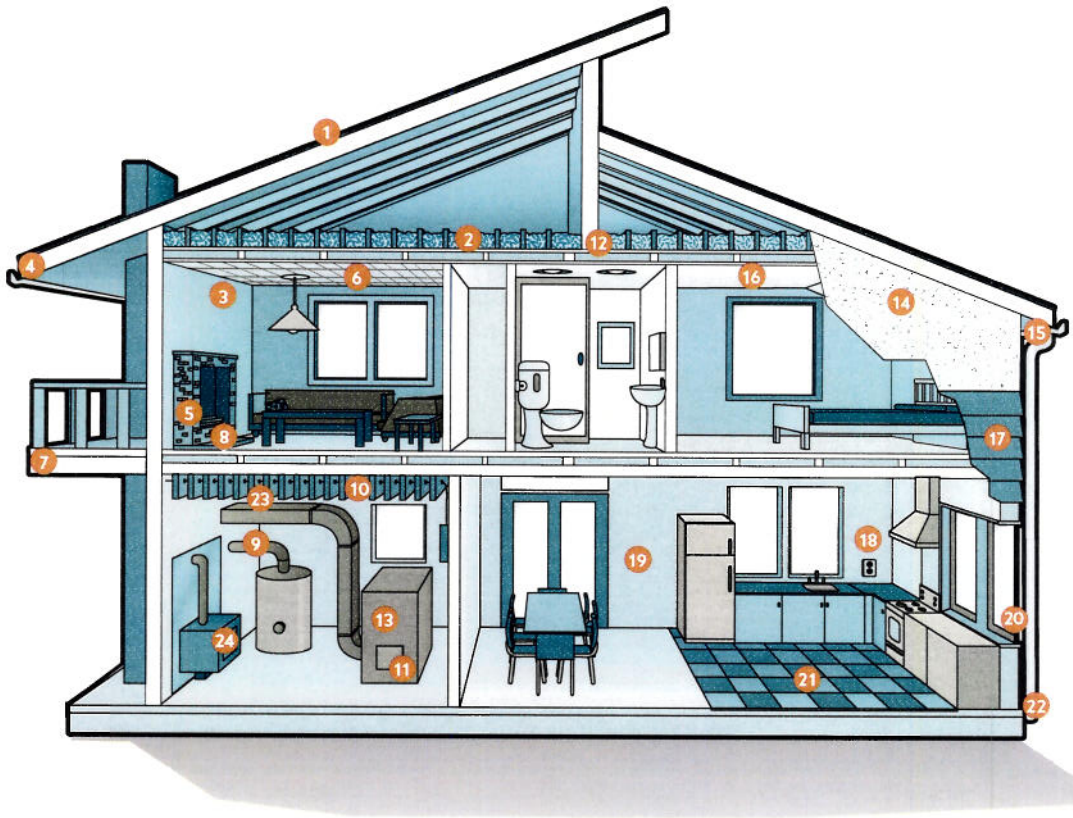
Where can I find additional information about asbestos and Notice of Project forms?

You can submit a Notice of Project form online at worksafebc.com. Asbestos survey and removal companies can be found in the Yellow Pages under Asbestos Abatement & Removal, Health & Safety Consultants, or Environmental Consultants.

For more information about asbestos and what your responsibilities are, check out hiddenkiller.ca or go to worksafebc.com for the following resources:

- *Safe Work Practices for Handling Asbestos* booklet
- Safety at Work Construction webpage
- OHS Guideline G6.8: Procedures for abatement of asbestos-containing material during house and building demolition/renovation

Potential sources of asbestos in the home.



1. Roof felt and shingles
2. Loose, blown-in insulation, such as vermiculite
3. Incandescent light fixture backing
4. Roof gutters can be made of asbestos cement
5. Artificial fireplace logs and ashes
6. Acoustic tiles
7. Deck under-sheeting
8. Asbestos pad under the fireplace hearth
9. Pipe insulation
10. Main panel and fuse box; each fuse wire has an individual asbestos flash guard
11. Door and gasket covers
12. Backing behind recessed lighting
13. Boiler and furnace insulation
14. Asbestos can be found in stucco
15. Soffit boards can be made of asbestos cement or asbestos insulating board
16. Textured or stipple-coated walls and ceilings
17. Asbestos cement (transite) board siding and undersheeting
18. Outlets and switches
19. Gypsum board filling compound, and patching and joint compound for walls and ceilings
20. Window putty
21. Flooring: vinyl tiles and linoleum sheet flooring; flooring adhesive
22. Downpipes can be made of asbestos cement
23. Insulation on electrical wires
24. Heat reflector for wood stove

Please note: This floor plan depicts a typical older home. Asbestos use has declined significantly; homes built before 1990 are more likely to contain asbestos products.

hygiene practice. The following table provides guidance on the minimum number of bulk samples that should be collected to identify asbestos-containing materials that might be present in a building.

Bulk material sample collection guide

Type of material	Area of homogeneous material*	Minimum number of bulk samples to be collected**
Surfacing materials, including textured coatings, drywall mud, plasters, and stucco	Less than 90 m^2 (approximately 1,000 ft^2)	At least 3 samples of each type of surfacing material
	Between 90 and 450 m^2 (approximately 5,000 ft^2)	At least 5 samples of each type of surfacing material
	Greater than 450 m^2	At least 7 samples of each type of surfacing material
Sprayed insulation and blown-in insulation, including sprayed fireproofing and vermiculite insulation (including vermiculite insulation within concrete masonry units, or CMUs)	Less than 90 m^2 (approximately 1,000 ft^2)	At least 3 samples
	Between 90 and 450 m^2 (approximately 5,000 ft^2)	At least 5 samples
	Greater than 450 m^2	At least 7 samples
Flooring, including vinyl sheet flooring (and backing) and floor tiles	Any size	At least 1 sample per flooring type in each room (and 1 from each layer of flooring)
Mechanical insulation, including duct taping, pipe insulation, elbows and boiler/tank insulation	Any size	At least 3 samples
Mastics and putties, including duct mastic (around penetrations) and window putty	Any size	At least 3 samples
Roofing materials, including felting and shingles	Less than 90 m^2 (approximately 1,000 ft^2)	At least 1 sample (each layer of material must be sampled)
	Between 90 and 450 m^2 (approximately 5,000 ft^2)	At least 2 samples (each layer of material must be sampled)
	Greater than 450 m^2	At least 3 samples (each layer of material must be sampled)
Asbestos cement (transite) board and pipe	Any size	At least 1 sample
Other materials	Any size	At least 1 sample per type of material

* Homogeneous material is considered uniform in texture and appearance, was installed at one time, and is likely to be of only one type of material or formulation.

** If the material is assumed to contain asbestos, samples do not have to be collected. The professional judgment of a qualified person can be used to reduce the number of bulk samples of homogeneous materials. If fewer samples than the minimum recommended number are collected, surveyors should document the rationale for their position in the survey report.