



Request for Quotations
For
Replacement of Interior Doors 2024 – Dixie Public School

Request for Quotations No.: **RFQMA24-5032**
Issued: **April 15, 2024**

Submission Deadline: **May 1, 2024, at 3:00 p.m. local time**

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PART 1 – INVITATION AND SUBMISSION INSTRUCTIONS

1.1 Invitation to Respondents

This Request for Quotations (the “RFQ”) is an invitation by Peel District School Board (“the Board”) to prospective respondents to submit non-binding quotations for **Replacement of Interior Doors 2024 – Dixie Public School** as further described in Section A of the RFQ Particulars (Appendix D) (the “Deliverables”).

1.2 RFQ Contact

For the purposes of this procurement process, the “RFQ Contact” will be:

John Marinescu

Email: john.marinescu@peelsb.com

Respondents and their representatives are not permitted to contact any employees, officers, agents, elected or appointed officials or other representatives of the Board, other than the RFQ Contact, concerning matters regarding this RFQ. Failure to adhere to this rule may result in the disqualification of the respondent and the rejection of the respondent’s quotation.

1.3 Type of Contract for Deliverables

The selected respondent will be requested to enter into a contract for the provision of the Deliverables on the terms and conditions set out in the Form of Agreement (Appendix A) (the “Agreement”). It is the Board’s intention to enter into a contract with one (1) legal entity, the lowest compliant bidder. The term of the contract is to be for a period of **Date of Award to August 31, 2025**.

1.4 Timetable

Issue Date of RFQ	April 15, 2024
Recommend Site Visit	April 22, 2024 Dixie Public School April 11, 2024, at 10:30 A.M. 1120 Flagship Dr, Mississauga, ON L4Y 2K1 All potential Respondents to meet at the front entrance and await direction from the Board representative(s).
Deadline for Questions	April 23, 2024, 4:00 PM local time All questions must be submitted through Opportunity Q&A in Bonfire. See section 3.2.1 for details.
Deadline for Issuing Addenda	April 24, 2024, 4:00 PM local time
Submission Deadline	May 1, 2024, 3:00 PM local time
Anticipated Execution of Agreement	May, 2024

The RFQ timetable is tentative only, and may be changed by the Board at any time.

1.5 Submission of Quotations

1.5.1 Quotations to be Submitted at Prescribed Location

The Board will use the BonfireHub portal to accept and evaluate quotes digitally for this Request for Quote.

Please contact Bonfire at support@gobonfire.com for questions related to the uploading of your submission.

Upload your Submission at: <https://peelsb.bonfirehub.ca/opportunities>

Your Submission must be uploaded prior to the Submission Deadline established for this Quote.

- (a) Uploading large documents may take significant time, depending on the size of the file(s) and Respondent's internet connection speed.
- (b) Onus and responsibility rests solely with the Respondent to deliver its Quote as indicated in the details on or before the Submission Deadline. The Board does not accept any responsibility for submissions delivered to any other location by the Respondent or its delivery agents. Respondents are advised to make submissions well before the deadline. Respondents making submissions near the deadline do so at their own risk. Submissions shall be deemed to be received once they enter into the Bonfire system and a confirming email is returned to the submitting party. Respondent will receive an email from Bonfire with a unique confirmation receipt once they finalize their submission.
- (c) Only the number of files indicated in the Bidding System can be uploaded for each Requested Document. If an uploaded document(s) needs to be changed, the Respondent will need to first delete the old file before re-uploading a new file.
- (d) Respondent should not embed any documents within uploaded files as they will not be accessible.
- (e) Each submission file uploaded is instantly sealed and will only be visible after the closing date and time.
- (f) Each file has a maximum size of 1000MB. Any requested documents exceeding this limit will not be accepted by Bonfire.
- (g) Minimum system requirements: Internet Explorer 8/9/10+, Google Chrome, or Mozilla Firefox. Javascript must be enabled and Adobe Flash Player version 9+ installed.
- (h) There is no cost to the Respondent for uploading submission on Bonfire

1.5.2 Quotations to be Submitted on Time

Quotations must be submitted on or before the Submission Deadline. Quotations submitted after the Submission Deadline will not be accepted. Respondents are advised to make submissions well before the deadline. Respondents making submissions near the deadline do so at their own

risk.

1.5.3 Quotations to be Submitted in Prescribed Format

All respondents shall have a Bidding System vendor account and be registered as a plan taker for this opportunity, which will enable the respondent to download the solicitation document, to receive addenda email notifications, download addenda and submit their quotations electronically through the Bidding System.

Respondents are cautioned that the timing of their submission is based on when the quotation is received by the Bidding System, not when a quotation is submitted by a respondent, as transmission can be delayed due to file transfer size, transmission speed or other technical factors.

For the above reasons, the Board recommends that respondents allow sufficient time to upload their submission and attachment(s) (if applicable) and to resolve any issues that may arise. The closing date and time shall be determined by the Board's Bidding System web clock.

Respondents should contact the RFQ Contact at least twenty-four hours prior to deadline if they encounter any problems. The Bidding System will send a confirmation email to the respondent advising when the quotation was submitted successfully. If respondents do not receive a confirmation email, they should contact the RFQ Contact immediately.

To ensure receipt of the latest information and updates via email regarding this opportunity, or if a respondent has obtained this solicitation document from a third party, the onus is on the respondent to create a Bidding System Vendor account and register as a plan taker for the opportunity at <https://peelsb.bonfirehub.ca>.

1.5.4 Amendment of Quotations

Respondents may amend their quotations prior to the Submission Deadline. However, the respondent is solely responsible for ensuring that the amended quotation is received by the Bidding System by the Submission Deadline.

1.5.5 Withdrawal of Quotations

Respondents may withdraw their quotations prior to the Submission Deadline. However, the respondent is solely responsible for ensuring that the withdrawn quotation is withdrawn through the Bidding System by the Submission Deadline.

[End of Part 1]

PART 2 – EVALUATION AND AWARD

2.1 Stages of Evaluation

The Board will conduct the evaluation of quotations in the following stages:

2.2 Stage I – Mandatory Submission Requirements

Stage I will consist of a review to determine which quotations comply with all of the mandatory submission requirements. Quotations that fail to satisfy the mandatory submission requirements will be rejected. The mandatory submission requirements are listed in Section C of the RFQ Particulars (Appendix D).

2.3 Stage II – Mandatory Technical Requirements

The Board will review the quotations to determine whether the mandatory technical requirements as set out in Section D of the RFQ Particulars (Appendix D) have been met. Questions or queries on the part of the Board as to whether a quotation has met the mandatory technical requirements will be subject to the verification and clarification process set out in Part 3.

2.4 Stage III – Pricing

Stage III will consist of an evaluation of the submitted pricing in each qualified quotation in accordance with the price evaluation method set out in Pricing (Appendix C). The evaluation of price will be undertaken after the evaluation of mandatory requirements has been completed.

2.5 Selection of Top-Ranked Respondent

After the completion of Stage III, compliant respondents will be ranked based on the price evaluation. Subject to the process rules contained in the Terms and Conditions of the RFQ Process (Part 3), the top-ranked respondent will be invited to enter into the Agreement in accordance with Part 3. In the event of a tie, the selected respondent will be determined by way of best and final offer. The selected respondent will be notified in writing and will be expected to satisfy any applicable conditions of this RFQ, including the pre-conditions of award listed in Section E of the RFQ Particulars (Appendix D), and enter into the Agreement within the timeframe specified in the selection notice. Failure to do so may result in the disqualification of the respondent and the selection of another respondent or the cancellation of the RFQ.

[End of Part 2]

PART 3 – TERMS AND CONDITIONS OF THE RFQ PROCESS

3.1 General Information and Instructions

3.1.1 Respondents to Follow Instructions

Respondents should structure their quotations in accordance with the instructions in this RFQ. Where information is requested in this RFQ, any response made in a quotation should reference the applicable section numbers of this RFQ.

3.1.2 Quotations in English

All quotations are to be in English only.

3.1.3 No Incorporation by Reference

The entire content of the respondent's quotation should be submitted in a fixed form, and the content of websites or other external documents referred to in the respondent's quotation but not attached will not be considered to form part of its quotation.

3.1.4 References and Past Performance

In the evaluation process, the Board may include information provided by the respondent's references and may also consider the respondent's past performance or conduct on previous contracts with the Board or other institutions.

3.1.5 Information in RFQ Only an Estimate

The Board and its advisers make no representation, warranty or guarantee as to the accuracy of the information contained in this RFQ or issued by way of addenda. Any quantities shown or data contained in this RFQ or provided by way of addenda are estimates only, and are for the sole purpose of indicating to respondents the general scale and scope of the Deliverables. It is the respondent's responsibility to obtain all the information necessary to prepare a quotation in response to this RFQ.

3.1.6 Respondents to Bear Their Own Costs

The respondent will bear all costs associated with or incurred in the preparation and presentation of its quotation, including, if applicable, costs incurred for interviews or demonstrations.

3.1.7 Quotation to be Retained by the Board

The Board will not return the quotation or any accompanying documentation submitted by a respondent.

3.1.8 No Guarantee of Volume of Work or Exclusivity of Contract

The Board makes no guarantee of the value or volume of work to be assigned to the successful respondent. The contract with the selected respondent will not be an exclusive contract for the provision of the described Deliverables. The Board may contract with others for goods and

services the same as or similar to Deliverables or may obtain such goods and services internally.

3.2 Communication after Issuance of RFQ

3.2.1 Respondents to Review RFQ

Respondents should promptly examine all of the documents comprising this RFQ and may direct questions to or seek additional information from the RFQ Contact on or before the Deadline for Questions. All questions and communications by respondents may only be sent through the Opportunity Q&A in the Bonfire Portal. The Board will not answer any questions submitted by any other means. The Board will provide answers to any questions through the Bonfire Portal only.

The Board is under no obligation to provide additional information, and the Board is not responsible for any information provided by or obtained from any source other than RFQ Contact. It is the responsibility of the respondent to seek clarification from the RFQ Contact on any matter it considers to be unclear. The Board is not responsible for any misunderstanding on the part of the respondent concerning this RFQ or its process.

3.2.2 All New Information to Respondents by Way of Addenda

This RFQ may be amended only by addendum in accordance with this section. If the Board, for any reason, determines that it is necessary to provide additional information relating to this RFQ, such information will be communicated to all respondents by addendum. Each addendum forms an integral part of this RFQ and may contain important information, including significant changes to this RFQ. Respondents are responsible for obtaining all addenda issued by the Board. In the Submission Form (Appendix B), respondents should confirm their receipt of all addenda by setting out the number of each addendum in the space provided.

3.2.3 Post-Deadline Addenda and Extension of Submission Deadline

If the Board determines that it is necessary to issue an addendum after the Deadline for Issuing Addenda, the Board may extend the Submission Deadline for a reasonable period of time.

3.2.4 Verify, Clarify and Supplement

When evaluating quotations, the Board may request further information from the respondent or third parties in order to verify, clarify or supplement the information provided in the respondent's quotation, including but not limited to clarification with respect to whether a quotation meets the mandatory technical requirements set out in Section D of the RFQ Particulars (Appendix D). The Board may revisit, re-evaluate and rescore the respondent's response or ranking on the basis of any such information.

3.3 Notification and Debriefing

3.3.1 Notification to Other Respondents

Once an agreement is executed by the Board and a respondent, the other respondents may be notified directly in writing and will be notified by public posting in the same manner that this RFQ was originally posted of the outcome of the procurement process.

3.3.2 Debriefing

Respondents may request a debriefing after receipt of a notification of the outcome of the procurement process. All requests must be in writing to RFQ Contact and must be made within sixty (60) days of such notification.

3.3.3 Procurement Protest Procedure

If a respondent wishes to challenge the RFQ process, it should provide written notice within 10 days of debriefing to the RFQ Contact in accordance with the Board's procurement protest procedures and any applicable trade agreement or other applicable bid protest procedures. The notice must provide a detailed explanation of the respondent's concerns with the procurement process or its outcome. The Board will respond in accordance with Section 14 of its Procurement Regulations.

3.4 Conflict of Interest and Prohibited Conduct

3.4.1 Conflict of Interest

For the purposes of this RFQ, the term "Conflict of Interest" includes, but is not limited to, any situation or circumstance where:

- (a) in relation to the RFQ process, the respondent has an unfair advantage or engages in conduct, directly or indirectly, that may give it an unfair advantage, including but not limited to (i) having, or having access to, confidential information of the Board in the preparation of its quotation that is not available to other respondents, (ii) communicating with any person with a view to influencing preferred treatment in the RFQ process (including but not limited to the lobbying of decision makers involved in the RFQ process), or (iii) engaging in conduct that compromises, or could be seen to compromise, the integrity of the open and competitive RFQ process or render that process non-competitive or unfair; or
- (b) in relation to the performance of its contractual obligations under a contract for the Deliverables, the respondent's other commitments, relationships or financial interests (i) could, or could be seen to, exercise an improper influence over the objective, unbiased and impartial exercise of its independent judgement, or (ii) could, or could be seen to, compromise, impair or be incompatible with the effective performance of its contractual obligations.

3.4.2 Disqualification for Conflict of Interest

The Board may disqualify a respondent for any conduct, situation or circumstances, determined by the Board, in its sole and absolute discretion, to constitute a Conflict of Interest as defined above.

3.4.3 Disqualification for Prohibited Conduct

The Board may disqualify a respondent, rescind notice of selection or terminate a contract subsequently entered into if the Board determines that the respondent has engaged in any conduct prohibited by this RFQ.

3.4.4 Prohibited Respondent Communications

Respondents must not engage in any communications that could constitute a Conflict of Interest and should take note of the Conflict of Interest declaration set out in the Submission Form (Appendix B).

3.4.5 Respondent Not to Communicate with Media

Respondents must not at any time directly or indirectly communicate with the media in relation to this RFQ or any agreement entered into pursuant to this RFQ without first obtaining the written permission of the RFQ Contact.

3.4.6 No Lobbying

Respondents must not, in relation to this RFQ or the evaluation and selection process, engage directly or indirectly in any form of political or other lobbying whatsoever to influence the selection of the successful respondent(s).

3.4.7 Illegal or Unethical Conduct

Respondents must not engage in any illegal business practices, including activities such as bid-rigging, price-fixing, bribery, fraud, coercion or collusion. Respondents must not engage in any unethical conduct, including lobbying, as described above, or other inappropriate communications; offering gifts to any employees, officers, agents, elected or appointed officials or other representatives of the Board; deceitfulness; submitting quotations containing misrepresentations or other misleading or inaccurate information; or any other conduct that compromises or may be seen to compromise the competitive process provided for in this RFQ.

3.4.8 Past Performance or Past Conduct

The Board may prohibit a Respondent (or any individual that owns, controls, operates, manages or directs the Respondent) from participating in a procurement process based on past performance or based on inappropriate conduct in a prior procurement process, including but not limited to the following:

- (a) illegal or unethical conduct as described above;
- (b) the refusal of the Respondent to honour its submitted pricing or other commitments; or
- (c) any conduct, situation or circumstance determined by the Board, in its sole and absolute discretion, to have constituted an undisclosed Conflict of Interest;
- (d) litigation history.

3.5 Confidential Information

3.5.1 Confidential Information of the Board

All information provided by or obtained from the Board in any form in connection with this RFQ either before or after the issuance of this RFQ

- (a) is the sole property of the Board and must be treated as confidential;

- (b) is not to be used for any purpose other than replying to this RFQ and the performance of any subsequent contract for the Deliverables;
- (c) must not be disclosed without prior written authorization from the Board; and
- (d) must be returned by the respondent to the Board immediately upon the request of the Board.

3.5.2 Confidential Information of Respondent

A respondent should identify any information in its quotation or any accompanying documentation supplied in confidence for which confidentiality is to be maintained by the Board. The confidentiality of such information will be maintained by the Board, except as otherwise required by law or by order of a court or tribunal. Respondents are advised that their quotations will, as necessary, be disclosed, on a confidential basis, to advisers retained by the Board to advise or assist with the RFQ process, including the evaluation of quotations. If a respondent has any questions about the collection and use of personal information pursuant to this RFQ, questions are to be submitted to the RFQ Contact.

3.6 Procurement Process Non-binding

3.6.1 No Contract A and No Claims

This procurement process is not intended to create and will not create a formal, legally binding bidding process and will instead be governed by the law applicable to direct commercial negotiations. For greater certainty and without limitation:

- (a) this RFQ will not give rise to any Contract A–based tendering law duties or any other legal obligations arising out of any process contract or collateral contract; and
- (b) neither the respondent nor the Board will have the right to make any claims (in contract, tort, or otherwise) against the other with respect to the award of a contract, failure to award a contract or failure to honour a quotation submitted in response to this RFQ.

3.6.2 No Contract until Execution of Written Agreement

This RFQ process is intended to solicit non-binding quotations for consideration by the Board and may result in an invitation by the Board to a respondent to enter into the Agreement. No legal relationship or obligation regarding the procurement of any good or service will be created between the respondent and the Board by this RFQ process until the execution of a written agreement for the acquisition of such goods and/or services.

3.6.3 Non-binding Price Estimates

While the pricing information provided in quotations will be non-binding prior to the execution of a written agreement, such information will be assessed during the evaluation of the quotations and the ranking of the respondents. Any inaccurate, misleading or incomplete information, including withdrawn or altered pricing, could adversely impact any such evaluation or ranking or the decision of the Board to enter into an agreement for the Deliverables.

3.6.4 Cancellation

The Board may cancel or amend the RFQ process without liability at any time.

3.7 Governing Law and Interpretation

These Terms and Conditions of the RFQ Process (Part 3):

- (i) are intended to be interpreted broadly and independently (with no particular provision intended to limit the scope of any other provision);
- (j) are non-exhaustive and must not be construed as intending to limit the pre-existing rights of the parties to engage in pre-contractual discussions in accordance with the common law governing direct commercial negotiations; and
- (k) are to be governed by and construed in accordance with the laws of the province of Ontario and the federal laws of Canada applicable therein.

[End of Part 3]

APPENDIX A – FORM OF AGREEMENT

Appendix A consists of:

- Appendix A1 - PDSB Standard Terms and Conditions
- Appendix A2 - General Conditions

The PDF files for both documents are available for download on the Bonfire™ Bidding System Website under **RFQMA24-5032** at <https://peelsb.bonfirehub.ca>.

APPENDIX B – SUBMISSION FORM

1. Respondent Information

Please fill out the following form, naming one person to be the respondent's contact for the RFQ process and for any clarifications or communication that might be necessary.	
Full Legal Name of Respondent:	
Any Other Relevant Name under which Respondent Carries on Business:	
Street Address:	
City, Province/State:	
Postal Code:	
Phone Number:	
Fax Number:	
Company Website (if any):	
Respondent Contact Name and Title:	
Respondent Contact Phone:	
Respondent Contact Fax:	
Respondent Contact Email:	

2. Acknowledgment of Non-binding Procurement Process

The respondent acknowledges that the RFQ process will be governed by the terms and conditions of the RFQ, and that, among other things, such terms and conditions confirm that this procurement process does not constitute a formal, legally binding bidding process (and for greater certainty, does not give rise to a Contract A bidding process contract), and that no legal relationship or obligation regarding the procurement of any good or service will be created between the Board and the respondent unless and until the Board and the respondent execute a written agreement for the Deliverables.

3. Ability to Provide Deliverables

The respondent has carefully examined the RFQ documents and has a clear and comprehensive knowledge of the Deliverables required. The respondent represents and warrants its ability to provide the Deliverables in accordance with the requirements of the RFQ for the rates set out in its quotation.

4. Non-binding Pricing

The respondent has submitted its pricing in accordance with the instructions in the RFQ and in Pricing (Appendix C) in particular. The respondent confirms that the pricing information provided is accurate. The respondent acknowledges that any inaccurate, misleading or incomplete

information, including withdrawn or altered pricing, could adversely impact the acceptance of its quotation or its eligibility for future work.

5. Addenda

The bidder agrees that it is the bidder’s responsibility to obtain all addenda issued by the Board in the Board Bidding System Bonfire portal. The bidder hereby confirms it has received and accepted all addenda issued by the Board for the RFQ and its pricing assumptions and rate calculations has taken into consideration all the addenda for the RFQ.

6. No Prohibited Conduct

The respondent declares that it has not engaged in any conduct prohibited by this RFQ.

7. Conflict of Interest

Respondents must declare all potential Conflicts of Interest, as defined in section 3.4.1 of the RFQ. This includes disclosing the names and all pertinent details of all individuals (employees, advisers, or individuals acting in any other capacity) who (a) participated in the preparation of the quotation; **AND** (b) were employees of the Board within twelve (12) months prior to the Submission Deadline.

If the box below is left blank, the respondent will be deemed to declare that (a) there was no Conflict of Interest in preparing its quotation; and (b) there is no foreseeable Conflict of Interest in performing the contractual obligations contemplated in the RFQ.

Otherwise, if the statement below applies, check the box.

- The respondent declares that there is an actual or potential Conflict of Interest relating to the preparation of its quotation, and/or the respondent foresees an actual or potential Conflict of Interest in performing the contractual obligations contemplated in the RFQ.

If the respondent declares an actual or potential Conflict of Interest by marking the box above, the respondent must set out below details of the actual or potential Conflict of Interest:

8. Disclosure of Information

The respondent hereby agrees that any information provided in this quotation, even if it is identified as being supplied in confidence, may be disclosed where required by law or by order of a court or tribunal. The respondent hereby consents to the disclosure, on a confidential basis, of this quotation by the Board to the advisers retained by the Board to advise or assist with the RFQ process, including with respect to the evaluation this quotation.

Signature of Respondent Representative

Name of Respondent Representative

Title of Respondent Representative

Date

I have the authority to bind the respondent.

APPENDIX C – PRICING

1. Instructions on How to Provide Pricing

- Respondents should provide the information requested under section 3 below (“Required Pricing Information”) by reproducing and completing the table below in their quotations, or, if there is no table below, by completing the attached form and including it in their quotations.
- Rates must be provided in Canadian funds, inclusive of all applicable duties and taxes except for HST, which should be itemized separately.
- Rates quoted by the respondent must be all-inclusive and must include all labour and material costs, all travel and carriage costs, all insurance costs, all costs of delivery, all costs of installation and set-up, including any pre-delivery inspection charges, and all other overhead, including any fees or other charges required by law.
- Price ranges will not be accepted. All rates must be rounded to two (2) decimal places. Partial bids are not permitted. If an item is no charge or \$0.00 respondent shall indicate “0”.
- Additional work formally approved by the Board will be based on hourly rates. Hourly rates to apply to work completed during regular business hours, after hours, weekends and/or statutory holidays. No other charges to apply. HST is extra.
- THE TOTAL MARK-UP to the Board FOR ANY APPROVED MATERIALS is not to exceed 5% of the net cost of materials. The Board reserves the right to audit the cost by requesting copies of invoices for the materials purchased by the selected respondent(s). In addition, the Board reserves the right to source, purchase, and supply materials to the selected respondent(s) for any work awarded under this bid.

THE TOTAL MARK-UP to the Board FOR ANY SERVICES is not to exceed 15% of the net cost of labour (10% for overhead and 5% for profit) regardless of whether the labour is provided by the selected respondent or its subcontractors. The Board reserves the right to audit the cost by requesting copies of invoices for labour provided either by the respondent or its subcontractors.

Prices are to remain firm for the duration of the contract upon the execution of a written contract as a result of the RFQ.

2. Evaluation of Pricing

- (a) The grand total for Appendix 1 – Rate Bid Form will be used for evaluation.
- (b) Appendix 1 – Supplementary Bid will not to be evaluated. However, the Board reserves the right to negotiate submitted pricing for Provisional Items (Hourly Rates), if deemed not competitive in the opinion of the Board.

3. Required Pricing Information

APPENDIX 1 – RATE BID FORM (Bid Table **BT-13AT** in the Bonfire Bidding System).

APPENDIX D – RFQ PARTICULARS

A. THE DELIVERABLES

Replacement of Interior Doors 2024 – Dixie Public School

The provision of the Deliverables will be governed by the terms and conditions set out in Appendix A – Form of Agreement and Appendix G, Specifications and Drawings.

B. MATERIAL DISCLOSURES

The total estimated contract value is \$200,000,

1. GENERAL CONDITIONS

The General Conditions form part of this RFQ document, and it is understood by the Respondent that attaching signature in Appendix B, the Respondent acknowledges having read and understood the General Conditions, Section – 01000, pages 1 - 34 as posted on Bonfire Bidding System. See Appendix A2 – General Conditions.

2. CONSTRUCTION LIEN ACT PAYMENT TERMS IN GENERAL CONDITIONS

The General Conditions have been revised to include changes related to the new Construction Act.

3. AWARDING OF WORK

The Board reserves the right to award contractors only the amount of work to which the Board is confident can be completed on schedule by the successful Respondent. In order to expedite the completion of work within the Term of Contract, the Board may distribute awards from bids at its sole and unfettered discretion. The decision of the Board will be final.

4. HAZARDOUS BUILDING MATERIALS

Hazardous building materials may be present in the vicinity. Please view the assessment and required abatement work located in Appendix F – Specifications and Drawings.

5. SAMPLES

Samples, when required, must be submitted strictly in accordance with instructions. Samples must be furnished free of charge and must be accompanied by descriptive memorandum invoices indicating if the Respondent requires their return, provided they have not been used or made useless by tests. Samples will be held at Respondent's risk and subject to the Respondent's expense.

6. RFQ DOCUMENT AND BONFIRE SYSTEM

If the word “Contract” is found in sections of the specifications and drawings it shall mean after the award of a contract to the successful respondent.

A respondent may not make any changes to any of the forms. Any submission containing any such changes, whether on the face of the form or elsewhere may result in the non-consideration of your submission.

7. PERFORMANCE SURETY OR AGREEMENT TO BOND

If the total value of the bid per location excluding all applicable taxes is less than \$500,000.00 then a Performance Surety is required. If greater than \$500,000.00 bonding is required. Refer to Pre-Conditions of Award for details.

8. Facility Key(s) Deposit

Pursuant to Maintenance Services Department General Conditions Section 01000, all facility key(s) will be issued by Maintenance Services Department to the successful general contractor following the receipt of facility key deposit(s) issued by the successful general contractor.

Upon completion of project work and/or the end of term of the contract, all applicable facility key deposit(s) will be returned by the Board to the successful general contractor in a form of direct deposit. Facility key deposit(s) issued by sub-contractor(s) will not be accepted by the Board.

C. MANDATORY SUBMISSION REQUIREMENTS

1. Submission Form - Appendix B

Each quotation must include a Submission Form (Appendix B) completed and signed by an authorized representative of the respondent.

2. Pricing Rate Bid Form - Appendix 1 (Bid Table BT-13AT in the Bonfire Bidding System)

Each quotation must include pricing information that complies with the instructions contained in Pricing (Appendix C).

3. Supplementary Bid – Questionnaire - Appendix 2 – (Questionnaire Q-24FS in the Bonfire Bidding System) – Not to be evaluated.

Each quotation must include above mentioned questionnaire.

D. MANDATORY TECHNICAL REQUIREMENTS

N/A

E. PRE-CONDITIONS OF AWARD

Respondent under consideration must provide the following information within (7) seven calendar days of notification or as otherwise agreed by the Board:

a) INSURANCE

The Respondent shall provide Commercial General Liability insurance coverage and Third Party Liability insurance coverage for both owned and non-owned motor vehicles in accordance to the Board's Standard Terms and Conditions – Form of Agreement under Appendix A.

b) WORKPLACE SAFETY AND INSURANCE BOARD (WSIB)

The Respondent shall provide proof of WSIB coverage in accordance to the Board's Standard Terms and Conditions – Form of Agreement under Appendix A.

c) CONTRACTOR ASBESTOS AWARENESS TRAINING

All contractor's employees and staff, including subcontractors where applicable, who will work at any PDSB facilities are required to complete the Contractor Asbestos Awareness Training at Contractor Asbestos Awareness Training Video Link :

https://drive.google.com/file/d/1dpmv5apl3CmiF-tp_-NMtyx-0Lq54-JP/view prior to beginning of the work at the Board. It is the contractor's responsibility to ensure that all their personnel receive this training timely and all training records, if applicable, are kept on file and are available upon Board request.

c) AGREEMENT TO BOND (If project is greater than \$500,000)

Agreement to Bond from an approved bonding company for a 50% performance bond and a 50% labour and material bond.

The respondent acknowledges and agrees to comply with the special provisions specified with respect to the wording/and or conditions under which the Performance bond may be invoked and remain in force as a Maintenance bond.

The latest editions of Forms 31 (Labour and Material Bond) and Form 32 (Performance Bond) to be submitted.

d) PERFORMANCE SURETY (If project is less than \$500,000)

The Performance Surety requirement from the successful Respondent will be in the amount of 10% of the dollar award excluding all applicable taxes.

The successful Respondent will secure an original Irrevocable Letter of Credit or a Certified Cheque or Money Order or Bank Draft payable to Peel District School Board, which has been issued by a Canadian Chartered Bank or Trust Company, in the appropriate amount. If the Irrevocable Letter of Credit is the vehicle chosen for the Performance Surety, it must be identical to the form as presented in this RFQ document, Appendix 1 attached. The

Performance Surety, either an Irrevocable Letter of Credit or a Certified Cheque, Money Order or Bank Draft will be deposited with and held by the Board prior to the commencement of the contract. The Performance Surety may be drawn on by the Board at any time to secure the due performance and observation of the contract; the payment of all claims, liabilities and obligations incurred by the successful Respondent during the performance of the contract. Such Performance Surety will not be released until sixty (60) days after substantial performance of the contract and the full discharge of all claims, liabilities and obligations incurred by the successful Respondent during the performance of this contract. The successful Respondent further covenants and agrees that, where the contract has been terminated or cancelled by virtue of the successful Respondent's default, the said Performance Surety will not be revoked or cancelled, and the Board may draw from the Performance Surety to compensate for such damages, losses or expenses incurred, or to be incurred, for which the Board may not be otherwise liable. Should the said damages, losses or expenses be in excess of the amounts drawn, the successful Respondent shall be liable to the Board for such excesses.

The Performance Surety is to guarantee that the successful Respondent will complete the contract in a proper and satisfactory manner in accordance with the terms and conditions of the RFQ and must be presented by the successful Respondent to the Board as requested at the time of the award. Failure to provide the proper surety may result in the rescission of the Board's notice of selection. No interest will be either charged or retained by or to the Board in relation to the Performance Surety.

APPENDIX E – LETTER OF CREDIT

(BANK) _____ NO. _____

(BRANCH) _____ (DATE) _____

TO:

WE HEREBY AUTHORIZE YOU TO DRAW ON (BANK)
FOR ACCOUNT OF
UP TO AN AGGREGATE AMOUNT OF
AVAILABLE BY DRAFTS AT SIGHT
GUARANTEE AS FOLLOWS:

Pursuant to the request of our customer, _____
we, (Bank) _____ hereby establish and give to
you an Irrevocable Letter of Credit in your favour in the total amount of \$ _____ which may be
drawn on by you at any time and from time to time upon written demand for payment made upon us by you, which
demand we shall honour without enquiring whether you have a right as between yourself and our said customer to
make such demand and without recognizing any claim of our said customer.

PROVIDED, however, that you are to deliver to (Bank) _____
at such time as a written demand for payment is made upon us, a certificate signed by the Associate Director of
Corporate Services of The Peel District School Board agreeing and/or confirming that monies drawn pursuant to this
Letter of Credit are to be and/or have been expended pursuant to obligations incurred or to be incurred by you with
reference to (description of services or projects) _____

This Letter of Credit shall commence on _____ and shall expire on _____
subject to the conditions of automatic extension, as set out herein.

IT IS A CONDITION of this Letter of Credit that it shall be automatically extended without amendment for one year
from the expiry date, and thereafter from year to year unless sixty days prior to the present or future expiry date we
shall notify the Associate Director of Operational Support Services of The Peel District School Board in writing that we
elect not to consider this Letter of Credit renewed for any such additional period. Upon receipt by you of such notice;
you may draw hereunder by means of your demand accompanied by your written certification that the amounts drawn
will be retained and used by you to meet obligations incurred or to be incurred by you in connection with (description
of services or projects) _____.

THE DRAFTS DRAWN UNDER THIS CREDIT ARE TO BE ENDORSED HEREON AND SHALL STATE ON THEIR
FACE THAT THEY ARE DRAWN UNDER (BANK) _____
(BRANCH) _____ LETTER OF CREDIT NO. _____
(DATE) _____

WE HEREBY AGREE WITH THE DRAWERS, ENDORSERS OF THE BILLS DRAWN IN COMPLIANCE WITH THE
TERMS OF THIS CREDIT THAT THE BILLS SHALL BE DULY HONOURED UPON PRESENTATION AT THE
DRAWEE BANK.

(Accountant)

(Manager)

APPENDIX F - BONDING

1. The Contractor, after receiving written notification from the Board representative *or where the Contract Price exceeds \$500,000*, shall furnish and deliver to the Board within ten (10) days of such notification, and/or prior to the signing of the Contract: (1) a *Labour and Material Bond, with a coverage limit of at least 50% of the Contract Price, which extends its protection to any Subcontractors supplying labour and materials to the Work*; and (2) a *Performance Bond, with a coverage limit of at least 50% of the Contract Price*, and guaranteeing the faithful performance of the Contract in accordance with the Contract Documents including the requirements of **WARRANTY** and the payment of all obligations incurred in the event of the Contractor's default. Obligations incurred in the event of the Contractor's default shall include, but not be necessarily limited to the following:
2. The payment of all legal, accounting, architectural, engineering and other Consultants' expenses incurred by the Board in determining the extent of the Work executed, and any additional work required as a result of the interruption of the Work, and
3. The payment of additional expenses to the Board in the form of watchmen's services, light, heat, power, etc., payable over the period between the default of the Contract and the commencement of the Work under the terms of this Contract Requirement.
4. Without limiting the foregoing in any way, the Performance Bond shall indemnify and hold harmless the Board from and against any and all costs and expenses (including legal and architectural services and court costs) arising out of or as a consequence of any default of the Contractor under the Contract.
5. The Bonds shall be in the most recent form approved by the Canadian Construction Association modified as may be necessary to incorporate the requirements stated herein. For the amount of the Bonds, refer to the **MATERIAL DISCLOSURES** section of RFQ document.
6. The Contractor shall be responsible for notifying the surety company of any changes made to the Contract during the course of construction.
7. The premiums for all Bonds called for in the RFQ shall be included in the Contract Price.
8. Should the Board require provisions of any additional Bonds by the Contractor after the receipt of RFQ for the Work, the Contract Price shall be increased by all costs attributed to providing such Bonds. The Contractor shall promptly provide the Board through the Consultant, with any such Bonds that may be required.
9. The Bonds required hereunder must be issued by an insurer licensed under the Insurance Act to write surety and fidelity insurance and be approved by the Board.

APPENDIX G - SPECIFICATIONS & DRAWINGS

Peel District School Board



Bid Documents

for

2024 Interior Door Replacement

at

Dixie Public School

1120 Flagship Drive
Mississauga, ON L4Y 2K1

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EXISTING CONDITIONS AND OBJECTIVES

Work under this project is for interior door replacement at Dixie Public School, and includes the provision of all plant, labour, and materials to carry out the scope of work as specified below and as indicated on the Drawings.

The purpose of the door replacement project is to improve door operation and building aesthetics.

The building is two (2) storeys in height and was originally constructed circa 1960. Additions were constructed in 1964 and 1965.



Photograph 1: General Office door and frame to be replaced.



Photograph 2: Typical classroom door to be replaced.

SCOPE OF WORK – BASE BID

1.0 General

.1 Schedule of Work

- .1 The work shall commence upon award of the bid and proceed in a single phase of work until completion.
- .2 All work shall be performed on site from 7AM to 9PM Monday to Sunday (subject to all bylaws) during the school summer holiday session. Beyond the summer holiday, any work shall be performed from 4PM to 9PM Monday to Friday and 7AM to 9PM on weekends and/or holidays or as permitted by weather. All work shall be completed by December 31, 2024.

If all work cannot be completed by the end of the summer holiday, the awarded Contractor will be responsible to continue work at alternate times so as not to impact the daily functioning of the school. Any work not completed by August 31, 2024, shall be completed after hours only, weekends, or holidays unless otherwise noted in writing by the PDSB. All work shall be completed no later than January 31, 2025.

The school may relocate students from one unfinished classroom for a period of one to two weeks and the awarded Contractor may work in these unoccupied classrooms at

mutually agreed upon time during the school day, after hours from 4PM to 9PM, or as agreed upon, on weekends and holidays. General Contractor to include all costs that may result in extended after hour work as outlined. There will be no extra claims/premium rates allowed.

The Contractor shall abide with local noise by-laws.

- .3 The Peel District School Board has the right to stop work at anytime and have the project postponed. Contractor will be paid to date for work done and a pre-determined fee (if required) to demobilize from the school. The project will then resume with all prices based on the quote.

.2 **Mobilization, Access and Protection**

- .1 This item shall include, but not be limited to, all related equipment, mobilization, safety supervision, site protection, coordination with Consultant and Peel District School Board (PDSB), demobilization, securities, site cleanup and repair of damage caused by the work.
- .2 Building Occupants may occupy premises during construction period for execution of normal operations. Cooperate with PDSB in scheduling operations to minimize conflict and to facilitate building usage.
- .3 Contractor is to coordinate access with PDSB on a daily basis so that notices can be delivered a minimum of 48 hours ahead of work. A minimum two (2) week notice must be given before starting work at the building.
- .4 Temporary Barriers, enclosures and signage will be highly enforced. No public access to the work area is to be allowed. No work is to occur outside enclosed work areas during recess periods, periods where student attendees are arriving or leaving the premises.
- .5 It is expected that the Contractor will ensure the safety and proper routing of the public. Maintain fire routes and exists and if they are affected as part of the work, include for hoarding within the work area. No areas of access to or around the building are to be restricted without the approval of PDSB.
- .6 Supply, set-up, maintain and remove scaffolding, man lift platforms during the performance of the work as required to access the repair areas. If scaffolding is to be used, the Contractor is to provide complete shop drawings bearing the seal of a Professional Engineer, licensed to practice in the Province of Ontario.
- .7 Where a worker may be exposed to a fall hazard, the employer is responsible for providing and ensuring that all such workers be adequately trained and protected by a fall protection system that meets the requirements of the Occupational Health and Safety Act - Ontario Regulation 213/91 - Section 26.
- .8 Provide access to the work area as required to facilitate review of the work by the Consultant as described herein.
- .9 Provide temporary support to existing structural components during performance of work (if required).

- .10 Install temporary protection for all building components, vehicles, pedestrians and occupants, as required to ensure safe, clean, and orderly removal and disposal work.
- .11 Weather and security protection and enclosures (if required) are to be included in this item and will not be considered as an additional cost after award of the project.
- .12 Provide temporary protection (such as drop cloths and carpet runners) at locations of interior work, as required and as specified to ensure safe, clean, orderly removal and disposal of work and to provide protection of interior building components and finishes.
- .13 Coordination of trades will be the responsibility of the Contractor to ensure the work is completed as soon as possible.
- .14 All materials removed from the interior are to be placed in carts for safe and secure transport through the building and directly into disposal bins. Dispose of all materials at landfill site authorized by authorities having jurisdiction.
- .15 Prior to commencement of the Work, record condition and take photographs of existing building and landscaping components. Provide daily and final cleanup to restore building (adjacent finishes) and site landscaping (grassed areas, shrubs and hard surfaces) to pre-construction conditions. During the completion of the Work, every attempt to minimize damage to the existing site shall be exercised, including the control of debris.
- .16 For work completed by a subcontractor, a representative of the General Contractor must be present on site at all times.
- .17 Doors may be stored on site – only and if permitted by the school and at areas designated by the PDSB to do so. Damages to PDSB property from the storage bins shall be corrected by the contractor. Please take before and after photos of the school's tarmac for this storage process.

2.0 Door Replacements

.1 **Interior Door Replacement:** Remove and replace eighty-one (81) doors/door assemblies (which includes the door assembly including screens for the general office) in accordance with Sections 02 41 00, 08 11 13, and 09 91 00, as identified in the below table and on Drawings A100 to A104 as follows:

.1 Door Types, Locations, and Notes:

Door No.	Door Type	Room Name /Location	Notes
First (1 st) Floor			
001	B1	General Office	Replace door slab and frame. Door slab and frame to be 90min Fire Rated . Including steel screens.

Door No.	Door Type	Room Name /Location	Notes
002	C	Principal Office	Replace door slab only and repaint existing door frame.
003	A	General Office Closet	Replace door slab only and repaint existing door frame.
004	C	Vice Principal	Replace door slab only and repaint existing door frame.
005	C	Health Room	Replace door slab only and repaint existing door frame.
006	A	BF W/R	Replace door slab only and repaint existing door frame.
007	A	Adult Washroom	Replace door slab only and repaint existing door frame.
008	A	Adult Washroom	Replace door slab only and repaint existing door frame.
009	C	Health Room to Corridor	Replace door slab only and repaint the existing door frame. To be 45min Fire Rated .
010	C	Kindergarten 101	Replace door slab only and repaint existing door frame.
011	C	Kindergarten 102	Replace door slab only and repaint existing door frame.
012	A	Kindergarten 102 W/R	Replace door slab only and repaint existing door frame.
012A	A	Kindergarten 102	Replace door slab only and repaint existing door frame.
013	B	Kindergarten 102 Interior Vestibule Door	Replace door slab only and repaint existing door frame.
014	B	Kindergarten 101 Interior Vestibule Door	Replace door slab only and repaint existing door frame.
016	A	Kindergarten 101 W/R	Replace both wooden door slab and frame to hollow metal assembly.
019	A	Kindergarten 101 Interior Closet Wooden	Replace both wooden door slab and frame to hollow metal assembly.

Door No.	Door Type	Room Name /Location	Notes
020	A	Boys W/R	Replace door slab only and repaint existing door frame.
021	B2	Hallway Double Door	Replace door slabs and frame and replace all wired glazing. Door and frame to be 90min Fire Rated . Including steel screens. Refer to drawings for configuration.
022	B3	Hallway Double Door to Staircase	Replace door slabs and frame and replace all wired glazing. Door and frame to be 90min Fire Rated. Replace existing centre vertical fixed mullion with removable mullion . Including steel screens. Refer to drawings for configuration.
023	A	Boys Changeroom	Replace door slab only and repaint existing door frame.
024	A	Custodian (next to Boys C/R)	Replace door slab only and repaint existing door frame.
025	A	Kitchen	Replace door slab only and repaint existing door frame.
026	B4	Gen. Purpose Room (double)	Replace door slabs and frame. Door slab and frame to be 90min Fire Rated . Including steel screens.
027	E	Kitchen Serving Door to Gen. Purpose Room	Replace door slabs (split door) only and repaint existing door frame.
028	A	Boys Changeroom @ Gen. Purpose Rm.	Replace door slab only and repaint existing door frame.
029	A	Boys Changeroom @ Gen. Purpose Rm.	Replace door slab only and repaint existing door frame.
030	A	Door to Stage at Gen. Purpose Room	Replace door slab only and repaint existing door frame.
031	F	Storage Room @ Gen. Purpose Rm.	Replace left door with solid slab, and replace right leaf with Door Type C.
032	A	Girls Changeroom @ Gen. Purpose Rm.	Replace door slab only and repaint existing door frame.

Door No.	Door Type	Room Name /Location	Notes
033	A	Girls W/R @ Gen. Purpose Room	Replace door slab only and repaint existing door frame.
034	A	Girls Changeroom	Replace door slab only and repaint existing door frame.
035	A	Instr. Room	Replace door slab only and repaint existing door frame.
036	C	Classroom 103	Replace door slab only and repaint existing door frame.
037	C	Classroom 104	Replace door slab only and repaint existing door frame.
038	C	Classroom 105	Replace door slab only and repaint existing door frame.
039	C	Classroom 106	Replace door slab only and repaint existing door frame.
040	A	Custodian Room	Replace door slab only and repaint existing door frame.
041	C	Library 107	Replace door slab only and repaint existing door frame.
042	B4	Library 107	Remove and discard existing door and frame. Install new double door and frame to meet accessibility requirements (The minimum clear opening of doorways shall be 950 mm (37-1/2 in.) per City of Mississauga 2015 Facility Accessibility Design Standards). Price to include enlarge rough opening (remove concrete block) and install lintel to suit the new door assembly as shown in detail drawing. Existing electrical conduits and wiring is to remain in same location and rewired to suit where necessary. Paint concrete block around new door assembly where directed by Consultant/Board. Swing to be confirmed during shop drawing review.
043	C	Library 107	Replace door slab only and repaint existing door frame.

Door No.	Door Type	Room Name /Location	Notes
044	B4	Library 107	Remove and discard existing door and frame. Install new double door and frame to meet accessibility requirements (The minimum clear opening of doorways shall be 950 mm (37-1/2 in.) per City of Mississauga 2015 Facility Accessibility Design Standards). Price to include enlarge rough opening (remove concrete block) and install lintel to suit the new door assembly as shown in detail drawing. Existing electrical conduits and wiring is to remain in same location and rewired to suit where necessary. Paint concrete block around new door assembly where directed by Consultant/Board. Swing to be confirmed during shop drawing review. This door to have removable mullion.
045	C	Classroom 108	Replace door slab only and repaint existing door frame.
046	A	Men's W/R	Replace door slab only and repaint existing door frame.
047	A	Women's W/R	Replace door slab only and repaint existing door frame.
048	H	Staff Room	Replace door slab only and repaint the existing door frame.
049	C	Student Services	Replace door slab only and repaint existing door frame.
050	C	Classroom 109	Replace door slab only and repaint existing door frame.
051	C	Classroom 110	Replace door slab only and repaint existing door frame.
052	C	Kindergarten 111	Replace door slab only and repaint existing door frame.
053	C	Classroom 112	Replace door slab only and repaint existing door frame.
054	A	Girls Washroom	Replace door slab only and repaint existing door frame.
055	A	Custodian Janitor Room	Replace door slab only and repaint existing door frame.

Door No.	Door Type	Room Name /Location	Notes
056	H	Electrical & Boiler Room	Replace door slab only and repaint the existing door frame. 45-minute FRR door.
057	H	Custodian Office	Replace door slab only and repaint the existing door frame.
058	C	Mailroom / Xerox	Replace door slab only and repaint existing door frame.
059	C	Conference Room A	Replace door slab only and repaint existing door frame.
060	H	Door between Conf. Room & Xerox Room	Replace door slab only and repaint the existing door frame.
Second (2 nd) Floor			
061	B5	North Stair	Replace door slabs and frame and replace all wired glazing. Door and frame to be 90min Fire Rated . Including steel screens.Refer to drawings for configuration.
062	A	Academic Storage	Replace door slab only and repaint existing door frame.
063	A	Boys Washroom	Replace door slab only and repaint existing door frame.
064	A	Storage Room	Replace door slab only and repaint existing door frame.
065	A	Custodian Room	Replace door slab only and repaint existing door frame.
066	A	Girls Washroom	Replace door slab only and repaint existing door frame.
067	C	Classroom 224	Replace door slab only and repaint existing door frame.
068	C	Classroom 223	Replace door slab only and repaint existing door frame.
069	C	Classroom 222	Replace door slab only and repaint existing door frame.

Door No.	Door Type	Room Name /Location	Notes
070	C	Classroom 221 (1st door)	Replace door slab only and repaint existing door frame.
071	C	Classroom 221 (2nd door)	Replace door slab only and repaint existing door frame.
072	C	Classroom 220	Replace door slab only and repaint existing door frame.
073	C	Classroom 219	Replace door slab only and repaint existing door frame.
074	B7	East Stair	Replace door slab and frame. To be High Traffic & 90min Fire rated. Replace existing centre vertical fixed mullion with removable mullion. Including steel screens. See drawings for configuration.
075	C	Classroom 218	Replace door slab only and repaint existing door frame.
076	J	Conference Room B	Replace door slab only and repaint existing door frame. See drawings for configuration.
077	C	Classroom 217	Replace door slab only and repaint existing door frame.
078	H	Academic Storage	Replace door slab only and repaint existing door frame.
079	B6	Stair Beside Classroom 216	Replace door slab and frame. To be High Traffic & 90min Fire Rated. Replace existing centre vertical fixed mullion with removable mullion. Including steel screens. See drawings for configuration.
080	C	Classroom 216	Replace door slab only and repaint existing door frame.
081	C	Classroom 215	Replace door slab only and repaint existing door frame.
082	C	Classroom 214	Replace door slab only and repaint existing door frame.
083	C	Classroom 213	Replace door slab only and repaint existing door frame.

- .2 Remove and dispose of identified door slabs and/or existing door/frame combination assemblies, where indicated on the drawings.
- .3 Supply and install new hollow metal door slabs and/or door/frame combination assemblies including glazing, louver panels, and accessories, where indicated on the drawings, in accordance with corresponding Sections.
 - .1 Contractor to take field measurements of all existing doors. New door assemblies to fit within existing door frames and rough openings. Any door slab or door assemblies that cannot be installed within specified tolerances, as per Section 08 11 13, will not be accepted.
 - .2 Configurations of new door assemblies to match door layouts on Drawings. Door swings to match existing layouts on site. All provided measurements on drawings are approximate and are to be verified by the Contractor.
 - .3 Fire-rated doors are to be provided where indicated on Drawings. Fire-rating for each door and door/frame combination unit is to be as indicated in this Section and on Drawings.
 - .4 The Contractor is to assemble and apply for all required permits, including but not limited, to permits required for the replacement of existing fire-rated doors and frame assemblies. PDSB is responsible for all costs and payments for all required permits.
 - .5 Single-pane 7.9mm fire protection rated, impact resistant, laminated clear glass ceramic is to be supplied and installed in all frames and doors where fire rated separations are required.
 - .1 Fire-rated glass product to be one of the following:
 - .1 "Fire Lite Plus" by Technical Glass Products
 - .2 "Keralite L" by Vetrotech Saint-Gobain
 - .3 "Pyran Platinum L" by Schott North America.
 - .2 Fire rated glass must bear a permanent label acceptable to local Authorities Having Jurisdiction.
 - .3 Coordinate with manufacturer of hollow metal products to ensure the glass provided is an acceptable component in their labelled doors and frames.
 - .6 Where doors and/or door/frame combination units are not indicated to be fire-rated, new doors and door/frame combination units are to be provided with single pane 6mm heat soaked and tempered glass units.
 - .7 Where existing frames are to remain, all redundant holes in the frames are to be filled, repaired, and repainted, as directed by the Consultant.

- .4 Contractor to provide shop drawings to Consultant for review prior to door assembly fabrication.
 - .1 Indicate each type of door, frame, steel, core, material thickness, mortises, reinforcements, anchorages, locations of exposed fasteners, openings (i.e. glazing, paneled or louvered).
 - .2 Include a schedule identifying each unit, with door marks or numbers referencing the numbering in Consultant's schedules or drawings.
 - .3 Provide confirmation in writing that all aspects to reinforcing, construction, and gauge of metal are met as specified.
 - .5 Mock-up:
 - .1 At a location selected by the Owner's Representative, provide one (1) on-site mock-up of a completed door/frame installation, including glazing, hardware, infill panels, paint finish, and sealants.
 - .2 Mock-up shall be prepared by same installers that will perform the general installation.
 - .3 Approved mock-up installation shall serve as basis for acceptance for general installation.
 - .4 Work shall not proceed until mock-up is prepared and approved.
 - .5 If acceptable, mock-up installation may form part of the Work.
 - .6 Hollow metal door manufacturer to make a minimum of three (3) site visits to review Work in progress. Manufacturer to provide site visit reports.
 - .7 Consultant/PDSB may request for one (1) door slab to be cut on site to confirm door construction complies with specifications. Contractor to supply a new door after cutting.
 - .8 Removal and installation of each door assembly is to be performed on the same day. Doors to be made functional at the end of each day. All door openings to be made secure at the end of each day.
 - .9 All existing surface-mounted equipment/fixtures (i.e. security alarms, electrical lights, fire alarm devices, etc.) fastened to existing doors and frames are to be removed and re-installed. Consult with Consultant prior to re-installment. Remove all existing door components and dispose of offsite. Take care to avoid damage to adjacent finishes.
 - .10 Glazing in door slabs and sidelights to be installed as per the manufacturer's instructions.
 - .11 If glazing cannot be installed on the same day as the door assembly, temporary glazing lites are to be installed. Temporary glazing lites shall be 6mm Georgian Wired glass. Plywood and other materials will not be accepted.
- .2 **Paint Finish:** Supply and install paint finish to new door assemblies and to existing frames, where the existing frames are to remain, as per Section 09 91 00. Colour is to be approved by PDSB.

- .3 **Hardware Installation:** The Contractor to include price to supply and install all specified hardware. Refer to Appendix 2 – Hardware Schedule. The successful Contractor is responsible for all costs and payments for door hardware. Contractor is responsible for pick-up and installation of door hardware, as per manufacturer’s instructions.
 - .1 PDSB’s hardware vendor is: Hardware Agencies; BG Distribution; Royal Security or equivalent.
 - .2 PDSB’s hardware vendor to perform two (2) site visits to review hardware installation in progress, as follows:
 - .1 Within first two (2) days following commencement of hardware installation, and
 - .2 When 50% of hardware installation is completed.
 - .3 Contractor to coordinate with PDSB for replacement of construction cores with PDSB lock cores.
- .4 **Repairs to Existing Building:** Contractor to take care to avoid damages to existing building during removals. Contractor to repair any damages to exteriors and interiors as a result of this door/frame replacement project, including but not limited to terrazzo floors. Repairs to match existing surrounding materials and colours.
 - .1 If required, remove and re-install all fixtures (i.e. electrical lights, fire alarm devices, etc.) fastened to existing doors and frames. Consult with Consultant prior to re-installment. Remove all existing door components and dispose of offsite. Take care to avoid damage to adjacent finishes.
 - .2 Where existing frames are to remain, all redundant holes and openings in the existing frames are to be repaired and sealed.
- .5 **Perimeter Sealants/Needle Bead:** Remove existing perimeter door sealants. Supply and install interior perimeter sealants. Seal all joints between door frame and surrounding substrate with a single component, low odour, joint sealant conforming to CAN/CGSB-19.13-M87, colour to match existing materials.
 - .1 Spectrem 2 by Tremco Ltd.,
 - .2 DowSil Contractors Weatherproofing Sealant by Dow Inc., or
 - .3 Or approved alternate.
- .6 **Interior Door Signage:** All existing signs shall remain (can be placed on an adjacent wall) until new signs are delivered and installed. New interior signage will be supplied and installed by the PDSB. Set aside existing signs for use until new signs arrive.

3.0 Warranties

- .1 The Contractor shall submit the warranty documentation outlined in each Section and the manufacturer site inspection documentation within seven (7) days of Substantial Completion.

4.0 Hazardous Building Materials

- .1 **Hazardous Building Materials Abatement:** All work to be carried out in accordance with PDSB Hazardous Materials Management Program and the Hazardous Building Materials Survey prepared by Peritus, dated December 31, 2020, and the related Abatement Specifications (Refer to Appendix 1). Asbestos-containing materials and lead-containing paint were identified at the Areas of Work.
 - .1 PDSB approved abatement contractors are:
 - .1 Edge Environmental – Contact: Mr. Nabil Atrach (416-726-2817)
 - .2 Caliber Environmental – Contact: Mr. Michael Ball (416-997-6074)
 - .3 Furcon Environmental – Contact: Sherry Lynn (1-905-741-9686)
 - .2 Contractors other than those listed above may be used for work. Documents proving qualification of the work will need to be submitted for approval.

5.0 Qualifications

- .1 The above is to be considered a general description of the work to be completed and must not be construed as limiting the scope of work.
- .2 All quantities / measurements to be confirmed by Contractor from on-site take-offs.

END OF SECTION – 01 11 00

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PART 1 - GENERAL

1.1 General Requirements

- .1 All conditions of the contract and Division 1, General Requirements apply to this section.
- .2 Scheduling of the work shall be discussed with and be subject to the approval of the Owner.
- .3 All materials and equipment must be set up in a position satisfactory to the Owner.
- .4 Provide a minimum 48-hour notice to the Consultant and the Owner prior to proceeding with any work that may disrupt building access or services.
- .5 Perform work of this section in conformity with all applicable Municipal and Federal regulations.

1.2 References

- .1 Comply with requirements of the following documents, latest edition:
 - .1 Canadian Standards Association CSA S350, Code of Practice for Safety in Demolition of Structures.
 - .2 C.S.A. Standard S350-M1980, Code and Practice for Safety in Demolition of Structures.
 - .3 Regulation 447 - Environmental Protection Act.
 - .4 Occupational Health and Safety Act and regulations for Construction Projects
 - .5 Construction Safety Act of the Province of Ontario
 - .6 National Building Code of Canada, Part 8, "Safety Measures at Construction and Demolition Sites", and Provincial requirements.
 - .7 Ontario Building Code.

1.3 Quality Assurance

- .1 Notify the Consultant for review and confirmation of the following items:
 - .1 Final repair review.

1.4 Asbestos and Designated Substances

- .1 If present, remove asbestos-containing materials and designated substances in accordance with the environmental consultant's specification, and in accordance with authorities having jurisdiction.

PART 2 - NOT USED

PART 3 - EXECUTION

3.1 General Procedures

- .1 At all times coordinate with school staff and perform work at times suitable to their schedule.
- .2 Maintain security of the building at all times.
- .3 Provide temporary enclosures in accordance with the Construction Safety Act to all hazardous areas, openings and the like to protect persons/property using the building - lawfully or otherwise.
- .4 Do not use cranes, hoists or other equipment in a manner that could overload the structure.
- .5 Remove existing equipment, services, and obstacles where required, for refinishing or making good of existing surfaces, and replace same as work progresses.
- .6 Take special care to avoid overloading roofs, floors, walls, and columns. Dispose of materials as soon as possible after removal and in no case permit accumulation of debris within existing building or site.
- .7 The Contractor shall be responsible for the preservation of all public and private property and shall protect carefully from disturbance or damage.

3.2 General Protection

- .1 Protect interiors, access routes, adjacent conditions, and parts not to be demolished from danger and damage at all times.
- .2 Provide interior protection for building personnel and equipment.
- .3 At all times protect exposed openings from moisture, dust, smoke, or physical entry.
- .4 Prevent movement, settlement, or other damage to adjacent structures, utilities, and parts of the building to remain in place. Provide engineered bracing and shoring as required.
- .5 Protect existing building systems, services, and equipment.
- .6 Provide temporary dust screens, covers, railings, supports and other protection as required.
- .7 Provide required signage, barricades, hoarding, overhead protection, and temporary egress in accordance with Occupational Health and Safety Act.
- .8 Support affected structure or building components and if safety of structure being demolished or adjacent structures or services appears to be endangered, take preventative measures and then cease operations and notify Consultant immediately.
- .9 Ensure that demolition work does not adversely affect adjacent watercourses, groundwater, and wildlife, or contribute to excess air and noise pollution.

- .10 Do not dispose of waste or volatile materials such as: mineral spirits, oil, petroleum-based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers. Ensure proper disposal procedures are maintained throughout project.
- .11 Do not pump water containing suspended materials into watercourses, storm or sanitary sewers, or onto adjacent properties.
- .12 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authorities.
- .13 Protect trees, plants and foliage on site and adjacent properties where indicated.
- .14 Prevent extraneous materials from contaminating air beyond application area, by providing temporary enclosures during demolition work.
- .15 Cover or wet down dry materials and waste to prevent blowing dust and debris. Control dust on all temporary roads.

3.3 Demolition

- .1 Remove parts of existing structure to permit repairs or new construction. Sort materials into appropriate piles for recycling and or reuse.
- .2 Demolish systems as required to facilitate the contracted work.
- .3 Ensure that existing materials are removed in such a manner as to ensure they will not damage the substrate. Any damages to the substrate must be repaired and sealed prior to proceeding with the work.
- .4 Demolish to minimize noise, dust, and inconvenience to occupants. Where necessary keep materials damp to minimize dust.
- .5 Dispose of demolished materials in accordance with authorities having jurisdiction.
- .6 Disconnect and re-route any encumbrances such as electrical, gas, cable, refrigerant, telephone service lines, etc. encountered during demolition work, in accordance with authorities having jurisdiction. Post warning signs on electrical lines and equipment which must remain energized to serve other parts of the building during period of demolition. Reinstate in accordance with current codes and requirements.
- .7 Do not disrupt, activate or energize utilities designated to remain undisturbed.
- .8 At end of each day's work, leave work in safe condition so that no part is in danger of leakage, toppling, falling, or physical entry.

3.4 Cutting, Fitting and Patching

- .1 Execute cutting, fitting and patching required to make work fit properly.
- .2 Where new work connects with existing and where existing work is altered, cut, patch and make good to match existing work.

- .3 Obtain Consultant's approval before cutting, boring or sleeving load-bearing members.
- .4 Make cuts with clean, true, smooth edges. Make patches inconspicuous in final assembly.

3.5 Disposal

- .1 Include for the disposal of removed materials to appropriate Landfill and/or recycling facilities, except where specified otherwise, in accordance with authority having jurisdiction.
- .2 Dispose of debris on a continuous basis with minimum disturbance to Owner and occupants. Do not stockpile debris in a manner which would overload the structure or impede access around the site. Use approved safe method(s) of conveying materials to and from grade level as follows:
 - .1 Under no circumstances shall material be dropped from one roof level to another. Use hoists and other similar equipment.
 - .2 Method(s) of conveying materials shall not damage existing building elements and surfaces to remain, and steps must be taken to protect and ensure safety of same during demolition and until construction is complete.
- .3 Provide for storage and removal of garbage as a result of work and obtain approval of storage location(s) from Owner's Representative and the Consultant prior to commencement of work.
- .4 At all times maintain work area and site free of accumulated waste and rubbish.
- .5 Provide garbage bins and chutes required for daily disposal of debris and garbage. Obtain approval from the Owner for the bin location prior to commencement of the work.
- .6 Remove full garbage bins immediately. Do not stockpile debris or garbage on project site.
- .7 During and upon completion of the work, the Contractor shall remove from the premises all surplus materials, equipment and debris.

3.6 Reconstruction, Alterations, and Making Good

- .1 Ensure that existing pipelines, sprinkler lines, electrical conduit and wiring is not undermined or otherwise damaged or endangered by cutting or other operation in the performance of so affected immediately and make good to the Owner's satisfaction.
- .2 Schedule all work with all necessary consideration for the requirements of the Owner relating to the function of the existing building, including its facilities and services.
- .3 Cutting work to be performed so as not to cut more than is necessary and so as not to damage adjacent work. The expression "make good" refers to repair and restoration of both new and existing work
- .4 Do not incorporate salvaged or used material in new work.
- .5 Where existing work is to be made good, have new work match exactly the old work in material, form construction and finish unless otherwise noted or specified.

- .6 Throughout the entire construction period, allow for proper and safe means of fire exit from the existing building for all workers and users continued use of the building at all times to the approval of the authorities having jurisdiction. Do not obstruct any exits from the building.
- .7 Protect work in the existing building as completely as possible to keep the replacement of damaged work to a minimum. Replace damaged work to match existing.
- .8 Co-ordinate the work of the various sections, taking into account the existing conditions to assure the best and most efficient methods of executing the work. No extra cost will be allowed due to the failure by the Contractor to co-ordinate work. If required, in critical locations, prepare Interference and/or Installation Drawings showing the work of the various sections as well as the existing installation. Submit these to the Owner for review before the commencement of the work.
- .9 Do not begin work in any portion until Drawings, material and equipment required for the work in the respective areas is on the site.

3.7 Security and Weatherproofing

- .1 It is essential that the existing building to be weatherproof at all times and made secure when construction forces are not on site.
- .2 Furnish temporary protection, enclosures, tarpaulins, etc., as may be required to weatherproof and burglar proof openings made in the work. Make provisions to maintain security in a manner acceptable to the Owner.

3.8 Limitation in Use of Existing Building

- .1 Contractor shall ensure that workmen do not enter areas of building not required to be entered in connection with the work of this contract.
- .2 Washrooms inside of the school are not to be used, unless otherwise indicated by the Owner.

3.9 Responsibility for Damage

- .1 The Contractor shall be responsible for all damage or injury to property of any character, during the execution of the work, resulting from any act, omission, neglect, or misconduct in the manner or method of executing the work, or at any time due to defective work or materials, and said responsibility will not be released until the project work shall have been completed and accepted. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work, or consequence of the non-execution thereof by the contractor, the Contractor shall restore, at the Contractor's own expense, such property to a condition equal to or better than existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or he shall make good such damage or injury in an acceptable manner.

END OF SECTION

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PART 1 - GENERAL

1.1 General Requirements

- .1 All conditions of the project and Division 1, General Requirements apply to this section.
- .2 All materials and equipment must be set up in a position satisfactory to the Owner's representative.
- .3 All materials shall be new and in perfect condition, free from defects which may impair strength, durability or appearance.
- .4 Scheduling of the work shall be discussed with and be subject to the approval of the Owner.

1.2 References

- .1 Comply with requirements of the following documents, latest edition:
 - .1 ASTM C719, Standard Test Method for Adhesion and Cohesion of Elastomeric Sealant Joints Under Cyclic Movement (Hockman Cycle).
 - .2 ASTM C920, Standard Specification for Elastomeric Joint Sealants.
 - .3 ASTM C1193, Standard Guide for Use of Joint Sealants.
 - .4 ASTM C1311, Standard Specification for Solvent Release Sealants.
 - .5 ASTM C1330, Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.
 - .6 CAN/CGSB-19.13, Sealing Compound, One-component, Elastomeric, Chemical Curing
 - .7 SWRI (Sealant, Waterproofing and Restoration Institute) – Sealant and Caulking Guide Specification.
 - .8 The Professionals' Guide, Sealant, Waterproofing and Restoration Institute.
 - .9 Ontario Building Code.

1.3 Quality Assurance

- .1 Contractor Qualifications
 - .1 Execute the Work of this Section by Contractors approved by manufacturers of materials incorporated in the Work; who has equipment, adequate for Project, and experienced tradesperson(s) to perform it expeditiously; and is known to have been responsible for satisfactory installations similar to that specified during a period of at least the immediate past five (5) years.
 - .2 The applicator must supply proper numbers of trained and approved personnel to perform tasks as described in the specification.

- .2 Field Review
 - .1 The Work will be reviewed on behalf of the Owner by the Consultant. The Contractor is required to co-operate with, and provide access and samples to the Consultant. The Contractor shall give the Consultant 24 hours advance notice for inspection and/or testing services.
 - .2 At the request of the Consultant, Contractor shall arrange for the sealant manufacturer's representative to review substrates and completed sealant joints.

1.4 Submittals

- .1 Product Data: After the award of project, submit the following:
 - .1 Manufacturer's product data and specifications needed to prove compliance with the specified requirements.
 - .2 Sealant manufacturer's recommended installation procedures which will become the basis for accepting or rejecting actual installation procedures used on the work. Indicate special procedures, surface preparation, perimeter conditions requiring special attention, and field quality control testing.
- .2 Samples: Upon request, submit samples of each sealant, each backer rod and each bond breaker to be used.

1.5 Delivery, Storage and Handling

- .1 Materials to be stored on-site at a location approved by the Owner.
- .2 Deliver all materials to the job site in their original unopened containers, with all labels intact. Verify the sealant(s) and the primer(s) for expiry date upon their arrival to site. Materials shall be used within their stated shelf life.
- .3 Store and use materials in strict accordance with manufacturer's recommendations. Protect from freezing, moisture, water and contact with ground or floor.
- .4 Unless otherwise approved, do not transport any materials through the buildings.

1.6 Environmental and Safety Requirements

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of material safety data sheets acceptable to local Labour regulations.
- .2 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use, including but not limited to:
 - .1 Weather dry.
 - .2 Imminent weather forecast, dry.

- .3 Ensure that sealant and substrate materials are not less than 5°C when applied.
- .4 Should it become necessary to apply sealants at temperatures below 5°C, consult the sealant manufacturer's technical representative. Proceed on manufacturer's written instruction only.
- .3 Apply sealants only to completely dry and clean surfaces. (Note: Although the joint interface may appear to be dry, the substrate below the immediate joint surface may still be moist. This moisture can migrate rapidly to the joint surface thereby contaminating any surface preparation.

1.7 Measurement for Payment

- .1 All work shall be paid on a lump sum basis, unless otherwise indicated.
- .2 If scope of work is extended, then sealant replacement shall be performed on a per metre basis, which includes removal, surface preparation and installation of new material, complete with bond breaker.

1.8 Warranty

- .1 **Contractors Obligation:** The Contractor must submit a signed written warranty to the Owner for the installation of work specified in this Section covering a period of two (2) years, including materials and application, at no cost to the Owner. The contractor shall warrant that the installation will be free from defects related to workmanship or material deficiencies, including:
 - .1 water penetration at joint;
 - .2 cracking, crumbling, melting, running of sealant;
 - .3 joint adhesion failure attributable to improper surface preparation;
 - .4 joint cohesion failure attributable to improper mixing of material or application of material; and
 - .5 staining of adjacent materials.
- .2 **Manufacturer's Obligation:** The Manufacturer must submit a signed written warranty to the Owner for the installation of work specified in this Section covering a period of five (5) years.
- .3 The cost of all warranties shall be included in the Bid base price.
- .4 Any repair required under the warranty will be carried out in accordance with the recommendations of the Consultant.

PART 2 - PRODUCTS

2.1 Sealant Materials

- .1 Sealant compounds must:
 - .1 meet or exceed all applicable governmental and industrial safety and performance standards.

- .2 be manufactured and transported in such a manner that all steps of the process, including the disposal of waste products arising therefrom, will meet the requirements of all applicable governmental acts, by-laws and regulations.
- .2 Sealant compounds must be accompanied by detailed instructions for proper application so as to minimize health concerns and maximize performance, and information describing proper disposal methods.
- .3 Sealant that emits strong odours, contains toxic chemicals or is not certified as mould resistant shall not be used in or near air handling units.
- .4 Compatibility: All materials in a sealant system shall be compatible with each other and with the substrate.
- .5 The use of materials other than those specified herein must be approved prior to award of the Project. If substitute materials are proposed, then the list of materials must be included as part of the Bid Form. This submittal shall include product name, number and data sheets and manufacturer's specifications and installation instructions.
- .6 All materials listed below must be used on the project. Under no circumstances will substitute materials be used unless approval is first received from the Owner. Use of substitute materials without prior approval can result in the removal and replacement of these materials at no cost to the Owner.

2.2 Sealant Material Designations

- .1 General:
 - .1 Colour of sealants shall be selected to match substrates and/or existing sealants and shall be approved by the Owner prior to application.
- .2 Silicone Sealants: Single component moisture curing, non-staining, conforming to CGSB-19.13.
 - .1 Interior Sealant:
 - .1 DOWSIL Contractors Weatherproofing Sealant (CWS) by Dow,
 - .2 Spectrem 2 by Tremco Ltd.,
 - .3 or approved equivalent
- .3 Cleaning Materials:
 - .1 Acceptable cleaners are:
 - .1 Isopropyl Alcohol (IPA)
 - .2 Methylethylketone (MEK)
 - .3 Or other solvent cleaner as recommended by sealant manufacturer
 - .2 Surfaces to receive sealants shall not be cleaned with Xylene unless cleaned with Isopropyl Alcohol (IPA) after.

- .3 Xylene and Toluene shall not be used for cold weather cleaning.
- .4 All substrate materials shall be cleaned with compatible cleaners.
- .4 Masking Tape:
 - .1 For masking around joints, provide an appropriate masking tape which will effectively prevent application of sealant on surfaces not scheduled to receive it, and which is removable without damage to the substrate.
- .5 Void Filler:
 - .1 Clean, glass fibre batt insulation.
- .6 Cloths For Solvent Cleaning:
 - .1 Cloths for solvent cleaning of surfaces prior to application of sealants shall be clean, white and solvent resistant. Coloured cloths shall not be used. Change cloths frequently as they become soiled during cleaning.
- .7 Primer:
 - .1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant. Primer as recommended by sealant manufacturer.
 - .2 The deletion of primer shall be at the sole discretion of the Consultant, with consideration given to manufacturer recommendation and/or field testing results.
- .8 Joint Backing:
 - .1 Backer Rod must be used, where applicable, to control depth of sealant. Acceptable materials are:
 - .1 Closed Cell: Polyethylene, urethane, neoprene or vinyl, extruded closed cell foam, in circular shape with diameter 25% greater than joint width before installation.
 - .2 Hybrid: Extruded polyolefin foam, non-gassing with diameter 25% larger than joint width SOF-ROD as manufactured by Industrial Thermo Polymers and distributed by Tremco Ltd.
 - .2 Bond Breaker Tape must be used, if dimensions of joint do not permit installation of backer rod, to prevent three (3) sided adhesion of sealant. Acceptable materials are:
 - .1 Pressure sensitive adhesive tape recommended by sealant manufacturer that will not bond to the sealant: No. 226 or No. 481 Tape by 3M Canada Inc.
 - .2 Alternatively and where approved by Consultant, wax crayon may be used.

PART 3 - EXECUTION

3.1 Examination of Site Conditions

- .1 Examine the Drawings and Specifications to determine the extent of the work involved, together with other necessary data affecting the work, as in no circumstances will any claims against the Owner be allowed resulting from failure to ascertain the extent of such work herein described or implied.
- .2 Bidders shall visit the site and acquaint themselves with the existing conditions. Prior to bidding, bidders shall make investigations to satisfy themselves as to the job requirements, existing conditions, and quantities.
- .3 Before any sealant replacement is performed, the type of existing sealant shall be determined. If uncertain as to type, then the sealant manufacturer technical representative shall be contacted to confirm type. Only sealant compatible with the existing shall be installed as part of repairs.
- .4 Inspect existing conditions and substrates upon which work of this section is dependent. Report to the Owner's Representative in writing any defects or discrepancies. Commencement of work implies acceptance of existing conditions and assuming full responsibility for the finished condition of the work.
- .5 Ascertain that sealers and coatings applied to sealant substrates are compatible with the sealant used and that full bond between sealant and substrate is attained. Request samples of the sealed or coated substrate from their fabricators for testing of compatibility and bond if necessary.
- .6 Inform Owner's Representative of any unusual or deteriorated construction revealed during performance of Work. Allow Owner's Representative to review conditions prior to retrofit.
- .7 Defective work resulting from application to unsatisfactory joint conditions will be considered the responsibility of those performing the work of this section.

3.2 Surface Preparation

- .1 Prepare surfaces in accordance with manufacturer's directions.
- .2 Before any sealant repairs are made, the type of existing sealant shall be determined. If uncertain as to type, a sealant manufacturer technical representative shall be contacted to confirm type. Only sealant compatible with the existing shall be installed as part of repairs. Polyurethane based sealants are not to be applied over existing silicone sealants.
- .3 Where existing, remove sealant completely. In no case shall new sealant be applied over old. In addition:
 - .1 Remove existing sealants, dust, oil, grease, oxidation, mill scale, coatings and all other loose material by cutting, brushing, scrubbing, scraping and/or grinding. In no case, however, shall remaining components such as door frames be damaged during surface preparation.
 - .2 Prior to use of any solvents, ensure that solvent does not damage existing materials and finishes.

- .3 Clean substrates with the recommended solvent cleaner. Apply solvent with a clean cloth, pad or soft paper towel. The applicator cloth or towel shall not leave fiber residue on the substrate surface. The surface should be wiped clean and dried with a second clean cloth to ensure removal of contaminants. If substrate surfaces is still not clean, repeat procedures as needed. Change cloths frequently to prevent depositing contaminants from the cloth onto the substrate surface.
- .4 Use method of surface preparation suitable for substrate, as recommended by sealant manufacturer and that does not damage existing finishes.
- .4 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.
- .5 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.
- .6 Ensure joint surfaces are dry and frost free.
- .7 Do not install sealant until joints are in compliance with the manufacturer of the sealant and the specific requirements of other sections of the Specification.

3.3 Priming

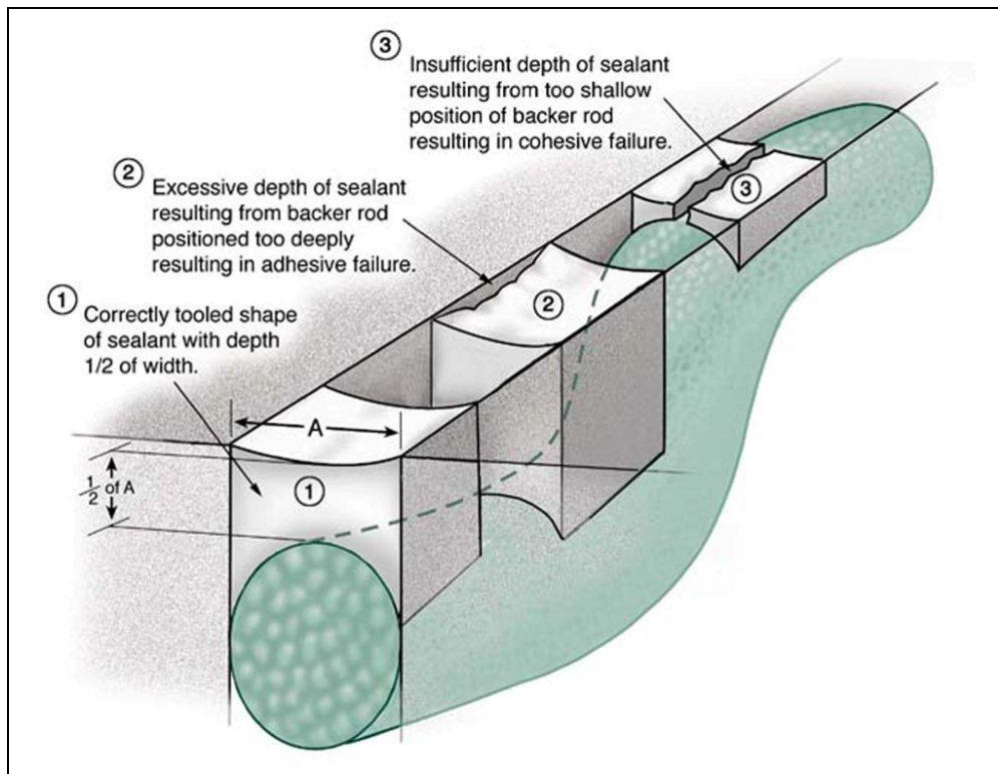
- .1 The deletion of primer shall be at the sole discretion of the Consultant. Manufacturer's written recommendation, and/or results of in-field adhesion testing, shall be considered by the Consultant in the decision to delete primer.
- .2 Use only the primer approved by the sealant manufacturer for the particular installation, applying in strict accordance with the manufacturers printed recommendations.
- .3 Prevent staining of adjacent surfaces and priming backer rod/bond breaker during priming of joint interfaces. Where necessary to prevent staining or for neat appearance, mask adjacent surfaces prior to priming and sealant installation.
- .4 Prime only as much area as can be sealed in one (1) hour. If primed areas are exposed to rain or contaminants (dirt, dust, etc.), joint surfaces must be cleaned and re-primed. Follow manufacturer's recommendations for application and cure time.
- .5 If primer is installed accidentally on surfaces other than surfaces to which sealants are to be applied, remove excess primer immediately with clean cloth dampened with recommended cleaner.
- .6 Always pour primers onto the rag or brush, do not dip the rag or brush into the container.

3.4 Back-Up Material

- .1 When using backing material comprised of tubular or rod stock, avoid lengthwise stretching of the material. Do not twist or braid backer material.
- .2 Provide a stiff blunt-surfaced wood or plastic installation tool, having shoulders designed to ride on the finished surface and a protrusion of the required dimensions to assure a uniform depth of

backup material below the sealant. Do not puncture the exterior skin or surface of the backer material. A screwdriver and other similar sharp pointed items are prohibited. Where punctured or otherwise damaged, the backer material shall be removed and replaced with new.

- .3 Using the approved tool, smoothly and uniformly place the backup material to achieve the proper depth to width ratio required, compressing the backer material 25% to 50% and securing a positive fit. Do not insert the depth of the backer material beyond 13mm (1/2").
- .4 Install backing material to a depth to provide a caulked joint meeting the depth requirement as set out in the sealant manufacturer's specifications and outlined in Figure 1 below.



- .5 Install specified bond breaker tape, or other acceptable bond breaker where backer rod cannot be installed due to joint profile.

3.5 General Installation

- .1 Install sealant in compliance with sealant manufacturer's recommendation. Joint designs and profiles shall be as described below and in accordance to Sealants: The Professionals' Guide, Sealant, Waterproofing and Restoration Institute. Joint designs deviating from those listed below and as described in the aforementioned document shall not be accepted.
- .2 Where surfaces adjacent to joints are likely to become coated with sealant during application, or where irregular surface or sensitive joint border exist, mask edges with masking tape prior to sealing.
- .3 Do not apply work of this section on surfaces which are wet, damp or have frost.

- .4 Equipment:
- .1 Apply sealant under pressure with power-actuated hand gun, with manually operated hand gun, or by other appropriate means.
 - .2 Use guns with a nozzle of proper size and length, and providing sufficient pressure to completely fill the joints as designed.
 - .3 Provide suitable nozzle extensions where double stage joints are installed.
 - .4 Provide appropriate nozzles to create profiles required. This may require custom cutting of nozzles tips.
- .5 Apply sealant in continuous beads. Fill joints completely to required depths with sealant compound. Use sufficient pressure to fill all voids and joints.
- .6 Ensure that the new sealant is adhered to substrates a minimum of 6mm (1/4") at each side of joint. Depth of sealant at center to be a maximum of 13mm (1/2") while maintaining a 2:1 joint width to depth ratio.
- .7 Tool joints to a slight concave bead, smooth and free from ridges, wrinkles, sags, air pockets and imbedded impurities. Tooling to be performed by proper metal or wood tool. Finger tooling joints will not be accepted.
- .8 Remove excess compound promptly as work progresses and upon completion.
- .9 Where possible (i.e. for new cladding installations), install sealant as a recessed joint (at least 3/4" back from face of the joint) to allow for sealant replacement in the future without removing the existing sealant.

3.6 Fillet Bead

- .1 If backer rod cannot be installed into joint then provide bond breaker at inside corners. Bond breaker to extend 3mm (1/8") onto substrates.
- .2 Install sealant to provide minimum 6mm (1/4") vertical and horizontal leg of sealant onto substrate, or more where gap exists between assemblies. Minimum adhesion to be 6mm (1/4") onto substrate. Minimum depth of sealant to be 6mm (1/4").
- .3 Where a proper fillet bead cannot be obtained because the door frames are installed flush or near flush with finished cladding surface, provide a sealant bead profile (similar to a band-aid joint) to meet the above minimum requirements for sealant depth and contact with substrates.

3.7 Butt Joints

- .1 For butt joints, maintain the following width to depth ratio (Note: Depth of sealant shown at middle of joint):

Joint Width (mm)	Sealant Depth (mm)
<12	6
12	6 to 8
25	8 to 10
18	9 to 12
25	10 to 15

- .2 For joints wider than 19mm (3/4”), it may be necessary to apply the sealant in several passes (depending on joint configuration, weather conditions, access and material type). Follow the sealant manufacturer recommendations for maximum joint width and application methods.

3.8 Cleaning

- .1 Remove sealant smears and droppings using recommended cleaners as work progresses as follows:
- .1 Non-Porous Surfaces: Immediately remove all excess sealant adjacent to the joint with one of the recommended solvents as work progresses.
 - .2 Porous Surfaces: Allow sealant to develop initial cure, then remove by abrasion or other mechanical means. Caution should be exercised to maintain original surface integrity.

END OF SECTION – 07 92 00

PART 1 - GENERAL

1.1 General Requirements

- .1 All conditions of the contract and Division 1, General Requirements apply to this section.
- .2 All materials and equipment must be set up in a position satisfactory to the Owner's representative.
- .3 All materials shall be new and in perfect condition, free from defects which may impair strength, durability or appearance.
- .4 Scheduling of the work shall be discussed with and be subject to the approval of the Owner.

1.2 References

- .1 Comply with requirements of the following documents, latest edition:
 - .1 ANSI A115.IG-1994 - Guide for Doors and Hardware Installation.
 - .2 ANSI/SDI A250.8 (2003) - Recommended Specifications for Standard Steel Doors and Frames.
 - .3 ANSI/SDI A250.4 (2001) -Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frames Anchors and Hardware Reinforcing.
 - .4 ANSI/SDI A250.6 (1997) - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames.
 - .5 ANSI/SDI A250.10 (1998) - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.
 - .6 ANSI/SDI A250.11 (2001) - Recommended Erection Instructions for Steel Frames.
 - .7 ASTM A653 (2002) - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - .8 SDI 115 (1993) - Recommended Specifications for Steel Doors and Frames for Hardware Preparation.
 - .9 ANSI/NFPA 80 (2007) - Standard for Fire Doors and Other Opening Protectives.
 - .10 ANSI/UL 10C – Neutral Pressure Fire Tests of door Assemblies.
 - .11 ANSI/UL 10C (1998) - Positive Pressure Fire Tests of Door Assemblies.
 - .12 ANSI/NAMM HMMA 867-06 (2006) – Guide Specifications for Commercial Laminated Core Hollow Metal Doors and Frames.
 - .13 ASTM A924-M97, Standard Specification for General Requirements for Sheet, Metallic-Coated by the Hot-Dip Process.
 - .14 ASTM B117-95 - Method of Salt Spray (Fog) Testing.

- .15 ASTM C177-97- Test Method for Steady-State heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
- .16 ASTM C518-91- Test method for Steady State Heat Flux Measurements and Thermal Transmission properties by means of the heat Flow Meter Apparatus.
- .17 ASTM C578-95 - Specification for Rigid, Cellular polystyrene Thermal Insulation.
- .18 ASTM C665-95 - Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
- .19 ASTM D1735-92 - Practice for Testing Water Resistance of Coating Using Water Fog Apparatus.
- .20 CAN4-S104-M80 - Standard Method for Fire Tests of Door Assemblies.
- .21 CAN4-S105-M85 - Standard Specification for Fire Door Frames Meeting the performance required by CAN4-S104.
- .22 CAN4-S106-M80 - Standard Method for Fire Tests of Window and Glass Block Assemblies.
- .23 CGSB 41-Gp-19Ma - Rigid Vinyl Extrusions for Windows and Doors.
- .24 CGSB 82.5-M88 - Insulated Steel Doors.
- .25 CSA A101-M83 - Mineral Fiber Thermal insulation for Buildings.
- .26 CSA W59-M89 - Welded Steel Construction (Metal Arc Welding).
- .27 ISO 9001:1994 - Quality Systems – Model for Quality Assurance.
- .28 NFPA-80, 1999 - Fire Doors and Windows.
- .29 CSDMA, Recommended Dimensional Standards for Commercial Steel Doors and Frames, 2000 (July 2009).
- .30 CSDMA, Selection and Usage Guide for Steel Doors and Frames, 2009.
- .31 CSDMA, Steel Door and Frame Products Specifications, 2009.
- .32 Manufacturers Standard and Galvanized Sheet Gauges.
- .33 Fleming Fire Labelling Specifications.
- .34 ULC List of Equipment and Materials, Volume 2.
- .35 Ontario Building Code.

1.3 System Design

- .1 Supply and install steel frame products including frames, transom frames, sidelight and window assemblies with provision for glazed, panelled or louvered openings, fire labelled and non-labelled, as scheduled or detailed by the Consultant.
- .2 Supply and install flush steel doors with provision for glazed, panelled or louvered openings, insulated and un-insulated, fire labelled, with or without temperature rise ratings, and non-labelled, as scheduled or detailed by the Consultant.
- .3 Supply and install steel panels, similar in construction to steel doors, with flush or abetted bottoms for steel frames, transom frames, sidelight and window assemblies, fire labelled and non-labelled, as scheduled or detailed by the Consultant.
- .4 Supply and install glazing materials within door assemblies.
- .5 Supply and install louvers/vents within door assemblies.
- .6 Install door hardware procured from Hardware Agencies.

1.4 Design Requirements

- .1 All fire rated doors and frames shall have ULC appropriate label attached.
- .2 Manufacturing and fabrication shall be as specified, and not less than standards and tolerances set by the Canadian Steel Door and Frame Manufacturers Association
- .3 Door and frame manufacturer shall be a member of the Canadian Steel Door and Frame Manufacturers Association.
- .4 Where required, fire rated doors shall meet temperature rise requirements of the Ontario Building Code.
- .5 Door size tolerances shall be as follows:
 - .1 Overall sizes: Plus or minus 0.8mm.
 - .2 Thickness: Plus or minus 1.6mm.
 - .3 Squareness: Diagonal difference maximum 3mm.
 - .4 Bow, Twist or Warp: Maximum 3mm.
- .6 Head, jamb and floor or threshold clearance for doors shall be as follows:
 - .1 Jamb and Head: 3mm.
 - .2 Bottom: 6mm from finish unless indicated otherwise.
 - .3 Lock Edges: Bevelled 3mm in 50mm.
 - .4 Between Meeting Edges of Pairs of Doors: 3mm.

1.5 Definitions

- .1 Minimum Thickness: Minimum thickness of base metal without coatings.
- .2 Hollow Metal Work: Hollow metal work fabricated according to ANSI/SDI A250.8 2003.(R2008).

1.6 Quality Assurance

- .1 Mock-up:
 - .1 At one (1) location selected by the Owner's Representative, provide an on-site mock-up of a completed door/frame installation, including glazing, hardware, infill panels and paint finish. Refer to Section 09 91 00 – Painting.
 - .2 Mock-up shall be prepared by same installers that will perform the general installation.
 - .3 Approved mock-up installation shall serve as basis for acceptance for general installation.
 - .4 Work shall not proceed until mock-up is prepared and approved.
 - .5 If acceptable, mock-up installation may form part of the Work.
- .2 Manufacturer to make a minimum of three (3) site visits to review Work in progress. Manufacturer to provide site visit reports.
- .3 Consultant/PDSB may request for one (1) door assembly to be cut on site to confirm door/frame construction complies with specifications.
- .4 Manufacturer shall be a member in good standing of the Canadian Steel Door Manufacturers Association (CSDMA).
- .5 Perform Work in accordance with requirements by a member of the Canadian Steel Door and Frame Manufacturers Association.
- .6 Label and list fire rated doors and frames by an organization accredited by the Standards Council of Canada in conformance with CAN4-S104M and CAN4-S105M for ratings specified.
- .7 Unless otherwise specified, meet the requirements of the "Canadian Manufacturing Specification for Steel Doors and Frames" published by the Canadian Steel Door and Frame Manufacturer's Association.
- .8 The Consultant may visit the manufacturer's facility during manufacturing to examine assembly and materials. Any deviations noted from approved shop drawings and from descriptions in the laboratory test report shall be promptly corrected by the Contractor at no cost to the Owner.

1.7 Submittals Prior to Commencement of Work

- .1 Submit shop drawings to the Consultant.
- .2 Indicate each type of door, frame, steel, core, material thickness, mortises, reinforcements, anchorages, locations of exposed fasteners, openings (glazed, paneled or louvered).

- .3 Include a schedule identifying each unit, with door marks or numbers referencing the numbering in Consultant's schedules or drawings.
- .4 Provide confirmation in writing that all aspects to reinforcing, construction, and gauge of metal are met as written in this section.
- .5 Test Reports:
 - .1 All alternates to this specification shall be submitted to PDSB as a detailed comparison between the alternative and specified product with the bid submission and marked as an alternative price, complete with test reports from independent, nationally recognized testing authorities.
 - .2 All reports shall include name of testing authority, date of test, location of test facility, descriptions of test specimens, procedures used in testing and indicate compliance with acceptance criteria of the test.

1.8 Delivery, Storage and Handling

- .1 Follow specification for installation & storage of Hollow Metal Doors & Frames as listed by the CSDMA – Canadian steel doors manufactures association.
- .2 The Contractor responsible for installation shall remove wraps or covers from door and frame product upon delivery at building site.
- .3 All materials shall be thoroughly inspected upon receipt and all discrepancies, deficiencies and/or damages shall be immediately reported in writing to the supplier.
- .4 Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project-site storage. Do not use non-vented plastic.
- .5 Deliver welded frames with two removable shipping bars across bottom of frames, tack welded to jambs and mullions. Shipping bars must be removed prior to installation.
- .6 Store hollow metal work under cover at building site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4" (100mm) high wood blocking. Do not store in a manner that traps excess humidity.
- .7 Provide minimum ¼" (6mm) space between each stacked door to permit air circulation. Door and frames to be stacked in a vertical upright position.

1.9 Warranty

- .1 All steel door and frame product shall be warranted from defects in workmanship for a period of one (1) year from date of substantial completion.
- .2 All steel door and frame product shall be warranted against rust perforation for a period of ten (10) years when installed and finish painted with a commercial quality paint to the manufacturer's recommendations.
- .3 Refer to Section 09 91 00 – Painting for door and door frame paint finish warranty.

PART 2 - PRODUCTS

2.1 Acceptable Manufacturers/Distributors

- .1 A single manufacturer shall fabricate products included within the scope of this Section.
- .2 Subject to compliance with requirements, provide products by one of the following:
 - .1 Baron Metal Doors Industries Inc.:
 - .1 D-Series construction: Tack welded lockseam every 6" vertically
 - .2 Alternate manufacturers must meet exact specifications outlined in this section. The following are acceptable alternate manufacturers:
 - .1 All Steel Doors 2000,
 - .2 All Can Doors and Hardware,
 - .3 Daybar Industries Ltd.
 - .4 Fleming Door Products,
 - .5 Shanahan's Limited
 - .6 Trillium Steel Doors Ltd,
 - .7 Vision Hollow Metal.
- .3 Substitutions: Material from custom hollow metal door and frame fabricators will not be accepted on jobsite without prior written approval.
- .4 All Bids must be provided by a reputable distributor with minimum three (3) years experience similar to the Work awarded for this project. Distributors providing hollow metal products must have capabilities to perform frame and screen welding and door modifications in their facility.
- .5 Distributors providing hollow metal products must have a hollow metal shop and must be ULC certified for shop modifications and WHI/ITS certified. All bids not meeting these conditions prior to awarding will be disregarded. Acceptable Manufacturers listed are excluded from bid process.

2.2 Materials

- .1 Hollow Metal Doors:
 - .1 Hollow metal doors shall have zinc coating finish, ZF075 to ASTM 525, (Wiped Coat) or having Dofasco's Satincote or Stelco's Colorbond zinc coating.
 - .2 Doors shall be flush type, swinging, 44.4 mm (1-3/4") thick of the types and full flush face, edge seam only.
 - .3 Lock and hinge edges shall be bevelled 3 mm in 50 mm unless builders' hardware or door swing dictates otherwise.

- .4 Unless ineligible due to design, size, hardware or glazing specified on the Consultants' or hardware Suppliers' schedules or details, fire labeled doors shall be provided for those openings requiring fire protection ratings and temperature rise ratings, as required by Code.
 - .1 Labels for fire doors and door frame: Brass plate, riveted to door and door frame.
- .5 Interior Doors:
 - .1 Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 and ANSI/SDI A250.4 for physical performance level:
 - .1 Face sheets fabricated of commercial quality A40 galvanized steel that complies with ASTM A653/653M. Minimum 18 gauge thick steel.
 - .2 Core material to interior doors shall be resin impregnated kraft paper formed into a honeycomb core reinforcing to support door every 25mm.
 - .3 Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 18 gauge, extending the full width of the door and welded to the face sheet. Top channel to have integral 14 gauge, 114mm (4^{1/2}") deep by 380mm (15") long closer reinforcing channel.
 - .4 High Frequency Hinge Reinforcement: Minimum 10 gauge.
 - .5 Hardware Reinforcement: Surface applied hardware reinforcing to be a minimum of 12 gauge.
 - .6 Vertical seams shall be mechanically interlocked, tack welded every 6 inches (150 mm) and ground smooth with no filler to be used on the seams.
 - .6 Fire Rated Doors:
 - .1 Core materials to fire rated doors to be manufacturer's standard for fire rated ULC approved fire doors.
 - .2 Fire rated hollow metal doors shall be constructed to ULC approval and shall have required fire rating label attached.
- .2 Hollow Metal Frames
 - .1 Comply with ANSI/SDI A250.8 and with details indicated for type and profile. Frame product shall be fabricated from tension leveled steel to ASTM A924-M97.
 - .2 Door frames shall have zinc coating finish ZF075 to ASTM 525 (Wiped Coat); or having Dofasco's Satincote or Stelco's Colorbond zinc coating before fabrication.
 - .3 Knocked-down and knocked-down drywall frames shall not be acceptable.

- .4 Unless ineligible due to design, size, hardware or glazing specified on the Hardware Supplier's schedules or details, fire labeled frame product shall be provided for those openings required fire protection ratings as determined and scheduled by the Consultant.
 - .1 Labels for fire doors and door frame: Brass plate, riveted to door and door frame.
- .5 Construction:
 - .1 All frames shall be fabricated from minimum 18 gauge steel. Fire rated door frames shall be of thicker gauge if required by ULC rating as scheduled.
 - .2 2.1.3 Pressed steel frames in fire rated walls shall be constructed to ULC approval and shall have fire rating label attached. Rating to be as noted in Door Schedules.
 - .3 Fabricate frames with mitered corners, welded corners, ground filled and dressed smooth.
 - .4 2.1.5 Frame profiles shall as detailed for jamb depths, with 50mm face, 12.7mm returns and 16mm stops.
 - .5 Provide interior door frames with 3 Glyn-Johnson GJ64 rubber bumper mates to strike jamb stop of single doors.
 - .6 Fabricate frames with "closed and tight" miter seams continuously welded on face and back joints, finished smooth with no visible seam unless otherwise indicated. Exterior frame product shall be supplied profile welded (PW).
 - .7 High Frequency Hinge Reinforcement: Minimum 10 gauge.
 - .8 Hardware Reinforcement: Surface applied hardware reinforcing to be a minimum of 12 gauge.
 - .9 Guard Boxes: Minimum 20 Gauge.
- .3 Adhesives:
 - .1 Honeycomb Cores and Steel Components:
 - .1 Heat resistant, spray grade, resin reinforced neoprene/rubber (polychloroprene) based, low viscosity, contact cement or ULC approved equivalent.
 - .2 Interlocking Edge Seams:
 - .1 Resin reinforced polychloroprene (RRPC), fire resistant, high viscosity, sealant/adhesive or UL approved equivalent.

- .4 Frame Anchors
 - .1 Frame product shall be provided with anchorage appropriate to floor, wall and frame construction.
 - .2 Anchor bolts and expansion shell anchors shall be provided by the contractor responsible for installation.
 - .3 After sufficient tightening of the anchor bolts, the heads shall be welded as to provide a non-removable application. Welded bolt head and dimple shall be filled and ground to present a smooth uniform surface by the contractor responsible for installation, prior to finish painting.
 - .4 Where indicated on the Consultants' schedules or details, channel extensions shall be provided from the top of the frame assembly to the underside of the structure above. Extensions shall be fabricated from 12 gauge steel formed channel, mounting angles welded to inside of frame head and adjusting brackets. Formed channels, adjusting brackets and fasteners shall be shipped loose. Channels shall be mechanically connected to mounting angles and adjusting brackets with supplied fasteners, on site, by contractor responsible for installation.
 - .5 Jamb Anchors:
 - .1 Frame product installed in drywall partitions shall be provided with 20 gauge steel snap-in or "Z" type stud type anchor.
 - .2 Jambs of frames in previously placed concrete, masonry, wood, or structural steel shall be punched and dimpled to accept machine bolt anchors, 9 mm diameter, located not more than 150mm from the top and bottom of each jamb. Anchor preparations and guides shall also be located immediately above or below the intermediate hinge reinforcing and directly opposite on the strike jamb. Each preparation shall be provided with 16 gauge anchor bolt guides.
 - .6 Floor Anchors: Floor anchors are to be provided at each frame, formed from same material as frames, not less than 0.042 inch (1.0 mm) thick, and as follows:
 - .1 All vertical hollow metal mullions must be supplied with 12 gauge mullion base anchor to suit.
 - .2 Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
 - .3 Separate Topping Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
- .5 Glazing Stops/Trim
 - .1 Where 6mm thick glazing materials are specified on the Consultants schedules or details, doors shall be provided with 20 gauge steel glazing trim and snap-in glazing stops.

- .2 Where other than 6mm glazing is specified on the Consultant's schedules or details, doors shall receive 16 gauge steel trim and screw fixed glazing stops. Screws shall be #6 x 32mm oval head scrulox (self-drilling) type at 300mm on center maximum spacing.
- .3 Glazing trim and stops shall be accurately fitted, rounded, butted at corners, with removable glazing stops located on the 'push' side of the door.
- .4 Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch (16 mm) high unless otherwise indicated.
- .6 Louver Preparations
 - .1 Where specified on the Consultant's schedules or details, non-labelled doors shall be prepared in accordance with the louver manufacturer's details.
 - .2 Where specified on the Consultant's schedules or details, fire labelled doors shall be prepared for UL listed sight-proof fusible link louvers in accordance with the louver manufacturer's details.
 - .3 Louvers shall be supplied and installed.
- .7 Glass and Glazing:
 - .1 Single pane 6mm heat soaked and tempered glass.
 - .2 Fire Rated Glass: Single-pane 7.9mm fire protection rated, impact resistant, laminated clear glass ceramic is to be supplied and installed in all frames and doors where fire rated separations are required.
 - .1 Fire-rated glass product to be one of the following:
 - .1 "Fire Lite Plus" by Technical Glass Products
 - .2 "Keralite L" by Vetrotech Saint-Gobain
 - .3 "Pyran Platinum L" by Schott North America.
 - .2 Fire rated glass must bear a permanent label acceptable to local Authorities Having Jurisdiction.
 - .3 Coordinate with manufacturer of hollow metal products to ensure the glass provided is an acceptable component in their labelled doors and frames.

2.3 Fabrication

- .1 **Field Measurements: Contractor is to verify actual dimensions of openings by field measurements before fabrication.**
- .2 Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at building site, clearly identify work that cannot be permanently factory assembled before shipment.

- .3 Should any door or frame specified by the Consultant to be fire rated, not qualify for labeling due to design, hardware, glazing or any other reason, the Consultant shall be so advised before manufacturing fabrication commences.
- .4 Tolerances: Fabricate hollow metal work to tolerances indicated in ANSI/SDI A250.8.
- .5 Hollow Metal Doors:
 - .1 Provide tack welds every 6 inches at top and bottom of the door, hinges and lockset.
 - .2 Glazed Lites: Factory cut openings in doors with applied flush trim kit to fit.
 - .3 Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated.
 - .4 Rabbetted Top Caps and Panels: Provide Rabbetted Top Caps and rabbetted panels at doors with transom panel and no transom mullion, where required by NFPA 80 for fire-performance rating or where indicated.
 - .5 Doors shall be factory blanked, reinforced, drilled and tapped for fully templated mortised hardware only, in accordance with the final approved schedule and templates provided by the hardware supplier.
 - .6 Doors shall be factory reinforced only for surface mounted hardware.
- .6 Hollow Metal Frames:
 - .1 Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
 - .2 Welded Frames: Weld flush face and back joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
 - .1 Welded frames are to be provided with a steel shipping bar temporarily attached to the bottom of both jambs to serve as a brace during shipping and handling. Shipping bars are for bracing only and are not to be used to size the frame opening.
 - .3 Sidelight and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
 - .4 Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.
 - .5 Mullions shall be fabricated with continuous 20 gauge galvaneal steel internal reinforcing clips.
 - .6 Unequal Rabbet Frames: Provide frames with unequal rabbet dimensions unless glazing and removable stops require wider dimensions on glass side of frame.

- .7 Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated for removable stops, provide security screws at exterior locations.
- .8 Grout Guards: Install guard boxes to frame at back of hardware mortises in frames at all hinges and strike preps regardless of grouting requirements.
- .9 Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
- .10 Jamb Anchors: Provide number and spacing of anchors required by the engineered shop drawings.
- .11 Door Silencers: Except on weather-stripped or gasketed doors, drill stops to receive door silencers as follows. Keep holes clear during construction. Silencers to be supplied by frame manufacturer.
 - .1 Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
 - .2 Double-Door Frames: Drill stop in head jamb to receive two door silencers.
 - .3 Door silencers: CAN/CGSB 69.30, Type 6-180, black neoprene.
- .12 Templated holes 12.7mm diameter and larger shall be factory prepared, except mounting and through bolt holes, which shall be by the Contractor responsible for installation on site, at the time of application. Templated holes less than 12.7mm diameter shall be factory prepared only when required for the function of the device (for knobs, levers, cylinders, thumb or turn pieces) or when these holes over-lap function holes.
- .13 Drilling and tapping for surface mounted hardware or mortised hardware that is not fully templated shall be by the Contractor responsible for installation on site, at the time of application.
- .14 Frames shall be factory blanked, reinforced, drilled and tapped for fully templated mortised hardware only, in accordance with the final approved schedule and templates provided by the hardware supplier.
- .15 Frames shall be factory reinforced only for surface mounted hardware.
- .7 Finishing:
 - .1 Remove weld slag and spatter from exposed surfaces.
 - .2 All tool marks, abrasions and surface blemishes shall be filled and sanded to present smooth and uniform surfaces.
 - .3 On exposed surfaces where zinc has been removed during fabrication, frame product shall receive a factory applied touch-up primer.
 - .4 Exposed surfaces which have been scratched or otherwise marred during shipping, handling or installation shall be touched-up with a rust inhibitive primer.

2.4 Hardware Requirements

- .1 Hardware to be supplied and installed by Contractor. Refer to Hardware Schedule in Appendix 2.

2.5 Painting

- .1 Refer to Section 09 91 00 – Painting for priming and painting.
- .2 Paint finish colour to be approved by the PDSB. Unapproved paint finish may result in rejection of door and/or frame product.

PART 3 - EXECUTION

3.1 Examination

- .1 Examine the drawings and specifications to determine the extent of the work involved, together with other data affecting the work, as in no circumstances will any claims against the Owner be allowed resulting from failure to ascertain the extent of such work shown, herein described or implied.
- .2 Examine substrates, areas, and conditions, with door installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- .3 Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.
- .4 For the record, prepare written report, endorsed by door installer, listing conditions detrimental to performance of the Work. Report defects to Consultant. Commencement of Work means acceptance of existing conditions.
- .5 Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 Preparation

- .1 Remove welded-in shipping bars installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- .2 Drill and tap doors and frames to receive non-template, mortised, and surface-mounted door hardware.

3.3 Installation

- .1 Follow specification for installation & storage of Hollow Metal Doors & Frames as listed by the CSDMA – Canadian Steel Doors Manufacturers Association.
- .2 Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.
- .3 Transom frames: Locate one anchor for every 12" of transom height. Maximum of 5 anchors.
- .4 Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11.

- .1 Prior to installation, adjust and securely brace welded hollow metal frames for squareness, alignment, twist, and plumbness to the following tolerances:
 - .1 Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - .2 Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
 - .3 Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - .4 Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a perpendicular line from head to floor.
 - .2 Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set.
 - .3 At fire-protection-rated openings, install frames according to NFPA 80.
 - .4 Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - .5 Install door silencers in frames before applying spray foam insulation.
 - .6 Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - .7 Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
 - .8 Coordinate installation of frames to allow for hollow metal frames filled with spray foam insulation.
- .5 Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
- .1 Non-Fire-Rated Standard Steel Doors:
 - .1 Jambs and Head: 1/8 inch (3 mm) plus or minus 1/16 inch (1.6 mm).
 - .2 Between Edges of Pairs of Doors: 1/8 inch (3 mm) plus or minus 1/16 inch (1.6 mm).
 - .3 Between Bottom of Door and Top of Threshold: Maximum 3/8 inch (9.5 mm).
 - .4 Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch (19 mm).
 - .2 Fire-Rated Doors: Install doors with clearances according to NFPA 80.

- .6 Glazing: Comply with manufacturer's installation requirements.
- .7 Install louvers and vents as per manufacturer's installation requirements.
- .8 Steel surfaces shall be kept free of grout, tar or other bonding materials or sealers.
- .9 Any bonding material shall be cleaned from products immediately following installation.
- .10 Exposed field welds shall be finished to present a smooth uniform surface and shall be touched-up with a rust inhibitive primer.
- .11 Exposed surfaces that have been scratched or otherwise marred during shipment, installation or handling shall be touched-up with a rust inhibitive primer.
- .12 Refer to Section 09 91 00 – Painting for paint finishing on doors.
- .13 If glazing cannot be installed on the same day as the door assembly, temporary glazing lites are to be installed. Temporary glazing lites shall be 6 mm Georgian Wired glass. Plywood and other materials will not be accepted.
- .14 Install door hardware as per hardware schedule and hardware manufacturer's instructions. Adjust operable parts for correct clearances and function.
- .15 Seal all joints between door frame and surrounding substrate with appropriate sealant. Refer to Section 01 11 00 - Scope of Work.

3.4 Adjusting and Cleaning

- .1 Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable. Adjust doors for smooth and balanced door movement.
- .2 Repair any damages to the surrounding substrate caused by the door and frame installation. Repair materials and colours to match existing.
- .3 Clean doors, frames, and glazing.

END OF SECTION

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PART 1 - GENERAL

1.1 General Requirements

- .1 All conditions of the contract and Division 1, General Requirements apply to this section.
- .2 All materials and equipment must be set up in a position satisfactory to the Owner's representative.
- .3 All materials shall be new and in perfect condition, free from defects which may impair strength, durability, or appearance.
- .4 Scheduling of the work shall be discussed with and be subject to the approval of the Owner.

1.2 References

- .1 Comply with requirements of the following documents, latest edition:
 - .1 CAN/CGSB-85.100, Painting
 - .2 ASTM D3359, Standard Test Methods for Measuring Adhesion by Tape Test, Tape Method A.
 - .3 Ontario Painting Contractors Association Specification Manual.
 - .4 Architectural Painting Specifications Manual, Master Painters Institute (MPI).
 - .5 Systems and Specifications Manual, SSPC Painting Manual, Volume Two, Society for Protective Coatings (SSPC).
 - .6 Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, Method 24 (for Surface Coatings) of the Environmental Protection Agency (EPA).
 - .7 Ontario Building Code.

1.3 System Design

- .1 Supply and install paint finish on all door and frame product.

1.4 Quality Assurance

- .1 Contractor Qualifications
 - .1 Execute the work of this Section by a Contractor with equipment adequate for the Project and experienced tradesperson(s) to perform the work expeditiously, known to have been responsible for satisfactory installations similar to those specified.

- .2 Mock-up
 - .1 At a location selected by the Owner's Representative, provide an on-site mock-up of each individual area to be coated, complete with the associated colour and texture. Mock-up to be completed as per manufacturer's application requirements, including surface preparation and coating thickness.
 - .2 Mock-up shall be prepared by same applicators that will perform the general installation.
 - .3 Approved mock-up application shall serve as basis for acceptance for general application.
 - .4 Work shall not proceed until mock-up is prepared and approved.
- .3 Standard of Acceptance:
 - .1 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.
 - .2 Any work that is found to be sub-standard, is to be removed and replaced at no cost to the Owner. The Contractor is to assist with the field review and testing as directed.
- .4 Field Quality Control
 - .1 Upon request, surfaces requiring painting shall be inspected by an independent inspection agency who shall notify Consultant in writing of defects or problems, prior to commencing painting work, or after prime coat shows defects in substrate.
 - .2 Paint or coating manufacturer shall provide as part of work, certification of surfaces and conditions for specific paint or coating system application as well as on site supervision, inspection and approval of their paint or coating system application as required at no additional cost to Owner.
 - .3 Dry Film Thickness (DFT) of coating can be measured by electronic gauge. Wet Film Thickness (WFT) is specified to measure coating thickness. 1mil = 25Fm.
 - .4 Should testing and/or construction review indicate deficiencies, they shall be rectified, at the Contractor's expense.

1.5 Submittals Prior to Commencement of Work

- .1 Submit product data and manufacturer's installation/application instructions for paints and coating products to be used.
- .2 Submit 200mm x 300mm (8"x12") sample panels of each paint, stain, clear coating or special finish with specified paint or coating in colours, gloss/sheen and textures required on the following substrate materials:
 - .1 1.21mm (18 ga) sheet steel for finishes over metal surfaces;
- .3 Upon request submit full range of available colours where colour availability is restricted.

- .4 Upon completion, submit records of products used. List products in relation to finish system and include the following:
 - .1 Product name, type and use.
 - .2 Manufacturer's product number.
 - .3 Colour number[s].
 - .4 Manufacturer's Material Safety Data Sheets (MSDS).

1.6 Delivery, Storage and Handling

- .1 Deliver materials in the original containers with the seals unbroken and labels intact and with the Manufacturer's instructions printed thereon.
- .2 Labels shall clearly indicate:
 - .1 Manufacturer's name and address;
 - .2 Type of paint or coating;
 - .3 Compliance with applicable standard; and
 - .4 Colour number in accordance with established colour schedule.
- .3 Store all materials used on the job in a single place designated by the Owner. Such storage place shall be kept neat and clean and all damage thereto or its surroundings shall be made good. Soiled or used rags, waste and trash must be removed from the building on a daily basis and every precaution taken to avoid the danger of fire. After completion of operations, return areas to clean condition to approval of Consultant.
- .4 Observe manufacturer's recommendations for storage and handling.
- .5 Store all materials on pallets protected from weather and construction activity.
- .6 Store temperature sensitive products above minimum temperature as recommended by manufacturer.
- .7 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of Consultant.
- .8 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.
- .9 Fire Safety Requirements (if applicable):
 - .1 Provide one 9 kg Type ABC fire extinguisher adjacent to storage area.
 - .2 Store solvent rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.

- .3 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.

1.7 Waste Management and Disposal

- .1 Paint, stain and wood preservative finishes and related materials (thinners, solvents, etc.) are regarded as hazardous products and are subject to regulations for disposal. Information on these controls can be obtained from Provincial Ministries of Environment and Regional levels of Government.
- .2 Remove empty and partly used containers, material which cannot be reused and peripheral items such as clean up solvents, paint brushes, rags, and similar items from site and recycle or dispose of as Hazardous Waste in accordance with local municipal, provincial and federal environmental regulations. Provide proof of such action in form of receipts of tipping fees, disposal fees or bills of lading, as applicable.
- .3 Place materials defined as hazardous or toxic waste, including used sealant and adhesive tubes and containers, in containers or areas designated for hazardous waste.
- .4 Do not rinse off water soluble paints from brushes and rags under running water tap. While work is ongoing, whether using latex or alkyd products, rinse off all brushes and rags in container with appropriate solvent (water or paint thinner). Leave such container in well lit and well ventilated area, away from any flammable conditions. Dispose of emulsion created in accordance with local municipal, provincial and federal environmental regulations.

1.8 Environmental Requirements

- .1 Apply coating at air and substrate temperatures not less than the minimum recommended by the manufacturer. No coating shall be applied when ambient or substrate temperatures are below 5°C (41°F) or when temperatures are expected to drop below 5°C within 2 hours of paint finish application.
- .2 Do not apply coating finishes when rain, fog, mist or snow is present or when frost may form on the surfaces to receive coating. Coating shall not be applied when relative humidity conditions may cause condensation on surfaces to receive coating.
- .3 Apply paint finishes only when conditions forecast for entire period of application fall within manufacturer's recommendations.
- .4 Do not apply paint finishes when ambient or substrate temperatures exceed 37°C (100°F).
- .5 Apply paint finish only in areas where dust is no longer being generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect quality of finished surface.
- .6 Apply paint only to adequately prepared surfaces and to surfaces within moisture limits recommended by the manufacturer.
- .7 Apply paint only when previous coat of paint is dry or adequately cured.

- .8 Schedule painting operations such that surfaces exposed to direct, intense sunlight are scheduled for completion during early morning.
- .9 Remove paint from areas which have been exposed to freezing, excess humidity, rain, snow or condensation. Prepare surface again and repaint.
- .10 Paint occupied facilities in accordance with approved schedule only. Schedule operations to approval of the Consultant and Owner such that painted surfaces will have dried and cured sufficiently before occupants are affected.

1.9 Warranty

- .1 Finish paint adhesion on all door and frame product shall be warranted for a period of ten (10) years when the product has been properly cleaned and finish painted with a commercial quality paint applied as recommended by the paint manufacturer. This warranty shall not exceed that provided by the paint manufacturer.
- .2 Any repair required under the warranty will be carried out in accordance with the recommendations of the Consultant.

PART 2 - PRODUCTS

2.1 List of Proposed Materials

- .1 The use of materials other than those specified herein must be approved prior to award of the Contract. If substitute materials are proposed, then the list of materials must be included as part of the Rate Bid Form. This submittal shall include product name, number and data sheets and manufacturer's specifications and installation instructions.
- .2 All materials listed below must be used on the project. Under no circumstances will substitute materials be used unless approval is first received from the Owner. Use of substitute materials without prior approval can result in the removal and replacement of these materials at no cost to the Owner.
- .3 Materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) shall be in accordance with MPI Painting Specification Manual "Approved Product" listing and shall be from a single manufacturer for each system used, unless noted on drawings or as acceptable materials within this specification.
- .4 Other paint materials such as linseed oil, shellac, turpentine, etc. shall be the highest quality product of an approved manufacturer.

2.2 Materials

- .1 Interior Doors: Epoxy Primer (one coat)/ Epoxy Finish coat (two coats)

Manufacturer	Primer	Finish Coat
PPG Canada Inc.	Aquapon® WB Epoxy Primer (4 mils)	Aquapon® WB Epoxy (2x2 mils)
ICI Devoe Coatings	Tru-Glaze® WB 4030 (4 mils)	Tru-Glaze® WB 4428 (2x2 mils)
The Sherwin Williams Company	Recoatable Epoxy Primer Low VOC (6 mils)	Macropoxy 646 - 100 (5 mils)

- .2 Colour as approved by PDSB.

2.3 Mixing and Tinting

- .1 Perform colour tinting operations prior to delivery of paint to site.
- .2 Paste, powder or catalyzed paint mixes shall be mixed in strict accordance with manufacturer's written instructions.
- .3 Where thinner is used, addition shall not exceed paint manufacturer's recommendations. Do not use kerosene or any such organic solvents to thin water-based paints.
- .4 Thin paint for spraying in strict accordance with paint manufacturer's instructions. If directions are not on container, obtain instructions in writing from manufacturer and provide copy of instructions to Consultant.
- .5 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.

2.4 Gloss/Sheen Ratings

- .1 Gloss/Sheen level ratings of painted surfaces shall be as chosen by the Owner from the paint charts supplied by Contactor of chosen Manufacturer.

2.5 Application Equipment

- .1 Application equipment is not required to be new but shall be adequate for the work and workmanship herein specified.
- .2 Drop cloths, maskings, scrapers, tools, dusters, cleaning solvents shall be as required to perform the work and achieve the results herein specified.

PART 3 - EXECUTION

3.1 Examination

- .1 Examine the drawings and specifications to determine the extent of the work involved, together with other data affecting the work, as in no circumstances will any claims against the Owner be allowed resulting from failure to ascertain the extent of such work shown, herein described or implied.
- .2 Examine surfaces to receive coating finishes and report to the Consultant in writing all defects which cannot be corrected by the procedures specified in this Section, before starting any work.
- .3 Examine work of other trades for defects and discrepancies and report them to the Consultant in writing. Do not proceed with work until surfaces are satisfactory.
- .4 Commencement of work shall be construed as acceptance of surfaces, and therefore the Contractor shall be fully responsible for satisfactory work as specified herein.

3.2 Protection

- .1 Protect adjacent areas at all times by suitable covering or other method during progress of work. Use sufficient drop cloths and protective coverings for full protection of all adjacent components of building which do not require painting. Contractor shall remove all protective materials at the completion of the job. Clean any components that are paint spotted or soiled. The Contractor shall be responsible for adequately protecting all property from damage due to paint overspray. Mask off all adjacent finishes.
- .2 Protect passing pedestrians, building occupants and public in and about the building.
- .3 As painting operations progress, place "WET PAINT" signs in pedestrian and vehicle traffic areas to approval of Consultant.
- .4 When handling solvent coating materials, wear approved vapour/particulate respirator as protection from vapours. Dust respirators do not provide protection from vapours.
- .5 Keep waste rags in covered metal drums containing water and remove from building at end of each day.

3.3 Surface Preparation

- .1 All repair work to be completed prior to commencement of Work.
- .2 Surfaces shall be free of any foreign materials, which adversely affect adhesion or appearance of applied coating. Clean off all dust, dirt, wax, grease, laitance, efflorescence mildew, fungus, biological residues, chemical contaminants, and previous coatings and other contaminants before painting.

- .3 Metal Surfaces:
 - .1 Exposed surfaces which have been scratched or otherwise marred during shipping, handling, or installation where zinc has been removed shall be touched-up with a rust inhibitive primer.
 - .2 Clean metal surfaces to be painted by removing rust, loose mill scale, welding slag, dirt, oil, grease and other foreign substances down to bare metal. Remove traces of blast products from surfaces, pockets, and corners to be painted by blowing with clean dry compressed air or brushing/vacuum cleaning.
 - .3 All welds to be ground flush prior to application of paint finish.
 - .4 Repair small holes in metal by cutting out deteriorated metal and repair by filling hole with welding material.
 - .5 Repair all deteriorated or otherwise damaged weld points as required.
 - .6 Prepare all rusted surfaces by grinding to SSPC-SP3 (Power Tool Clean) where DSS report indicates safe/appropriate to do so. Produce a smooth, clean surface without rust in pits and without rough edges or protrusions.
 - .7 Old paint may remain if it is solidly adhering. It shall be considered to have sufficient adhesion if it cannot be lifted as a layer by inserting a knife blade under it.
 - .8 Remove mildew by scrubbing with a solution of one tablespoon dry powdered laundry detergent and one quart hydrochloride type household bleach, to 3 quarts warm water. Follow with a thorough rinse with water. Wear protective glasses and gloves.
 - .9 Dull by sanding all existing hard glossy paint surfaces to achieve maximum adhesion where DSS report indicates safe/appropriate to do so.
 - .10 Clean all surfaces to remove dirt and chalk immediately prior to painting with a Trisodium Phosphate (TSP) solution, followed by a clear water rinse. Allow surface to dry, and paint prior to flash rust formation.
 - .11 Do not apply paint until prepared surfaces have been accepted by the Consultant.

3.4 Application

- .1 General
 - .1 Method of application to be as approved by Consultant. Apply paint by brush, roller or airless sprayer. Conform to manufacturer's application instructions unless specified otherwise.
 - .2 All applications shall have one (1) prime coat and two (2) finish coats. If the dried finish is not uniform in appearance, colour, and gloss, then additional finish coats shall be applied at the Contractor's expense.

- .3 Consultant does not approve after the three-coat application, given the approval of the substrate preparation and original mock-up, a third finish coat shall be applied at the contractor's expense.
- .4 Apply paint materials in accordance with paint manufacturer's written application instructions.
- .5 The use of paint thinners shall be avoided and used only when necessary. In the event a thinner is necessary, only the paint Manufacturer's thinner shall be used in the amounts prescribed. Substitutions are prohibited unless approved in writing by the paint manufacturer.
- .6 Paint additives are prohibited and may be used only with the written approval of the Owner or his agent.
- .7 Brush and Roller Application:
 - .1 Apply paint in a uniform layer using brush and/or roller of types suitable for application.
 - .2 Work paint into cracks, crevices and corners.
 - .3 Paint surfaces and corners not accessible to brush using spray, daubers and/or sheepskins. Paint surfaces and corners not accessible to roller using brush, daubers, or sheepskins.
 - .4 Brush and/or roll out runs and sags, and over-lap marks. Rolled surfaces shall be free of roller tracking and heavy stipple unless approved by Consultant.
 - .5 Remove runs, sags and brush marks from finished work and repaint.
- .8 Spray Application:
 - .1 Provide and maintain equipment that is suitable for intended purpose, capable of properly atomizing paint to be applied, and equipped with suitable pressure regulators and gauges.
 - .2 Keep paint ingredients properly mixed in containers during paint application either by continuous mechanical agitation or by intermittent agitation as frequently as necessary.
 - .3 Apply paint in a uniform layer, with overlapping at edges of spray pattern.
 - .4 Brush out immediately runs and sags.
 - .5 Use brushes to work paint into cracks, crevices and places which are not adequately painted by spray.
- .9 Use dipping, sheepskins, or daubers only when no other method is practical in places of difficult access and only when specifically authorized by Consultant.

- .10 Apply coats of paint as a continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.
 - .11 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.
 - .12 Sand and dust between coats to remove visible defects.
 - .13 Finish surfaces both above and below sight lines as specified for surrounding surfaces, including such surfaces as projecting ledges.
- .2 Metal Surfaces
- .1 Surfaces shall be clean, dry and adequately protected from dampness.
 - .2 Apply one (1) primer coat and allow it to cure per the manufacturer's specification.
 - .3 Apply by brush. The application of coating by sprayer may be considered at the Consultant's discretion.
 - .4 Apply materials under adequate illumination, evenly spread and flowed-on smoothly to avoid runs, sags, brush marks, air bubbles and excessive roller stipple.
 - .5 Mix all materials thoroughly prior to application.
 - .6 Apply two (2) coats of the finish coat as specified by the manufacturer. Film thicknesses to meet manufacturer's specifications.
 - .7 The dried finish shall be uniform in appearance, colour, and gloss. The finish shall be free of dirt, coarse particles, or any other foreign matter.

3.5 Final Cleaning

- .1 Remove all surplus material and debris resulting from work on a daily basis and on completion.
- .2 Clean to Consultant's approval, soiled surfaces, spatters, and damage caused by work of this Section.

END OF SECTION

APPENDIX 3:

Drawings



Consulting Engineers | Working Together, Better

2024 INTERIOR DOOR REPLACEMENT 1120 FLAGSHIP DRIVE MISSISSAUGA ON L4Y 2K1

PREPARED FOR:
DIXIE PS. C/O PEEL DISTRICT SCHOOL BOARD
1120 FLAGSHIP DRIVE MISSISSAUGA ON L4Y 2K1

PREPARED BY:
PRETIUM ENGINEERING INC.
5403 EGLINTON AVE WEST, UNIT 100
TORONTO, ON M9C 5K6
www.PretiumEngineering.com

JULY 2023
20-01084



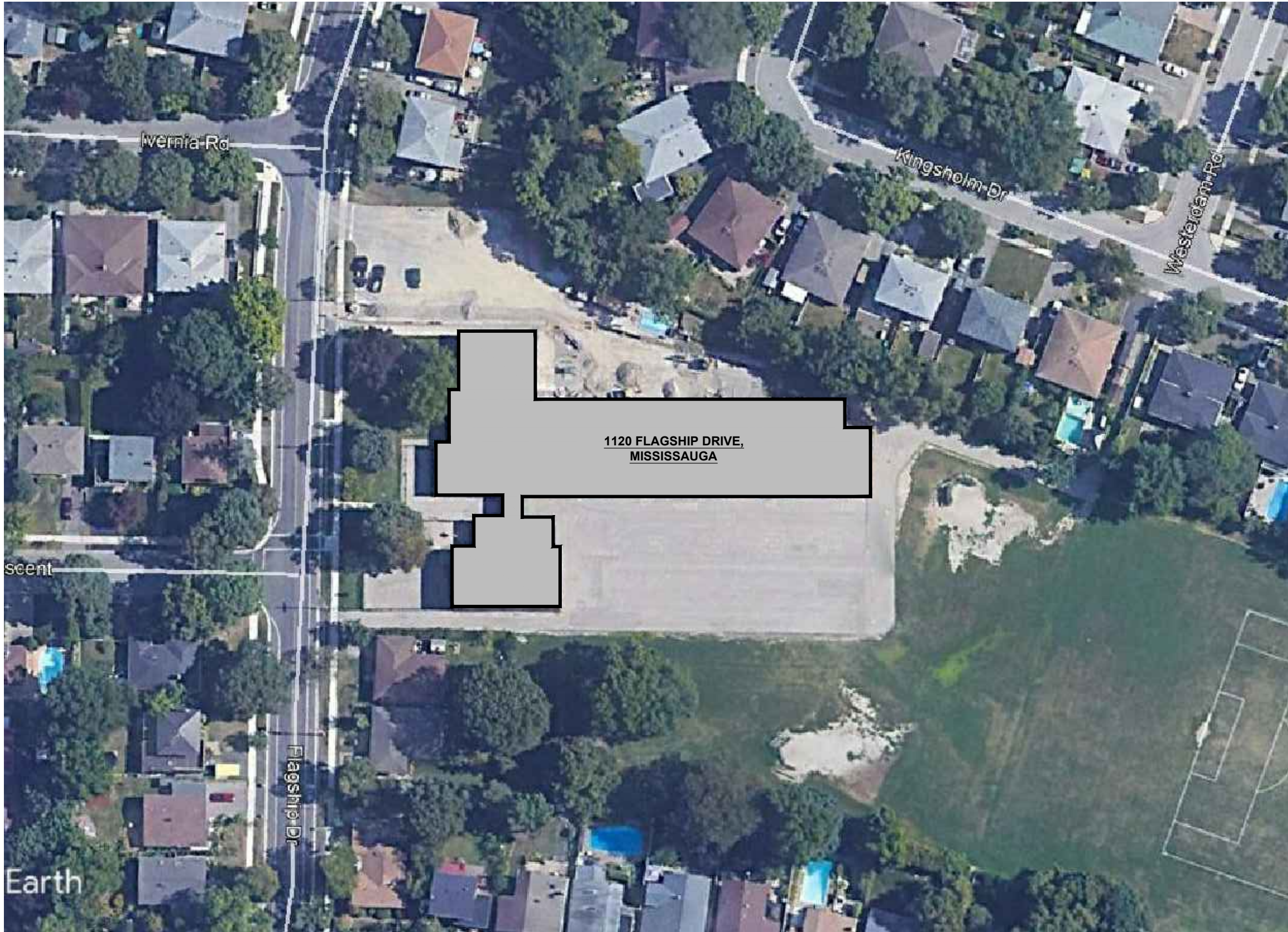
GENERAL NOTES

1. ALL DRAWINGS ARE THE PROPERTY OF THE CONSULTANT AND MAY NOT BE REPRODUCED IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION OF THE CONSULTANT.
2. THE CONSULTANT BEARS NO RESPONSIBILITY FOR THE INTERPRETATION OF THE DOCUMENTS BY THE CONTRACTOR. THE CONSULTANT WILL PROVIDE CLARIFICATION OR SUPPLEMENTAL INFORMATION REGARDING THE INTENT OF THE DOCUMENTS UPON WRITTEN APPLICATION.
3. ALL DIMENSIONS ARE NOMIOMJL AND REPRESENT MILLIMETERS UNLESS NOTED OTHERWISE.
4. CONTRACTOR SHALL SITE VERIFY ALL DIMENSIONS AND ELEVATIONS. THE DRAWINGS ARE NOT TO BE SCALED. REPORT ANY DISCREPANCIES TO THE CONSULTANT BEFORE PROCEEDING WITH THE WORK.
5. ALL MATERIALS IN DETAILS ARE TO BE NEW EXCEPT AS NOTED OTHERWISE.
6. COORDIOMJTE ALL SITE ACCESS AND CLEARANCES WITH THE BOARD.
7. ALL WORK SHALL BE CARRIED OUT IN CONFORMANCE WITH THE CODE AND BYLAWS HAVING JURISDICTION. COORDIOMJTE ALL INSPECTIONS WITH THE MUNICIPALITY.
8. COORDIOMJTE ALL UTILITY STAKEOUTS AND CLEARANCES WITH THE APPROPRIATE UTILITY.
9. COORDIOMJTE WITH AND INFORM CONSULTANTS OF WORK IN PROGRESS AND PROVIDE FREE ACCESS FOR REVIEW BY THE CONSULTANT.
10. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SAFEGUARD ALL EXISTING STRUCTURES AFFECTED BY THIS CONSTRUCTION.
11. SUBMIT DATA SHEETS FOR ALL PROPOSED MATERIALS/PRODUCTS TO THE CONSULTANT PRIOR TO INCORPORATING INTO THE WORK.
12. NO HOLES SHALL BE MADE THROUGH STRUCTURAL MEMBERS WITHOUT PRIOR WRITTEN APPROVAL FROM THE CONSULTANT.
13. THE CONTRACTOR SHALL VERIFY THE WORK AREA WITH THE CONSULTANT PRIOR TO BEGINNING WORK.

NO.	REVISIONS	DATE
3	ISSUED FOR TENDER REV. 2	JULY, 2023
2	ISSUED FOR TENDER REV. 1	MAY, 2023
1	ISSUED FOR TENDER	MAR, 2022

DRAWING LIST

- A000 COVER PAGE AND GENERAL NOTES
- A001 SITE PLAN
- A100 1st FLOOR PLAN
- A101 2nd FLOOR PLAN
- A102 DOOR LAYOUTS
- A103 DOOR LAYOUTS
- A104 DOOR LAYOUTS



GENERAL NOTES:
 1. ALL MATERIALS TO BE NEW EXCEPT WHERE NOTED AS "EXISTING"
 2. ALL SITE CONDITIONS AND MEASUREMENTS TO BE CONFIRMED BY THE CONTRACTOR.

NO.	REVISIONS	DATE
3	ISSUED FOR TENDER REV. 2	JULY. 2023
2	ISSUED FOR TENDER REV. 1	MAY. 2023
1	ISSUED FOR TENDER	MAR. 2022

STAMP:



CLIENT:
 DIXIE PUBLIC SCHOOL
 PEEL DISTRICT SCHOOL BOARD

PROJECT:
 2024 INTERIOR DOOR REPLACEMENT
 1120 FLAGSHIP DRIVE MISSISSAUGA ON L4Y 2K1

DRAWING:
 SITE PLAN

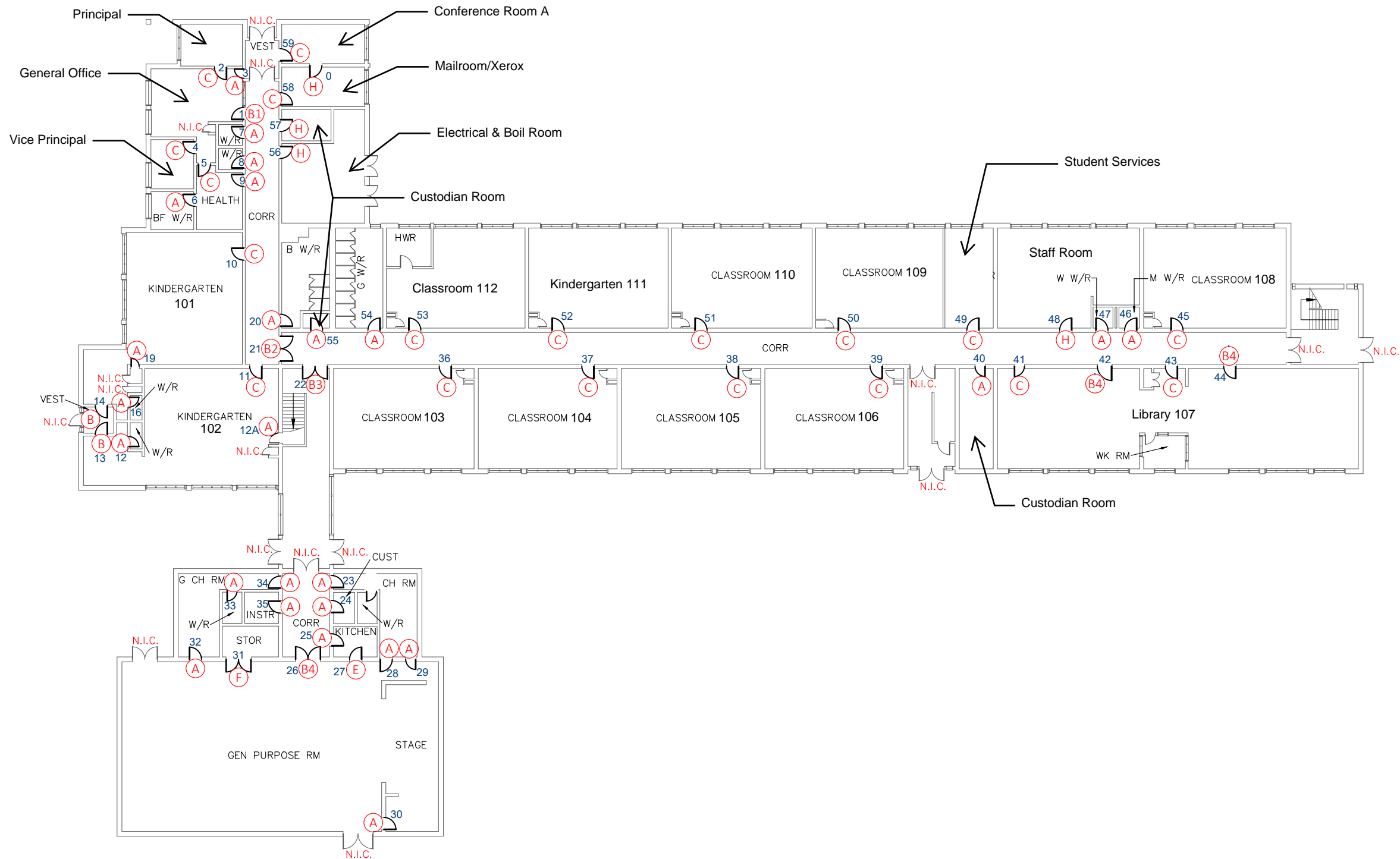
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CHECKED BY:	JYK	DATE:	JULY 2023
PROJECT NO:	20-01084	DWG NO:	A001

GENERAL NOTES:

1. ALL MATERIALS TO BE NEW EXCEPT WHERE NOTED AS "EXISTING"
2. ALL SITE CONDITIONS AND MEASUREMENTS TO BE CONFIRMED BY THE CONTRACTOR.

LEGEND:

- DX DOOR TYPE
- X DOOR NUMBER



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3	ISSUED FOR TENDER REV. 2	JULY, 2023
2	ISSUED FOR TENDER REV. 1	MAY, 2023
1	ISSUED FOR TENDER	MAR, 2022

STAMP:



CLIENT: DIXIE PUBLIC SCHOOL
PEEL DISTRICT SCHOOL BOARD

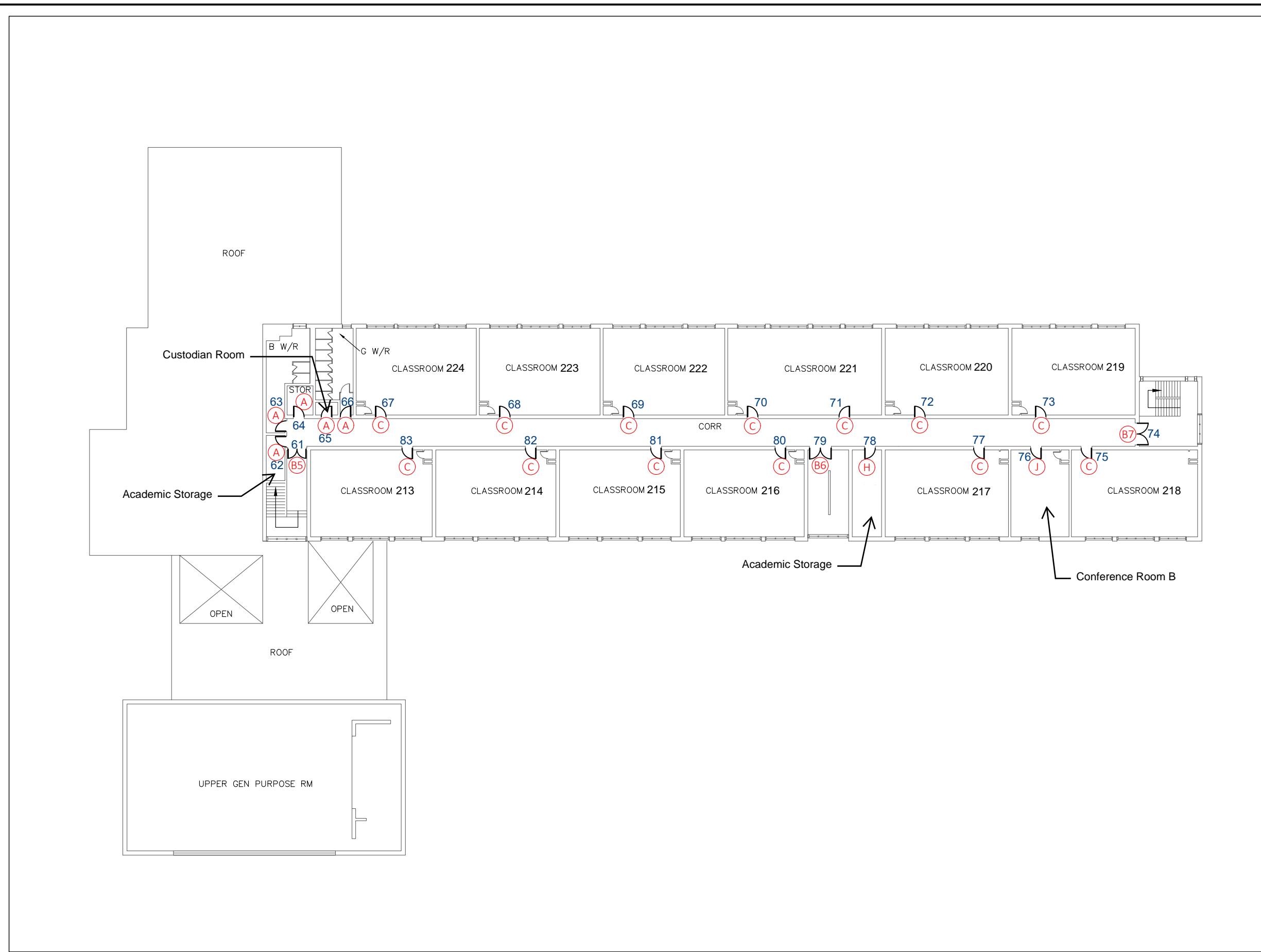
PROJECT: 2024 INTERIOR DOOR REPLACEMENT
1120 FLAGSHIP DRIVE MISSISSAUGA ON L4Y 2K1

DRAWING: FIRST FLOOR PLAN

DRAWN BY: OMJ	SCALE: NOT TO SCALE
CHECKED BY: JYK	DATE: JULY 2023
PROJECT NO: 20-01084	DWG NO: A100

1 FIRST FLOOR PLAN
A100

N.T.S.



GENERAL NOTES:
 1. ALL MATERIALS TO BE NEW EXCEPT WHERE NOTED AS "EXISTING"
 2. ALL SITE CONDITIONS AND MEASUREMENTS TO BE CONFIRMED BY THE CONTRACTOR.

LEGEND:
 (Dx) DOOR TYPE
 X DOOR NUMBER

NO.	REVISIONS	DATE
3	ISSUED FOR TENDER REV. 2	JULY, 2023
2	ISSUED FOR TENDER REV. 1	MAY, 2023
1	ISSUED FOR TENDER	MAR, 2022

STAMP:



CLIENT:
 DIXIE PUBLIC SCHOOL
 PEEL DISTRICT SCHOOL BOARD

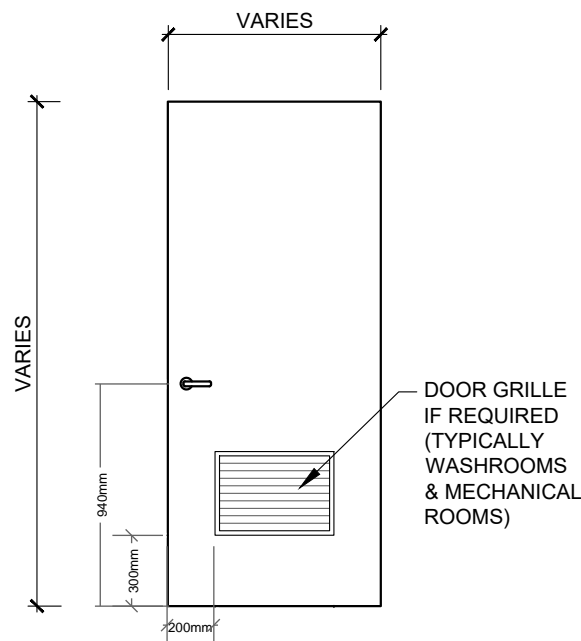
PROJECT:
 2024 INTERIOR DOOR REPLACEMENT
 1120 FLAGSHIP DRIVE MISSISSAUGA ON L4Y 2K1

DRAWING:
 SECOND FLOOR PLAN

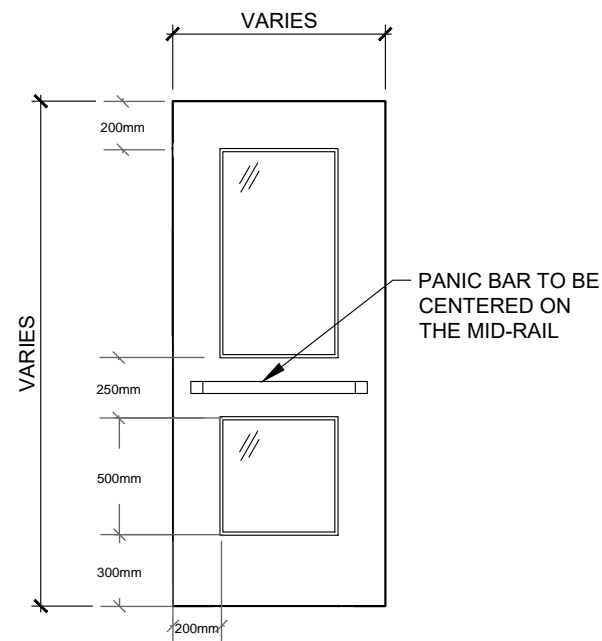
DRAWN BY: OMJ	SCALE: NOT TO SCALE
CHECKED BY: JYK	DATE: JULY 2023
PROJECT NO: 20-01084	DWG NO: A101

1 SECOND FLOOR PLAN
 A101

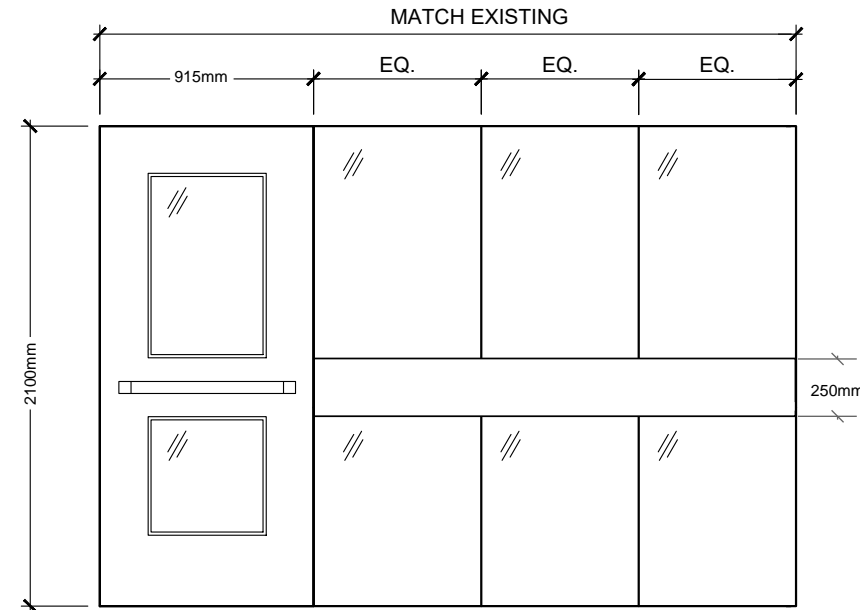
N.T.S.



DOOR TYPE (A)



DOOR TYPE (B)



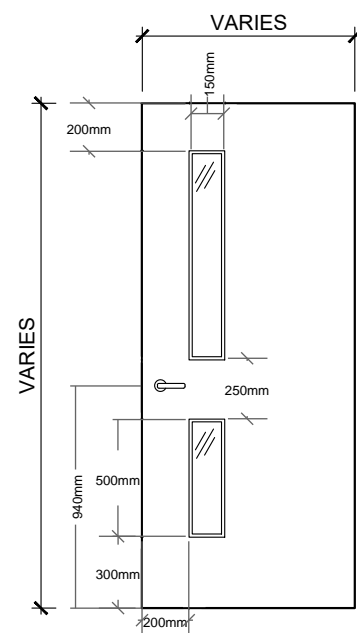
DOOR TYPE (B1) (1 UNIT)

NOTES:

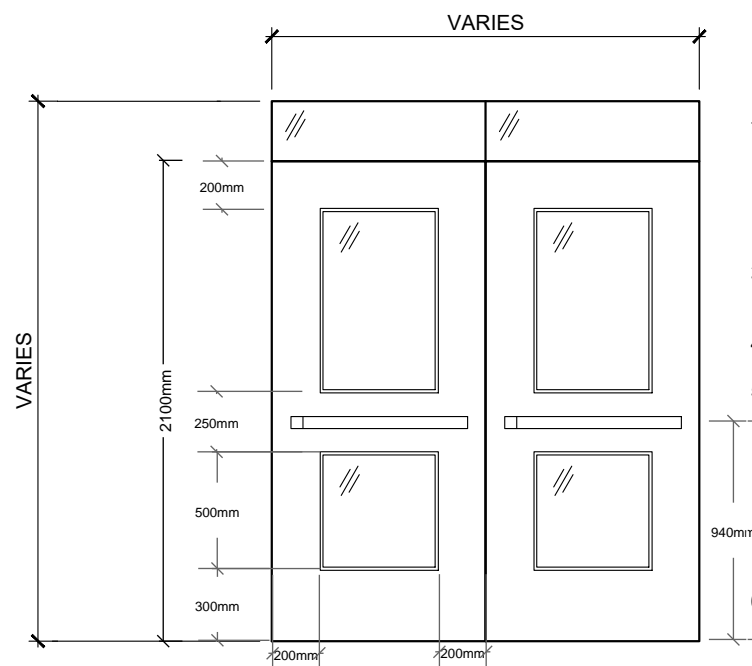
1. FIRE RATED WALL ABOVE DOORS ARE TO BE INCLUDED AS PART OF THE REPLACEMENT (0.5" TYPE X GYPSUM BOARD, STEEL STUDS TO UNDERSIDE OF DECK, ALL PENETRATIONS TO BE FILLED WITH MINERAL WOOL AND ALL JOINTS TO BE SEALED WITH FIRE RATED SEALANT).

NOTES:

1. DOOR SLAB AND FRAME ASSEMBLY TO HAVE 90 MINUTE FIRE RATING.
2. REFER TO SECTION 01 11 00 SCOPE OF WORK.
3. REPLACE DOOR SLAB AND FRAME.
4. SWING TO MATCH EXISTING.
5. WITH SCREEN.
6. FIRE RATED WALL ABOVE DOORS ARE TO BE INCLUDED AS PART OF THE REPLACEMENT (0.5" TYPE X GYPSUM BOARD, STEEL STUDS TO UNDERSIDE OF DECK, ALL PENETRATIONS TO BE FILLED WITH MINERAL WOOL AND ALL JOINTS TO BE SEALED WITH FIRE RATED SEALANT).



DOOR TYPE (C)



DOOR TYPE (B2), (B3) & (B5)

NOTES:

1. REFER TO SECTION 01 11 00 SCOPE OF WORK.
2. DOOR AND FRAME TO HAVE 90 MINUTE FIRE RATING
3. NEW DOUBLE DOORS WILL NOT HAVE CENTRE VERTICAL MULLION.
4. SWING TO MATCH EXISTING.
5. FIRE RATED WALL ABOVE DOORS ARE TO BE INCLUDED AS PART OF THE REPLACEMENT (0.5" TYPE X GYPSUM BOARD, STEEL STUDS TO UNDERSIDE OF DECK, ALL PENETRATIONS ARE TO BE FILLED WITH MINERAL WOOL INSULATION AND ALL JOINTS ARE TO BE SEALED WITH FIRE RATED SEALANT).
6. AT DOOR TYPE B2, REMOVE EXISTING CONCRETE CURB TO ACCOMMODATE NEW DOOR AND FRAME. COMPLETE REPAIRS TO TERRAZZO FLOORING WHERE NOT COVERED BY DOOR FRAME.
7. PANIC BAR TO BE CENTERED ON THE MID-RAIL.

GENERAL NOTES:

1. ALL MATERIALS TO BE NEW EXCEPT WHERE NOTED AS "EXISTING"
2. ALL SITE CONDITIONS AND MEASUREMENTS TO BE CONFIRMED BY THE CONTRACTOR.

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1	ISSUED FOR TENDER	MAR. 2022

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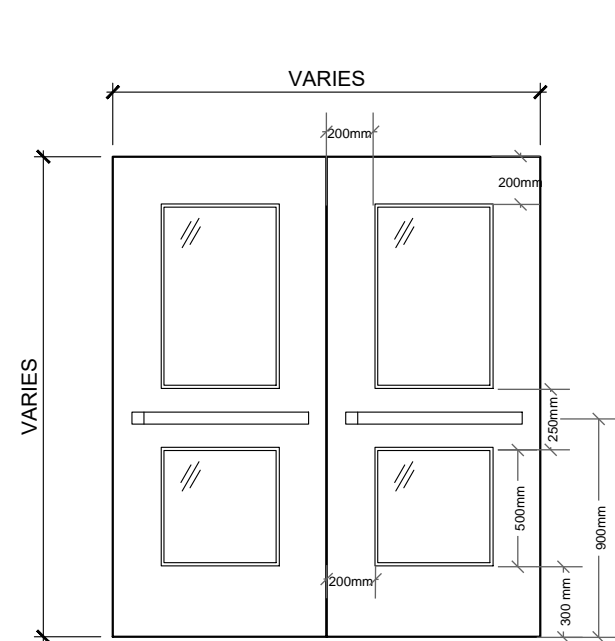


CLIENT: DIXIE PUBLIC SCHOOL
PEEL DISTRICT SCHOOL BOARD

PROJECT: 2024 INTERIOR DOOR REPLACEMENT
1120 FLAGSHIP DRIVE MISSISSAUGA ON L4Y 2K1

DRAWING: DOOR LAYOUTS

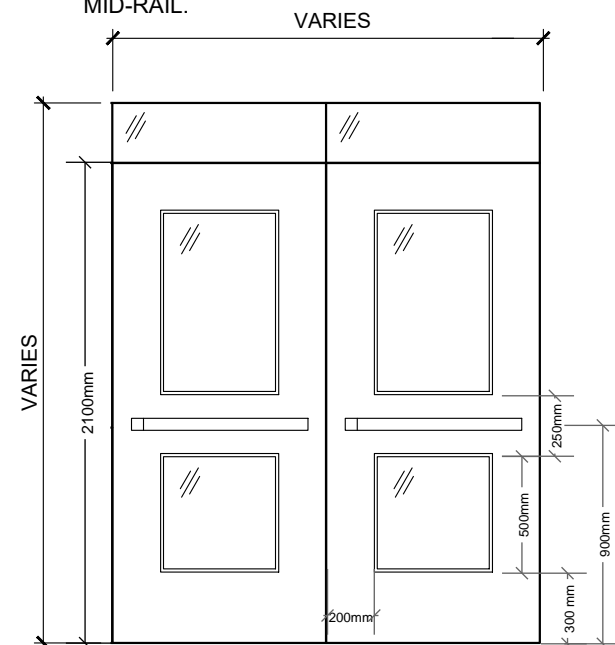
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CHECKED BY: JYK	DATE: JULY 2023
PROJECT NO: 20-01084	DWG NO: A102



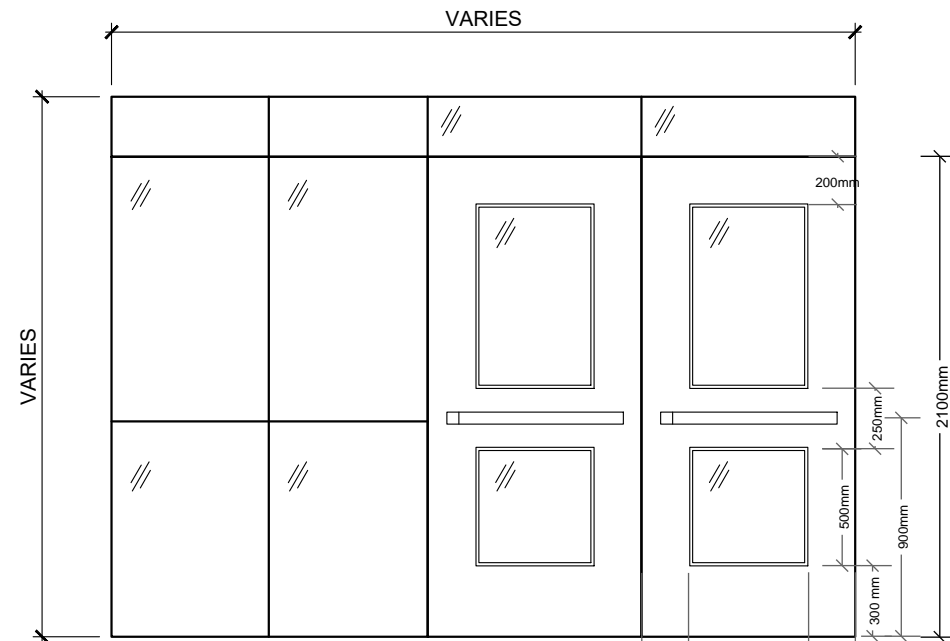
DOOR TYPE (B4)

NOTES:

1. REFER TO SECTION 01 11 00 SCOPE OF WORK.
2. DOOR AND FRAME TO HAVE 45 MINUTE FIRE RATING (DOOR TO GEN. PURPOSE RM TO HAVE 90 MINUTE FIRE RATING).
3. PROVIDE REMOVABLE CENTRE VERTICAL MULLION AT THIS DOOR TYPE. CONFIRM WITH CONSULTANT PRIOR TO ORDER.
4. SWING TO MATCH EXISTING.
5. PANIC BAR TO BE CENTERED ON THE MID-RAIL.



DOOR TYPE (B7)



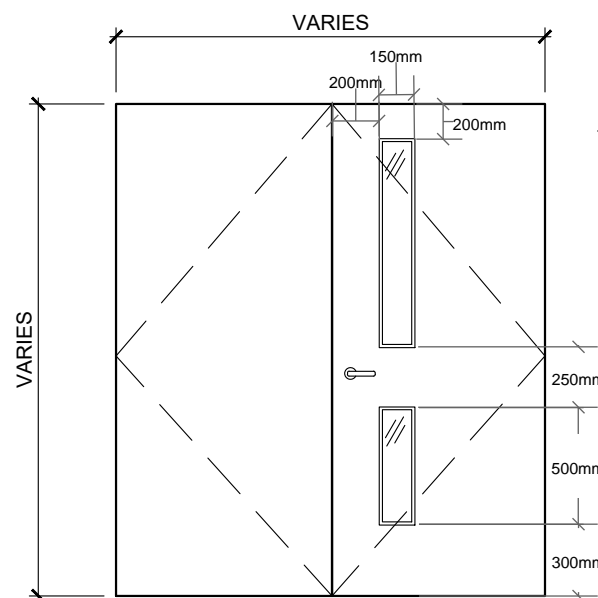
DOOR TYPE (B6)

NOTES:

1. FIRE RATED WALL ABOVE DOORS ARE TO BE INCLUDED AS PART OF THE REPLACEMENT (0.5" TYPE X GYPSUM BOARD, STEEL STUDS TO UNDERSIDE OF DECK, ALL PENETRATIONS TO BE FILLED WITH MINERAL WOOL AND ALL JOINTS TO BE SEALED WITH FIRE RATED SEALANT).
2. SWING TO MATCH EXISTING.
3. PANIC BAR TO BE CENTERED ON THE MID-RAIL.
4. DOOR AND FRAME TO HAVE 90 MINUTE FIRE RATING.

NOTES:

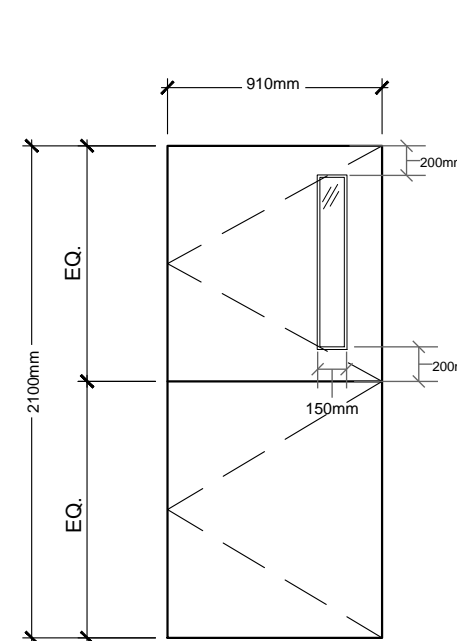
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2. SWING TO MATCH EXISTING.
3. PANIC BAR TO BE CENTERED ON THE MID-RAIL.
4. DOOR AND FRAME TO HAVE 90 MINUTE FIRE RATING.



DOOR TYPE (F) (1 UNIT)

NOTES:

1. REFER TO SECTION 01 11 00 SCOPE OF WORK.
2. REPLACE DOOR SLAB ONLY (WITH LOWER LOUVER VENT) AND REPAINT EXISTING DOOR FRAME.
3. SWING TO MATCH EXISTING.



DOOR TYPE (E) (1 UNIT)

NOTES:

1. REFER TO SECTION 01 11 00 SCOPE OF WORK.
2. REPLACE DOOR SLAB (SPLIT DOOR) ONLY (WITH UPPER NARROW LITE) AND REPAINT EXISTING DOOR FRAME.
3. SWING TO MATCH EXISTING.

GENERAL NOTES:

1. ALL MATERIALS TO BE NEW EXCEPT WHERE NOTED AS "EXISTING"
2. ALL SITE CONDITIONS AND MEASUREMENTS TO BE CONFIRMED BY THE CONTRACTOR.

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1	ISSUED FOR TENDER	MAR. 2022

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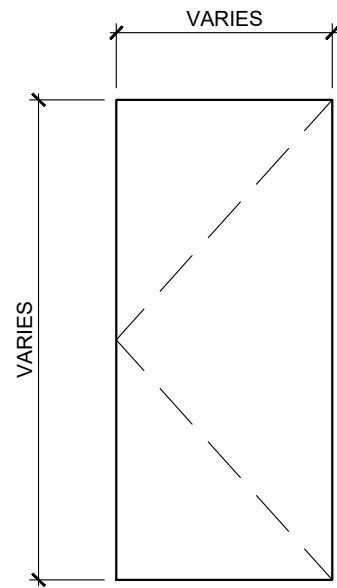


CLIENT: DIXIE PUBLIC SCHOOL
PEEL DISTRICT SCHOOL BOARD

PROJECT: 2024 INTERIOR DOOR REPLACEMENT
1120 FLAGSHIP DRIVE MISSISSAUGA ON L4Y 2K1

DRAWING: DOOR LAYOUTS

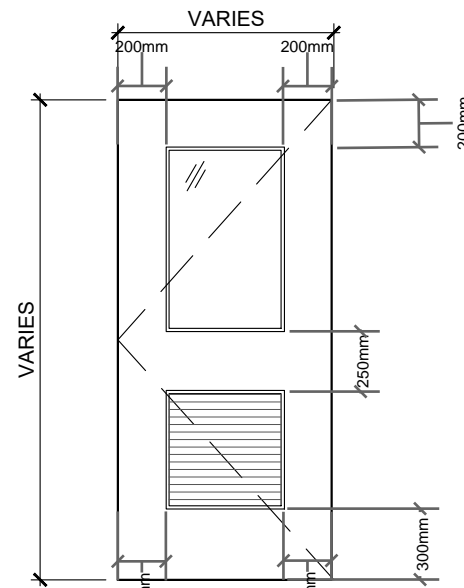
DRAWN BY: OMJ	SCALE: NOT TO SCALE
CHECKED BY: JYK	DATE: JULY 2023
PROJECT NO: 20-01084	DWG NO: A103



DOOR TYPE (H)

NOTES:

1. REFER TO SECTION 01 11 00 SCOPE OF WORK.
2. NO LOUVER
3. SWING TO MATCH EXISTING.



DOOR TYPE (J)

NOTES:

1. REFER TO SECTION 01 11 00 SCOPE OF WORK.
2. SWING TO MATCH EXISTING.

GENERAL NOTES:

1. ALL MATERIALS TO BE NEW EXCEPT WHERE NOTED AS "EXISTING"
2. ALL SITE CONDITIONS AND MEASUREMENTS TO BE CONFIRMED BY THE CONTRACTOR.

NO.	REVISIONS	DATE
3	ISSUED FOR TENDER REV. 2	JULY. 2023
2	ISSUED FOR TENDER REV. 1	MAY. 2023
1	ISSUED FOR TENDER	MAR. 2022

STAMP:



CLIENT:
DIXIE PUBLIC SCHOOL
PEEL DISTRICT SCHOOL BOARD

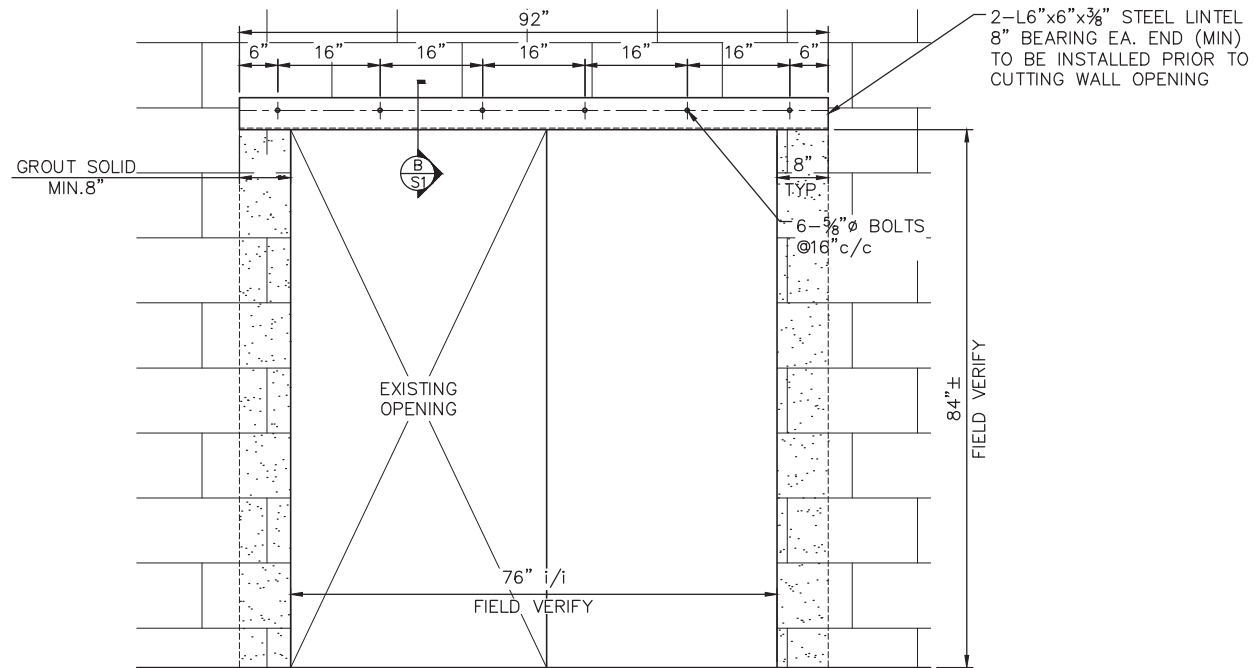
PROJECT:
2024 INTERIOR DOOR REPLACEMENT
1120 FLAGSHIP DRIVE MISSISSAUGA ON L4Y 2K1

DRAWING:
DOOR LAYOUTS

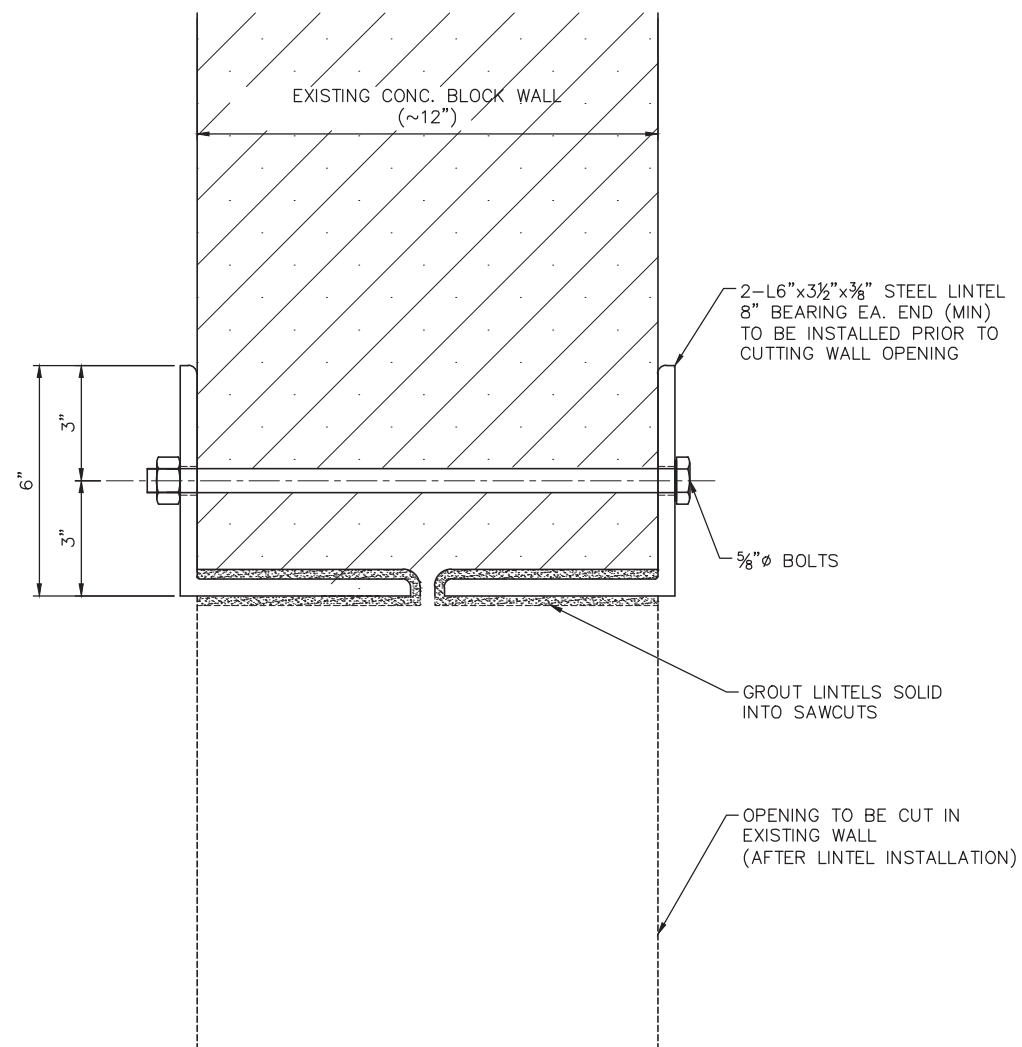
DRAWN BY: OMJ	SCALE: NOT TO SCALE
CHECKED BY: JYK	DATE: JULY 2023
PROJECT NO: 20-01084	DWG NO: A104

GENERAL NOTES

1. **GENERAL**
STRUCTURAL DRAWINGS TO BE READ IN CONJUNCTION WITH ALL OTHER APPLICABLE DRAWINGS. ALL LOCATIONS AND DIMENSIONS TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.
- 1.1. ALL CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE ONTARIO OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS, AND THE 2012 ONTARIO BUILDING CODE (OBC).
- 1.2. CONTRACTORS AND TRADES SHALL BE EXPERIENCED IN THE WORK REQUIRED, WORK SHALL BE COMPLETED IN ACCORDANCE WITH ACCEPTED CONSTRUCTION PRACTISE.
- 1.3. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL SITE CONDITIONS AND MEASUREMENTS AND REPORT ANY DISCREPANCIES OR UNSATISFACTORY CONDITIONS IMMEDIATELY TO THE ENGINEER, WHICH MAY ADVERSELY AFFECT THE PROPER COMPLETION OF THE JOB BEFORE PROCEEDING WITH THE WORK.
- 1.4. ENGINEER MUST BE NOTIFIED OF ANY CHANGES OR DEVIATION FROM THE DRAWING.
- 1.5. FEATURES OF CONSTRUCTION NOT FULLY SHOWN ARE OF SAME CHARACTER AS THOSE NOTED FOR SIMILAR CONDITIONS.
2. **MATERIALS**
- 2.1. ALL NEW HOT ROLLED STRUCTURAL STEEL SHAPES AND PLATES SHALL CONFORM TO CSA STANDARD G40.21M-350W GRADE.
- 2.2. ALL FASTENERS TO BE STAINLESS STEEL CONFORMING TO CSA STANDARD B34 "MISCELLANEOUS BOLTS AND SCREWS".
3. **REFERENCE**
- 3.1. NEW LINTELS ARE IN LOAD BEARING WALLS AND SUPPORT SELF WEIGHT AND FRAMING ABOVE THE OPENING.



(A) ELEVATION
(S1) WALL OPENING AND LINTEL DETAILS
NEW DOOR OPENING



(B) SECTION
(S1) TYPICAL NEW WALL OPENING LINTEL
AND INSTALLATION DETAIL

0	MAY 26, 2023	ISSUED FOR CONSTRUCTION
NO.	DATE	REVISION

STAMP:



CLIENT:		DIXIE PUBLIC SCHOOL PEEL DISTRICT SCHOOL BOARD	
PROJECT:		LINTEL FOR NEW DOOR OPENING 1120 Flagship Drive, Mississauga, Ontario	
DRAWING:		NOTES AND DETAILS	
DRAWN BY:	NFK	SCALE:	NTS
CHECKED:	-	DATE:	MAY 26, 2023
PROJECT No.:	20-01084	DWG. #:	S1

APPENDIX 1:

Hazardous Building Materials Survey and Abatement Specification

PROJECT SPECIFIC DESIGNATED SUBSTANCES SURVEY

Interior Doors

Dixie Public School

1120 Flagship Drive

Mississauga, ON

Prepared for:

Peel District School Board
933 Central Parkway West

Mississauga, ON L5C 2T9

Prepared by:

Peritus Environmental Consultants Inc.
5403 Eglinton Avenue West Suite 100
Toronto, ON M9C 5K6

Project Number:

22-21-181661

Report Date:

December 31, 2020

Limitations

This report "Project Specific Designated Substances Survey (Interior Doors), Dixie Public School, Mississauga, ON" was prepared for the Peel District School Board. The scope of services performed may not be appropriate for the purposes of other users, and any use or reuse of this document or its findings or recommendations represented herein is at the sole risk of any other user. Any use by a third party, of reports or documents authored by Peritus Environmental Consultants Inc., or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Peritus Environmental Consultants Inc. accepts no responsibility for damages suffered by any third party because of decisions made or actions conducted.

Due to the nature of building construction, some limitations exist as to the possible thoroughness of a designated substances inventory. The field observations are considered sufficient in detail and scope to form a reasonable basis for the findings presented in this report. The scope of the survey is based on the rationale given in this report. The building survey findings rely on professional interpretation of selective sampling and analysis. Sample analysis results have been applied to homogenous materials in locations not sampled; it was not within the scope of work to carry out an exhaustive sampling and analysis program. For non-accessible building spaces, the likelihood of the presence or absence of asbestos and other designated substances has been described, but such assessment is not a definitive statement of presence or absence.

The quantities of Designated Substances and Hazardous Materials identified herein are estimates only. Contractors retained to remove, handle or dispose of these materials must confirm these estimated quantities for their budgeting and planning purposes.

Peritus Environmental Consultants Inc. warrants that the findings and conclusions contained herein have been made in accordance with generally accepted evaluation methods in the industry and applicable regulations at the time of the report. Peritus Environmental Consultants Inc. accepts responsibility for the diligent performance of its duties in executing this assignment within the normal standards of the profession, but disclaims responsibility for consequential damages, if any.

It is possible that conditions may exist which could not be reasonably identified within the scope of the survey or which were not apparent during field work. Peritus Environmental Consultants Inc. believes that the information collected during the survey is reliable. No other warranties are implied or expressed.

“Project Specific Designated Substances Survey (Interior Doors), Dixie Public School, Mississauga, ON”

Prepared by Jonathan Sampath
(signature)

Jonathan Sampath, BES, Field Technician

Reviewed by N. Ritchie
(signature)

Naz Ritchie, M.Eng., P.Eng., General Manager

PERITUS

DESIGNATED SUBSTANCES SURVEY (EXTERNAL DOORS)

Dixie Public School, 1120 Flagship Drive, Mississauga, ON

EXECUTIVE SUMMARY

Peritus Environmental Consultants Inc. (Peritus) was retained by the Peel District School Board (PDSB) to complete a project specific designated substances survey (DSS) of the interior doors at Dixie Public School, 1120 Flagship Drive, Mississauga, Ontario (the Site). PDSB plans to replace the doors over the summer of 2021.

The two-storey school building was constructed in three phases between 1960 and 1965. The year of construction of the different building areas and locations of the DSS samples are shown on Figure 1. The samples were analyzed for asbestos and lead.

Asbestos Containing Materials

A total of 21 asbestos samples were collected from the areas that will be impacted by the door replacement program. The analytical results indicated that asbestos was present in concentrations above the applicable regulatory standards (greater than 0.5% asbestos by dry weight) in the following materials: grey caulking around interior door frames and black glazing along interior door frame windows.

The chart below summarizes the asbestos containing material (ACM) present at the Site.

Sample ID	Location	Building Material	Asbestos Content and Type	Estimated Quantity	
				Imperial	Metric
04-A to C (1960 Section)	Door to photocopier room (may be present around doors to other rooms)	Grey caulking	2% Chrysotile (Non-friable)	17 ft per door, if present	5 m per door, if present
05-A to C (1960 Section)	Office: Main office door/window system	Black glazing around interior windows	1% Chrysotile (Non-friable)	70 ft around perimeter of interior window	21 m around perimeter of interior window

Both the grey caulking and the black sealant should be separated or scraped off before the doors and/or windows with these ACM are removed. Based on the quantities and type of asbestos within the Site, the removal of these ACMs can be completed as a Type 1 Operation by a qualified contractor. Following removal, both materials should be disposed separately as asbestos waste.

Lead

A total of three paint application samples were collected for lead analysis during the site visit.

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DESIGNATED SUBSTANCES SURVEY (EXTERNAL DOORS)

Dixie Public School, 1120 Flagship Drive, Mississauga, ON

The table below summarizes the “lead-containing” paint present at the Site. The sampling locations are shown in Figure 1.

Sample ID	Location	Building Material	Lead Content	
			µg/g	% By Weight
P-01	Door and Door frame paint	Brown Paint	417	0.0417%
P-03	Door and Door frame paint	Light Brown Paint	592	0.0592%

Removal of lead application paint from the doors and door frames must be completed by a qualified contractor, using the applicable Ministry of Labour Guidelines for lead in paint removal.

Lead may also be present in wiring and plumbing materials that were not accessible at the time of the investigation.

Silica

Field personnel observed masonry walls surrounding the doors during the site visit. Since there are masonry walls present, appropriate protective measures are recommended if these walls are disturbed as part of door replacement project. Cutting, grinding or demolition of materials containing silica should be completed only with proper respiration protection and other worker-safe procedures such as adequate dust suppression technique (wetting).

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DESIGNATED SUBSTANCES SURVEY (EXTERNAL DOORS)

Dixie Public School, 1120 Flagship Drive, Mississauga, ON

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DESIGNATED SUBSTANCES SURVEY (EXTERNAL DOORS)

Dixie Public School, 1120 Flagship Drive, Mississauga, ON

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- Photo 2: Style of vinyl floor tiles observed
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- Appendix A: Designated Substances and Hazardous Materials:
Regulatory Requirements and Guidelines
- Appendix B: Parcel Certificates of Analyses
- Appendix C: Environmental Checklist
- Appendix D: Technical Specifications for the Removal of Asbestos

1 INTRODUCTION

Peritus Environmental Consultants Inc. (Peritus) was retained by the Peel District School Board (PDSB) to complete a project specific designated substances survey (DSS) of the interior doors at Dixie Public School, 1120 Flagship Drive, Mississauga, Ontario (the Site). PDSB plans to replace the doors over the summer of 2021. The purpose of the DSS was to identify potential designated substances and hazardous building materials in the project specific areas prior to replacement of the interior doors.

This report consists of this introduction section which includes a description of the building, scope of survey and the regulations. A discussion on the background of designated substances and hazardous material is provided in Section 2. The survey methodology, findings and discussion are presented in Sections 3 to 5, respectively.

1.1 BUILDING DESCRIPTION

The Site consists of a two-storey school building (see Photo 1) surrounded by asphalt parking lots and recreational fields south of the building. The school building was constructed in three phases. The original building was constructed in 1960. The first addition was constructed in 1964 and the second addition was constructed in 1965. The year of construction of the different building areas are shown on Figure 1.

1.2 SURVEY SCOPE

The scope of work for the DSS focused on identifying potential designated substances and polychlorinated biphenyls (PCBs) that may be encountered in the project-specific areas during the door replacement project.

Section 30 of the “Occupational Health and Safety Act” (OHSa) requires that the following designated substances be included in a DSS:

Acrylonitrile	Coke Oven Emissions	Mercury	Arsenic
Ethylene Oxide	Silica	Asbestos	Isocyanates
Vinyl Chloride Monomer	Benzene	Lead	

Specific materials of concern that may potentially be encountered in the subject buildings include asbestos, lead and silica.

1.3 REGULATORY REQUIREMENTS

Section 30 of OHSa requires building owners or their agents (architects, general contractors, etc.) to prepare or have prepared a DSS for specified potentially hazardous materials possibly present in a facility. The owner must provide a prospective contractor with a DSS report before entering

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DESIGNATED SUBSTANCES SURVEY (EXTERNAL DOORS)

Dixie Public School, 1120 Flagship Drive, Mississauga, ON

into a binding agreement with the contractor. The owner is liable to the contractor for damages and costs arising from unreported materials (of which the owner should reasonably have been aware) and could also be subject to orders and fines from the Ministry of Labour (MOL).

In addition to the requirements under the OHSA, Section 6 of the MOL Regulations for Construction Projects requires the contractor, when submitting a Notice of Project form, to report any designated substances likely to be used, handled or disturbed during the project.

The disturbance of asbestos materials on construction projects is regulated by Ontario Regulation 278/05, as amended (O.Reg.278/05). The disposal of asbestos waste is regulated by O.Reg.347/09, as amended. The regulations are administered by the Ministry of Environment, Conservation and Parks (MECP).

PCBs are not a designated substance under OHSA; however, waste management and transfer of PCBs are regulated by Waste Management: PCBs O.Reg.362/90, as amended, under the Environmental Protection Act (EPA).

There are no specific MOL regulations for control of the other designated substances on construction projects; however, the MOL actively enforces the general duty clause of OHSA which protects workers and provides guidance on exposure monitoring, permissible exposure levels, medical monitoring, etc. for all designated substances.

1.4 LIMITATIONS AND EXCLUSIONS REGARDING SCOPE

The scope of the report was limited to possible designated substances found within specified and accessible areas. The survey was limited to the materials discussed in this report. Only areas that were accessible using non-destructive techniques were used in this DSS.

The findings cannot be extended to previous or future site conditions. The field observations are considered sufficient in details and scope to form a reasonable basis for the findings presented in this report.

Other areas that were not accessible for direct investigation and subsurface locations may contain designated substances. Substances other than those addressed by the investigation described in this report may exist within the site; and substances addressed by the investigation may exist in areas of the site not investigated or in quantities not ascertained. For example, the areas covered by the metal door frames could not be accessed for sampling. There may be caulking, and other materials present that could not be accessed without more destructive testing (i.e. removing the door frame or cutting into the brick or masonry walls).

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DESIGNATED SUBSTANCES SURVEY (EXTERNAL DOORS)

Dixie Public School, 1120 Flagship Drive, Mississauga, ON

This survey did not focus on current or past use of the property or occupant articles within the buildings (i.e. furniture or stock items), nor does it report on possible contaminants in the soil and groundwater at the Site.

2 BACKGROUND INFORMATION ON DESIGNATED SUBSTANCES AND HAZARDOUS MATERIALS

OHSA requires that a list of all “designated substances” at a project site be provided to all bidders at the tendering stage and that the “Constructor” for a project shall provide each prospective contractor and subcontractor for the project with a copy of the list before they enter into an agreement.

Eleven substances are classified as “designated substances” in Ontario: asbestos, lead, mercury, silica, isocyanates, vinyl chloride, benzene, acrylonitrile, coke oven emissions, arsenic and ethylene oxide. PCBs are considered to be “hazardous materials” and require special handling during construction or demolition activities.

Legal requirements, which apply to health and safety on construction projects, are set out in OHSA and regulations under this act. OHSA specifies, in general terms, the duties of employers and others to protect workers from health and safety hazards on the job. These duties include taking all reasonable precautions to protect the health and safety of workers and acquainting a worker or a person in authority over a worker with hazard in the work and in the handling, storage, use, disposal and transport of any hazardous materials.

The Regulation for Construction Projects, O.Reg.213/91, as amended, applies to all construction projects, and requires the use of appropriate personal protective equipment, training in the use or protective equipment and the provision of adequate washing facilities.

Other regulatory requirements (and guidelines) which apply to control of exposure to designated substances and hazardous materials are discussed in Appendix A.

Friable ACMs were banned in Ontario in 1973 and non-friable ACMs were banned in the 1980s; however, asbestos based products were still in circulation and remained in use into the 1980s. For buildings constructed prior to 1990, asbestos may be present in the building materials.

3 SURVEY METHODOLOGY

3.1 METHODOLOGY

A review of the Site history indicated that the building was constructed prior to 1990; therefore, the designated substance outlined in Section 30 of the OHS Act (i.e. asbestos and lead) could potentially be present within the building materials surrounding the doors.

Field personnel visited the Site on December 10, 2020 and collected samples from areas surrounding the interior doors. As mentioned in Section 1.1, the building was constructed in three phases between 1960 and 1965; therefore, the building materials are considered to be different for each construction phase. During the site visit, field personnel looked for the most common uses of door materials that could contain designated substances based on historical applications.

The survey focused on the following materials on or around the interior doors:

- Vinyl flooring (Photo 2)
- Plaster materials (Photo 3)
- Caulking, sealant and glazing around the door frames (Photos 4 and 5);
- Grout (Photos 6 and 7)
- Mastics (Photo 6)
- Painted surfaces (Photos 8 and 9)

Samples were taken based on the preliminary renovation plans for the interior doors. Sampling was focussed on areas of the Site that are to be affected by future door upgrades. The door sampling locations are shown on Figure 1.

3.2 ANALYSIS

Peritus collected twenty-one samples for asbestos analysis and 3 paint samples for lead analysis. The locations of the samples are shown on Figure 1 and described in Sections 4 and 5 of this report.

The asbestos and lead samples were submitted to Paracel Laboratories Ltd. (Paracel) of Mississauga, Ontario. The asbestos analysis was performed in accordance with the EPA 600/R-93/116 method for Asbestos PLM Visual Estimation and with the MECP E3470, ICP-OES method for Metals/Lead. Certificates of Analyses are provided in Appendix B.

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DESIGNATED SUBSTANCES SURVEY (EXTERNAL DOORS)

Dixie Public School, 1120 Flagship Drive, Mississauga, ON

4 FINDINGS

The findings of the survey are presented in separate subsections for each of the 11 designated substances. Samples were collected from the interior doors the building. These samples were deemed to be representative of similar materials present at the interior doors throughout the Site.

4.1 ASBESTOS

During the site visit, twenty-one samples were collected and submitted to Paracel for analysis of asbestos content. The analytical results indicated that asbestos was present in concentrations above the applicable regulatory standards (greater than 0.5% asbestos by dry weight) in the following materials: grey caulking around interior door frames and black glazing along interior door frame windows. The other materials tested did not contain asbestos based on the analytical results. The results of the asbestos sampling are summarized for the three building phases in the chart below.

Sample ID	Location	Building Material	Asbestos Content
01-A to C (1960 Built)	Office: Main office door/window system	Cream with brown speck 12"x12" vinyl floor tile	No
02-A to C (1960 Built)	Office: Main office door/window system	Plaster surfacing over concrete blocks	No
03-A to C (1960 Built)	Around door frames	Concrete block grout	No
04-A to C (1960 Built)	Xerox room door – may be present at other rooms	Grey caulking	2% Chrysotile
05-A to C (1960 Built)	Office: Main office door/window system	Black glazing around interior windows	1% Chrysotile
06-A to C (1964 Built)	Staircase Door	White tile grout on door frame	No
07-A to C (1964 Built)	Staircase Door	Vinyl Baseboard Brown Mastic	No

Note: All samples submitted with a positive stop request. If the first sample had positive asbestos content, the remainder of samples were not analyzed and assumed to be asbestos containing.

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DESIGNATED SUBSTANCES SURVEY (EXTERNAL DOORS)

Dixie Public School, 1120 Flagship Drive, Mississauga, ON

4.1.1 Vinyl Floor Tiles

Vinyl floor tiles (VFT) were observed around the frame of the doors throughout the 1960 and 1964 built sections (Photo 2). Vinyl flooring observed appeared to be of similar styles and therefore assumed to be made of similar materials. Based on the analytical results, the cream with brown speck, 12"x12" VFT did not contain asbestos.

4.1.2 Plaster Finishes

Plaster surfacing materials were observed over the concrete block wall near the interior door frame of the main office (Photo 3). Based on the analytical results, this plaster material did not contain asbestos.

4.1.3 Caulking/Sealants

Caulking/sealants were observed at various locations throughout the inspected areas of the Site. Typically caulking was observed around the interior door frames and sealants were observed in the form of a grey caulking around the perimeter of the door frames (Photo 4) and a black glazing present around the perimeter of the interior windows (Photo 5). Based on the analytical results, both materials contained asbestos. The grey caulking contained 2% chrysotile and the black glazing sealant contained 1% Chrysotile.

4.1.4 Grout

Grout was observed in multiple places at the Site. Typically, grout was observed at the concrete block walls as well as the tiled wall finished which were part of the staircase door system (Photos 6 and 7). Based on the analytical results, the grout sampled did not contain asbestos.

4.1.5 Mastic

Mastics were observed along the vinyl baseboards near the frame of the doors (Photo 6). Based on the analytical results, these mastics did not contain asbestos.

4.1.6 Sprayed or Trowelled Fireproofing or Thermal Insulation

Sprayed or trowelled fireproofing and thermal insulation were not observed in the areas of the doors that were visually inspected.

4.2 LEAD

During the Site visit, three paint samples were collected and submitted to Paracel for lead content analysis. The sample locations are shown in Figure 1. The results of the analyses are summarized below:

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DESIGNATED SUBSTANCES SURVEY (EXTERNAL DOORS)

Dixie Public School, 1120 Flagship Drive, Mississauga, ON

Sample ID	Location	Building Material	Lead Content	
			µg/g	% By Weight
P-01 (Photo 8)	Door and Door frame paint	Brown Paint	417	0.0417%
P-02 (Photo 8)	Wall Paint	Cream Paint	64	0.0064%
P-03 (Photo 9)	Door and Door frame paint	Light Brown Paint	592	0.0592%

For the purpose of classifying surface coatings and mortars by laboratory analysis, materials containing lead at a concentration:

- Greater than 0.5% by weight (5,000 µg/g) is considered “Lead-Based”
- Between 0.5% to 0.009% by weight (5,000 µg/g to 90 µg/g) is considered “Lead-Containing”
- Less than 0.009% by weight (90 µg/g) is considered “Lead-Free,”. Note: Lead free does not imply zero lead content. Laboratory detection limit is 5 µg/g (0.0005%).

Based on the analytical results, the brown (P-01) and light brown paint (P-03) finished can be considered “lead-containing.” The cream paint (P-02) finish can be considered “lead-free.”

It is noted that lead may be present in wiring and plumbing materials that were not accessible at the time of the investigation.

4.3 MERCURY

Not applicable.

4.4 SILICA

Silica may be present in the masonry walls surrounding the interior doors (see photos X).

4.5 ISOCYANATES

Not applicable.

4.6 VINYL CHLORIDE MONOMER

Not applicable.

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DESIGNATED SUBSTANCES SURVEY (EXTERNAL DOORS)
Dixie Public School, 1120 Flagship Drive, Mississauga, ON

4.7 BENZENE

Not applicable.

4.8 ACRYLONITRILE

Not applicable.

4.9 COKE OVEN EMISSIONS

Not applicable.

4.10 ARSENIC

Not applicable.

4.11 ETHYLENE OXIDE

Not applicable.

4.12 POLYCHLORINATED BIPHENYLS (PCBS)

Polychlorinated biphenyls may be present in light fixture ballasts. However, the light fixtures were not observed in the areas where the door replacement will occur.

4.13 OZONE-DEPLETING SUBSTANCES

Not applicable.

4.14 UREA-FORMALDEHYDE FOAM INSULATION

There was no indication that urea formaldehyde foam insulation was used in the inspected areas surrounding the doors.

5 DISCUSSION

5.1 ASBESTOS

The chart below summarizes the asbestos containing materials (ACM) present at the Site. The locations of these ACM are shown in Figure 1 and summarized in the table below.

Sample ID	Location	Building Material	Asbestos Content and Type	Estimated Quantity	
				Imperial	Metric
04-A to C (1960 Section)	Door to photocopier room (may be present around doors to other rooms)	Grey caulking	2% Chrysotile (Non-friable)	17 ft per door, if present	5 m per door, if present
05-A to C (1960 Section)	Office: Main office door/window system	Black glazing around interior windows	1% Chrysotile (Non-friable)	70 ft around perimeter of interior window	21 m around perimeter of interior window

Both the grey caulking and the black sealant should be separated or scraped off before the doors and/or windows with these ACM are removed. Based on the quantities and type of asbestos within the Site, the removal of these ACMs can be completed as a Type 1 Operation by a qualified contractor. Following removal, both materials should be disposed separately as asbestos waste.

The PDSB environmental checklist is included as Appendix C. The technical specifications for the removal of the ACM are included as Appendix D.

5.2 LEAD

The table below summarizes the “lead-containing” paint present at the Site. The sampling locations are shown in Figure 1.

Sample ID	Location	Building Material	Lead Content	
			µg/g	% By Weight
P-01	Door and Door frame paint	Brown Paint	417	0.0417%
P-03	Door and Door frame paint	Light Brown Paint	592	0.0592%

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DESIGNATED SUBSTANCES SURVEY (EXTERNAL DOORS)

Dixie Public School, 1120 Flagship Drive, Mississauga, ON

Removal of lead application paint from the doors and door frames must be completed by a qualified contractor, using the applicable Ministry of Labour Guidelines for lead in paint removal. Generally, removal of lead containing paint requires workers to wear personal protection equipment (PPE), including a NIOSH approved respirator. Dust in the air must be controlled to keep the airborne lead concentrations below 0.05 mg/m^3 . If the metal door and frame parts are to be disposed, it is recommended that the metal materials be separated from the non-metal and disposed of at a recycling facility.

5.3 SILICA

Field personnel observed masonry walls surrounding the doors during the site visit. Since there are masonry walls present, appropriate protective measures are recommended if these walls are disturbed as part of door replacement project. Cutting, grinding or demolition of materials containing silica should be completed only with proper respiration protection and other worker-safe procedures such as adequate dust suppression technique (wetting).

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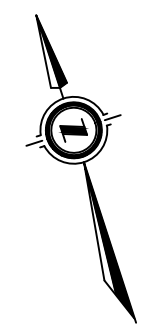
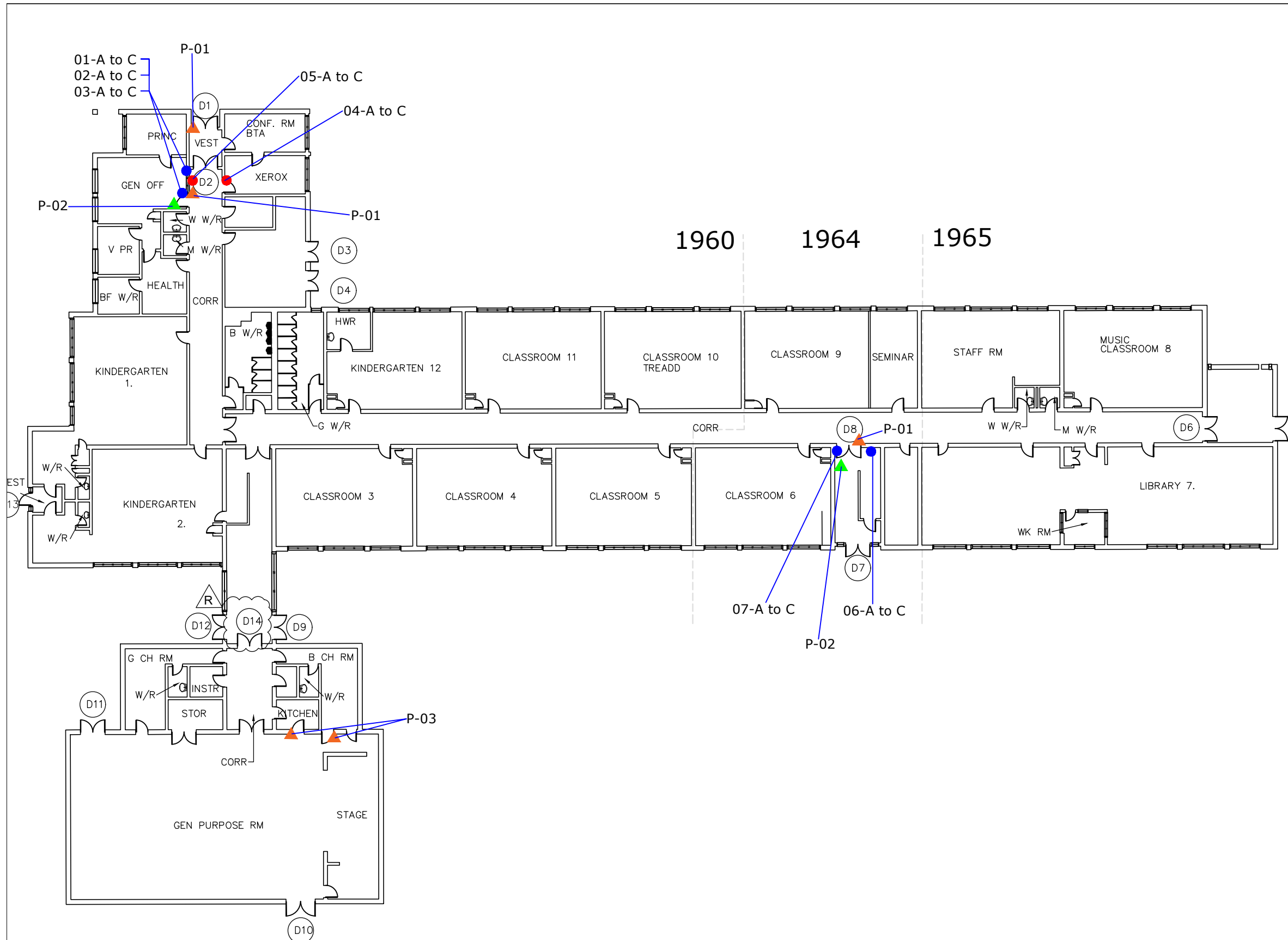
DESIGNATED SUBSTANCES SURVEY (EXTERNAL DOORS)

Dixie Public School, 1120 Flagship Drive, Mississauga, ON

6 REFERENCES

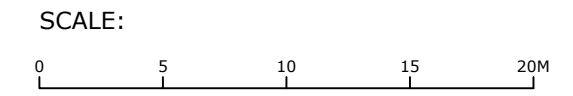
1. Occupational Health and Safety Act. "Ontario Regulation 278/05 (O.Reg.278/05): Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations".

Figures



- LEGEND:**
- NEGATIVE ACM LOCATION
 - POSITIVE ACM LOCATION
 - ▲ LEAD-FREE PAINT SAMPLE LOCATION
 - ▲ LEAD-CONTAINING PAINT SAMPLE LOCATION

- Notes:**
1. Samples taken from the first floor were deemed representative of similar materials on the second floor of the Site
 2. Drawing to be used in conjunction with the Report and Photographic Logs
 3. Approximate sample locations illustrated



Title: Sample Locations	Revision Date: December 2020
Site: Dixie Public School	Project No.: 22-21-191661
Customer: Peel District School Board	Figure: 1

Drawing Reference: Based on aerial photos and Peritus notes.
Note: Locations of buildings, underground utilities etc. are for reference only and should not be referred to for detail design, excavation, or construction purposes.

Photo Log

PHOTOGRAPHIC LOG

Photo No: 1

Date: December 10, 2020

Site Location: Dixie Public School

Project Number: 22-21-191661



Description: Site building.

PHOTOGRAPHIC LOG

Photo No: 2

Date: December 10, 2020

Site Location: Dixie P.S.

Project Number: 22-21-191661



Description: Style of Vinyl Floor Tiles (VFT) observed near interior door and window frame systems. The VFTs did not contain asbestos.

PHOTOGRAPHIC LOG

Photo No: 3

Date: December 10, 2020

Site Location: Dixie P.S.

Project Number: 22-21-191661



Description: Example of plaster surfacing materials observed at the site around the office door system (did not contain asbestos).

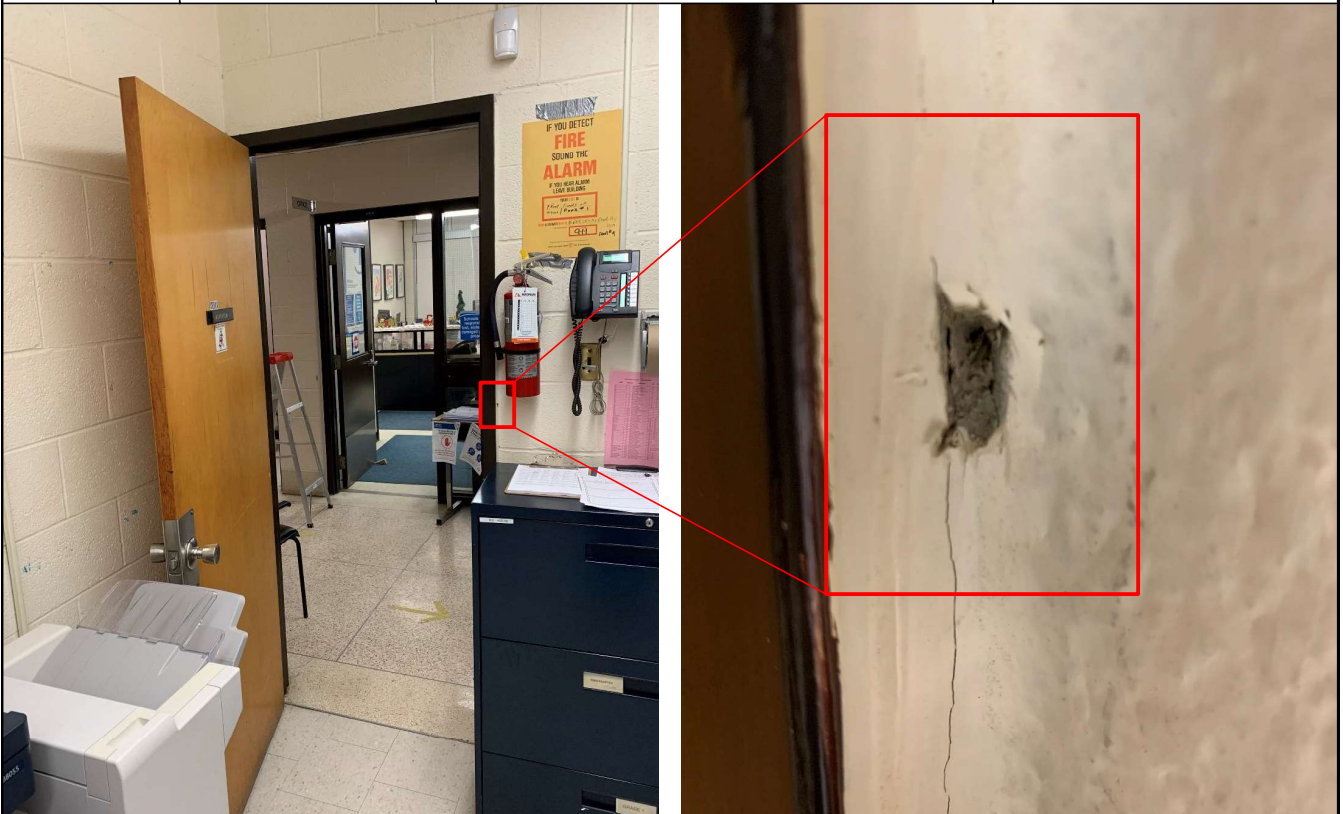
PHOTOGRAPHIC LOG

Photo No: 4

Date: December 10, 2020

Site Location: Dixie P.S.

Project Number: 22-21-191661



Description: Example of the grey asbestos containing caulking observed around interior doors (2% Chrysotile).

PHOTOGRAPHIC LOG

Photo No: 5

Date: December 10, 2020

Site Location: Dixie P.S.

Project Number: 22-21-191661



Description: Example of where the black asbestos containing sealant was observed (1% Chrysotile). Sealant was observed along the metal frame and glass panels on both sides of the door system.

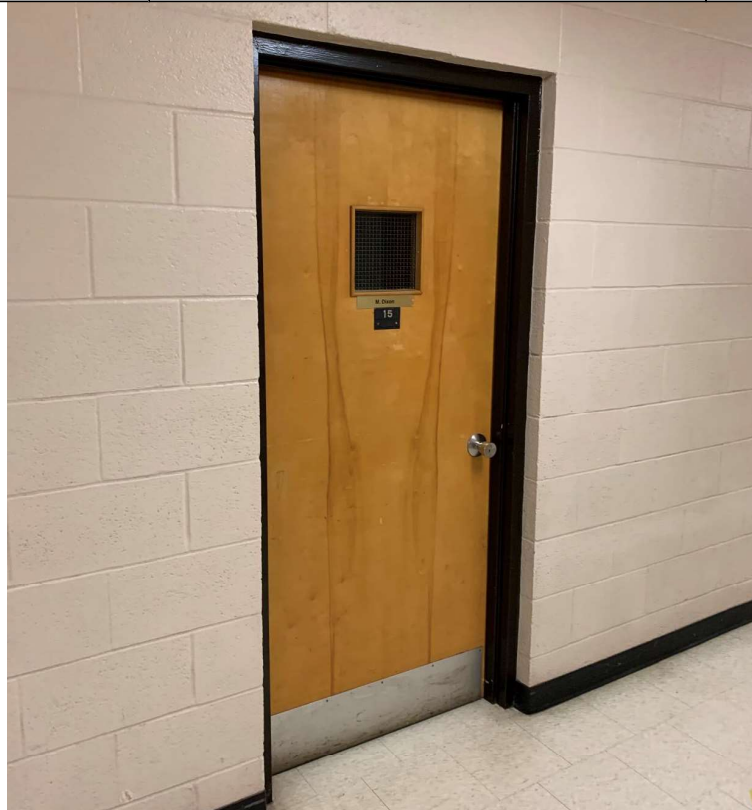
PHOTOGRAPHIC LOG

Photo No: 6

Date: December 10, 2020

Site Location: Dixie P.S.

Project Number: 22-21-191661



Description: Example of the concrete block and grout found throughout the Site. The mastics from the vinyl baseboards shown in the photo were also sampled (did not contain asbestos).

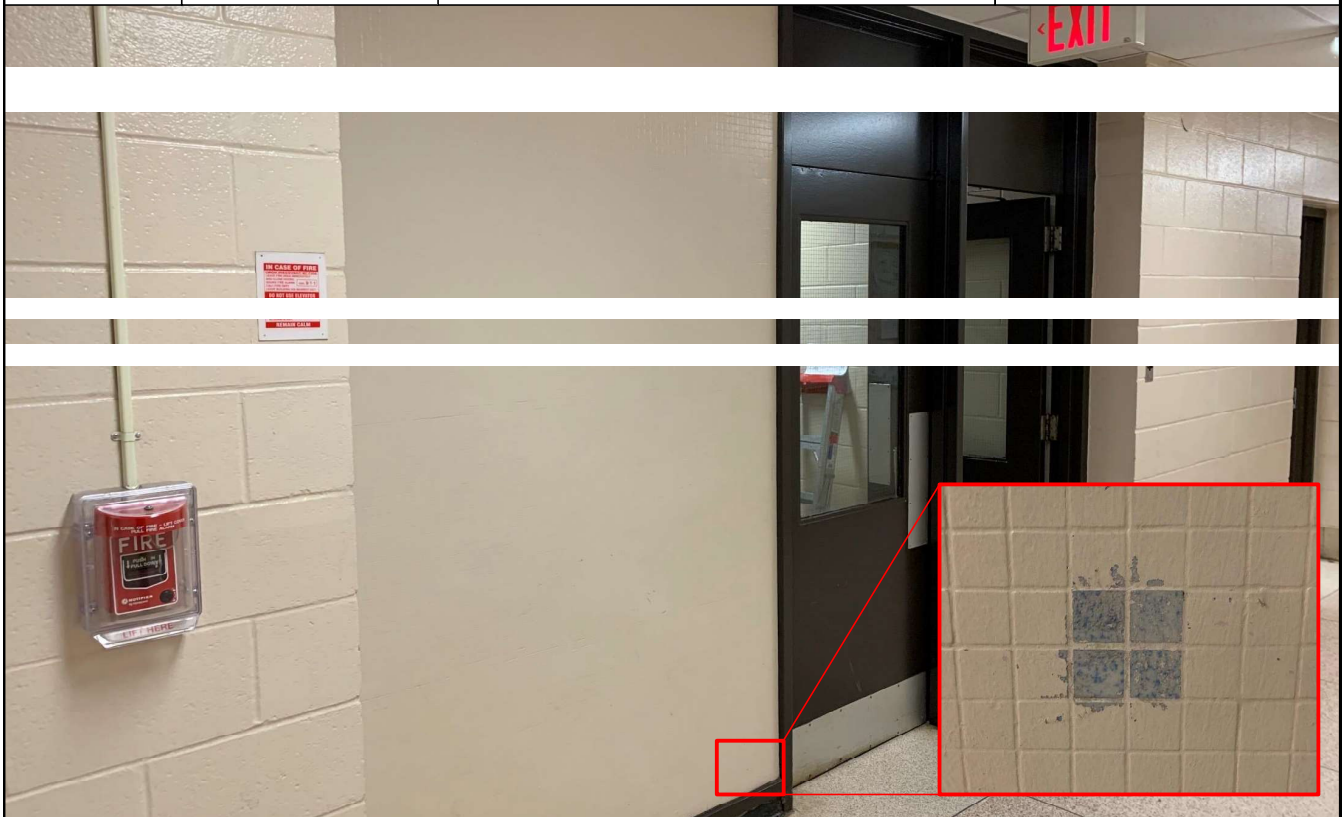
PHOTOGRAPHIC LOG

Photo No: 7

Date: December 10, 2020

Site Location: Dixie P.S.

Project Number: 22-21-191661



Description: Example of the tile grout found throughout the Site (did not contain asbestos).

PHOTOGRAPHIC LOG

Photo No: 8

Date: December 10, 2020

Site Location: Dixie P.S.

Project Number: 22-21-191661



Description: Example of where the lead-containing brown paint was observed (P-01). The cream paint shown in the photos can be considered lead-free (P-02).

Appendix A:
Regulatory Requirements and Guidelines
Designated Substances and Hazardous Materials

DESIGNATED SUBSTANCES AND HAZARDOUS MATERIALS: REGULATORY REQUIREMENTS AND GUIDELINES

ASBESTOS

Asbestos was widely used in building applications for its ability to withstand high temperatures and its resistance to chemical and biological breakdown. Asbestos may be present in friable or non-friable form. Friable means materials which can be crumbled, pulverized or powdered by hand pressure, when dry. Otherwise, the material is considered to be non-friable. Examples of friable asbestos containing materials (ACM) include pipe and tank insulation, sprayed-on fireproofing and acoustic texture material. Non-friable ACMs include floor tile, gaskets and cement board.

Health concerns related to airborne friable asbestos fibers include the diseases such as asbestosis, mesothelioma and lung cancer.

Friable ACMs were banned in Ontario in 1973 and non-friable ACMs were banned in the 1980s; however, asbestos based products were still in circulation and remained in use into the 1980s. Based on the age of the building, it is possible asbestos is present in the building materials used during construction.

Provincial occupational health and safety requirements with respect to ACMs are contained within Ontario Regulation 278/05 (O.Reg.278/05) and 837 (amended to O.Reg.279/10). Disposal of asbestos waste is governed by the Environmental Protection Act – R.R.O. 1990, Regulation 347 (amended to O.Reg.334/13). The “Transportation of Dangerous Goods Act and Regulations” prescribe additional requirements related to the transportation of asbestos waste.

LEAD

Lead is a heavy metal that can be found in construction materials such as paints, coatings, mortar, concrete, solder, packings, sheet metal, caulking, glazed ceramic products and cable splices. Lead has been used historically in exterior and interior paints. In Canada, the lead content of paints and other liquid coatings on furniture, household products, children’s products and surface (exterior and interior) of any building frequented by children was restricted to 0.5% in 1976.

Since no regulations exist in Ontario, the standards provided by the USA Housing and Urban Development (HUD) and the Environmental Protection Act’s (EPA) Toxic Substances Control Act were used to compare the analytical data. These standards define lead-containing paint as paint that has lead equal to or exceeding 0.5 percent by weight [~5,000 parts per million (ppm)]. This criterion was widely, although not universally, used in Canada. In Canada, the “Federal Hazardous Product Act” has recently lowered the allowable concentration of lead in paints for new consumer products to 0.06% lead content by weight (600 ppm).

MERCURY

Mercury has been used in electrical equipment such as alkaline batteries, fluorescent light bulbs (lamps), high intensity discharge (HID) lights (mercury vapour, high pressure sodium and metal halide), “silent switches” and in instruments such as thermometers, manometers and barometers, pressures gauges, float and level switches and flow meters. Mercury-containing lamps, the bulk of which are 1.22 m (4 foot) fluorescent lamps, contain between 7 mg and 40 mg of mercury each. Mercury compounds have also been used by many manufacturers historically as additives in latex paint to protect the paint from mildew and bacteria during production and storage.

The intentional addition of mercury to Canadian-produced consumer paints for interior use was prohibited in 1991. Mercury may have remained in paints after 1991, as a result of impurities in the paint ingredients or cross-contamination due to other manufacturing processes. The “Surface Coating Materials Regulations” made under the “Hazardous Products Act”, published in the Canada Gazette Part II on May 4, 2005 sets a maximum total mercury concentration of 10 mg/kg (0.001 percent weight/weight) for all surface coating materials (including paint).

Mercury-containing thermostats and silent light switches are mercury tilt switches which are small tubes with electrical contacts at one end of the tube. A mercury tilt switch is usually present when no switch is visible. Mercury switches often have the word “TOP” stamped on the upper end of the switch, which is visible after removing the cover plate. If mercury switches are to be removed, the entire switch should be removed and placed into a suitable container for storage and disposal.

No special requirements exist in Ontario for disposal of small quantities (i.e., less than 30) of waste light tubes. Larger quantities of waste light tubes (more than 30) generated during renovations or building demolition and waste mercury from equipment must either be recycled or disposed of in accordance with the requirements of O.Reg.347 – “Waste Management, General”.

Waste mercury in amounts less than 5 kg (per month) are exempt from the generator registration requirements prescribed by O.Reg.347 – “Waste Management, General”. Waste mercury from mercury switches or gauges should be properly collected and shipped to a recycling facility or disposed of as hazardous waste. Removal of mercury-containing equipment (e.g. switches, gauges, controls, etc.) should be carried out in a manner which prevents spillage and exposure to workers.

The measures and procedures in the “MOL Guideline – Lead in Construction Projects” for control of exposure to lead from paint applications during construction activities will also serve to control potential exposure to mercury in paint.

SILICA

Silica exists in several forms of which crystalline silica is of most concern with respect to potential worker exposures. Quartz is the most abundant type of crystalline silica. Some commonly used construction materials containing silica include brick, refractory brick, concrete, concrete block, cement, mortar, rock and stone, sand, fill dirt, topsoil and asphalt containing rock or stone.

The MOL Guideline, “Silica on Construction Projects”, dated September 2004, provides guidance in controlling exposure to silica dust during construction activities. In the guideline, silica-containing construction operations are classified into three groups – Type 1 (low risk), Type 2 (medium risk) and Type 3 (high risk) based on presumed airborne concentrations of respirable crystalline silica in the form of cristobalite, tridymite, quartz and tripoli.

ISOCYANATES

Isocyanates are a family of highly reactive chemicals with a low molecular weight. They are widely used in the manufacture of flexible and rigid foams, fibers, coatings such as paints, varnishes and elastomers. They are increasingly used in the automotive industry including autobody repair and automobile manufacturing. They are also used in building insulation materials. Spray-on polyurethane products containing isocyanates have been developed for a wide range of retail, commercial and industrial uses to protect cement, wood, fiberglass, steel and aluminum, including protective coatings for truck beds, trailers, boats, foundations and decks.

Isocyanates are powerful irritants to the mucous membranes of the eyes and gastrointestinal and respiratory tracts. Direct skin contact can also cause marked inflammation. Isocyanates can also sensitize workers, making them subject to severe asthma attacks if they are exposed to it again. There is evidence that both respiratory and dermal exposures can lead to sensitization. Controlling exposure to isocyanates is governed by the “Occupational Health and Safety Act (OHS) – R.R.O. 1990, Regulation 842”.

VINYL CHLORIDE MONOMER

Vinyl chloride is one of the largest petroleum-derived chemicals in world production. Large quantities of vinyl chloride are used in industry to produce the polymer polyvinyl chloride (PVC) plastic and vinyl products, among other uses. Vinyl chloride is also a by-product of the breakdown of chlorinated solvents by soil organisms and, when in soil, it can migrate to groundwater sources eventually entering drinking water sources.

Acute exposure to high levels of vinyl chloride in the air can affect the central nervous system and can lead to dizziness, drowsiness and headaches. Chronic exposure to vinyl chloride through inhalation and oral exposure has resulted in liver damage. Vinyl chloride is a carcinogen and exposure through inhalation has been shown to increase the risk of a rare form of liver cancer. Controlling exposure to vinyl chloride is governed by the “OHS – R.R.O. 1990, Regulation 846”.

BENZENE

Benzene is an aromatic hydrocarbon, and one of the most elemental petroleum-derived chemicals. It's found in the air from burning coal and oil, gasoline service stations and motor vehicle exhaust.

Acute inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin and respiratory tract irritation and, at high levels, unconsciousness. Chronic inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia, in occupational settings. Benzene is a known human carcinogen for all routes of exposure.

ACRYLONITRILE

Acrylonitrile is often used for the manufacture of acrylic and modacrylic fibers, and as a raw material for plastics, adiponitrile, acrylamide and nitrile rubbers and barrier resins. Exposure to acrylonitrile is most commonly occupational.

Acute effects of acrylonitrile through inhalation in high concentrations can cause a person to experience mucous membrane irritation, headaches, nausea, feelings of apprehension and nervous irritability. Chronic effects include prolonged headaches, fatigue, nausea and weakness.

The OSHA classifies acrylonitrile as a designated substance. As such potential exposure and disposal of acrylonitrile is regulated. It is a probable human carcinogen.

COKE OVEN EMISSIONS

Coke is used as a fuel, and it is usually made from coal. It is a common component in the manufacturing of iron and steel. Several industries can expose workers to coke oven emissions including the aluminum, steel, graphite, electrical and construction industries.

Coke oven emissions are a known human carcinogen. Chronic effects of exposure through inhalation include conjunctivitis, severe dermatitis and lesions of the respiratory and digestive systems. Controlling exposure to coke oven emissions is governed by "OSHA – R.R.O. 1990, Regulation 840".

ARSENIC

Metallic arsenic is mainly used in alloying with lead. Arsenic is also used in the agricultural, medical and mining industries. Very small amounts of arsenic can be added to the lead components in car batteries to increase the strength of the batteries. Gallium arsenide is an important semiconductor material used in integrated circuits. The presence of arsenic is prevalent in the automotive and manufacturing sectors.

Arsenic can contaminate groundwater sources and can have adverse effects on human health if consumed. Groundwater that is contaminated with arsenic can be a result of naturally occurring arsenic or from the use of arsenic in a manufacturing process. Some private wells in North America contain arsenic above the governing body standards. Arsenic can also be found in food from plants that have absorbed small amounts of arsenic.

Elemental arsenic and arsenic compounds are toxic and dangerous for the environment and are recognized as group 1 carcinogens (sufficient evidence of carcinogenicity in humans). The EPA maximum arsenic concentration in drinking water is 10 ppb.

ETHYLENE OXIDE

Ethyl oxide, as a raw material, has many applications. It is commonly used as a key industrial chemical for making consumer products and non-consumer chemicals. Some uses include production of detergents, thickeners, solvents, plastics and various organic chemicals.

Ethylene oxide is a very hazardous substance: at room temperature it is a flammable, carcinogenic, mutagenic, irritating and anesthetic gas. O.Reg.490/09 states that the short-term exposure limit (STEL) for ethylene oxide in a 15-minutes period is 10 ppm.

POLYCHLORINATED BIPHENYLS

The management of equipment classified as waste and containing (polychlorinated biphenyls) PCBs at concentrations of 50 parts per million (mg/kg) or greater is regulated by “Ontario Regulation 362, Waste Management – PCBs” (amended to O.Reg.232/11). Under this regulation, PCB waste is defined as any waste material containing PCBs in concentrations of 50 mg/kg or greater. Any equipment containing PCBs at or greater than this level, such as transformers, switchgear, light ballasts and capacitors, which is removed from service due to age, failure or as a result of decommissioning, is considered to constitute a PCB waste. Current federal legislation (effective July 1, 1980) has prohibited the manufacture and sale of new equipment containing PCBs. Since that time, continued operation of equipment supplied prior to this date and containing PCBs is still permitted. Handling, storage and disposition of such equipment is, however, tightly regulated and must be managed in accordance with provincial and federal government requirements as soon as it is taken out of service or becomes unserviceable.

In most institutional, commercial and smaller industrial facilities, the primary source of equipment potentially containing PCBs is fluorescent and HID light ballasts. Small transformers may also be present. In larger industrial facilities, larger transformers and switch gear containing, or potentially containing, PCBs may also be present.

Removal of in-service equipment containing PCBs, such as fluorescent light ballasts, capacitors and transformers, is subject to the requirements of the federal “PCBs Regulations”. When the PCB materials are classified as waste, jurisdiction falls under the Ontario Ministry of the

Environment, Conservation and Parks (MOE) and O.Reg.362. All remedial and PCB management work must be carried out under the terms of a Director's Instruction issued by a MOE District Office (for quantities of PCB fluid greater than 50 litres). The PCB waste stream, regardless of quantity, must be registered with the MOE, in accordance with O.Reg.347, "General – Waste Management". O.Reg.362 applies to any equipment containing greater than 1 kg of PCBs. Current MOE policies will, therefore, allow a one-time disposal of up to 40 ballasts as municipal waste. For quantities greater than 40, the ballasts must be classified as PCB waste and either placed into temporary storage or disposed of at an acceptable facility.

OZONE-DEPLETING SUBSTANCES

An ozone-depleting substance (ODS) is any substance that results in the depletion of stratospheric ozone shield that screens the earth from some of the sun's harmful ultraviolet rays. Such substances must be sufficiently stable to survive the time needed to mix into the stratosphere. Common ozone-depleting substances are chlorofluorocarbons (CFCs), halons, hydrochlorofluorocarbons (HCFCs), carbon tetrachloride, methyl chloroform, methyl bromide and oxides of nitrogen.

CFCs have been widely used as refrigerants, solvents, foam blowing agents and as aerosol propellants. Halons are used within fire extinguishing equipment. Methyl chloroform and carbon tetrachloride have been used mainly in industry as degreasers and adhesive, and for chemical processing.

Several regulations apply to the use, storage, disposal and emission of ozone-depleting substances. The general provincial regulation pertaining to ODS is O.Reg.356 (amended to O.Reg.851/93) and O.Reg.189/94 (amended to O.Reg.238/01).

Due to the nature of ODSs and their potential impact to the environment, their use, transport, storage and disposal is strictly enforced. Canada's current position on CFCs is to freeze production by January 1996 and complete elimination by 2020. The "Federal Halocarbon Regulations" (SOR/99-255) assist in the development of strategic plans for the use, control and phase-out of ODSs and their halocarbon alternatives for operations under federal jurisdiction.

UREA-FORMALDEHYDE FOAM INSULATION

Urea-formaldehyde foam insulation (UFFI) was developed in Europe in the 1950s as an improved means of insulating cavities in house walls. It was typically made at a construction site from a mixture of urea-formaldehyde resin, a foaming agent and compressed air. When the mixture is injected into the wall, urea and formaldehyde unite and "cure" into an insulating foam plastic. During the 1970s, when concerns about energy efficiency led to efforts to improve home insulation in Canada, UFFI became an important insulation product for existing houses.

PERITUS
APPENDIX A

In the insulating process, a slight excess of formaldehyde was often added to ensure complete “curing” with the urea to produce the urea-formaldehyde foam. That excess was off-gassed during the curing, almost entirely within a day or two of injection. Health problems associated with exposure to formaldehyde include: eye, nose, and throat irritation, coughing, headaches dizziness and, in very high concentrations, bronchial pneumonia and pulmonary edema. As a result, the use of UFFI was banned in 1980 by the “Federal Hazardous Products Act” (R.S.C. 1985).

**Appendix B:
Certificates of Analysis
(Paracel Laboratory)**

Certificate of Analysis

Peritus Environmental Consultants

320 Woolwich St S
Breslau, ON N0B 1M0
Attn: Jonathan Sampath

Client PO: 22-21-191661
Project: 22-21-191661
Custody:

Report Date: 17-Dec-2020
Order Date: 14-Dec-2020

Order #: 2051017

This Certificate of Analysis contains analytical data applicable to the following samples as submitted :

Parcel ID	Client ID
2051017-01	01-A
2051017-02	01-B
2051017-03	01-C
2051017-04	02-A
2051017-05	02-B
2051017-06	02-C
2051017-07	03-A
2051017-08	03-B
2051017-09	03-C
2051017-10	04-A
2051017-11	04-B
2051017-12	04-C
2051017-13	05-A
2051017-14	05-B
2051017-15	05-C
2051017-16	06-A
2051017-17	06-B
2051017-18	06-C
2051017-19	07-A
2051017-20	07-B
2051017-21	07-C

Approved By:



Emma Diaz
Senior Analyst

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.

Certificate of Analysis
 Client: Peritus Environmental Consultants
 Client PO: 22-21-191661

Report Date: 17-Dec-2020
 Order Date: 14-Dec-2020
 Project Description: 22-21-191661

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Parcel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
2051017-01	10-Dec-20	Off-white	Vinyl Floor Tile	No	Client ID: 01-A Non-Fibers	100
2051017-02	10-Dec-20	Off-white	Vinyl Floor Tile	No	Client ID: 01-B Non-Fibers	100
2051017-03	10-Dec-20	Off-white	Vinyl Floor Tile	No	Client ID: 01-C Non-Fibers	100
2051017-04	10-Dec-20	Grey	Plaster	No	Client ID: 02-A Non-Fibers	100
2051017-05	10-Dec-20	Grey	Plaster	No	Client ID: 02-B Non-Fibers	100
2051017-06	10-Dec-20	Grey	Plaster	No	Client ID: 02-C Non-Fibers	100
2051017-07	10-Dec-20	Grey	Grout	No	Client ID: 03-A Non-Fibers	100
2051017-08	10-Dec-20	Grey	Grout	No	Client ID: 03-B Non-Fibers	100
2051017-09	10-Dec-20	Grey	Grout	No	Client ID: 03-C Non-Fibers	100
2051017-10	10-Dec-20	Grey	Caulking	Yes	Client ID: 04-A Chrysotile Non-Fibers	2 98
2051017-11	10-Dec-20	Grey	Caulking		Client ID: 04-B not analyzed, positive stop	
2051017-12	10-Dec-20	Grey	Caulking		Client ID: 04-C not analyzed, positive stop	

Certificate of Analysis
 Client: **Peritus Environmental Consultants**
 Client PO: **22-21-191661**

Report Date: 17-Dec-2020
 Order Date: 14-Dec-2020
 Project Description: **22-21-191661**

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Parcel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content	
2051017-13	10-Dec-20	Black	Window Glazing	Yes	Client ID: 05-A		
					Chrysotile	1	
					Cellulose	30	
						Non-Fibers	69
2051017-14	10-Dec-20	Black	Window Glazing		Client ID: 05-B		
					not analyzed, positive stop		
2051017-15	10-Dec-20	Black	Window Glazing		Client ID: 05-C		
					not analyzed, positive stop		
2051017-16	10-Dec-20	White	Grout	No	Client ID: 06-A		
					Non-Fibers		
2051017-17	10-Dec-20	White	Grout	No	Client ID: 06-B		
					Non-Fibers		
2051017-18	10-Dec-20	White	Grout	No	Client ID: 06-C		
					Non-Fibers		
2051017-19	10-Dec-20	Beige	Mastic	No	Client ID: 07-A		
					Cellulose	30	
					Non-Fibers	70	
2051017-20	10-Dec-20	Beige	Mastic	No	Client ID: 07-B		
					Cellulose	15	
					Non-Fibers	85	
2051017-21	10-Dec-20	Black	Mastic	No	Client ID: 07-C		
					Cellulose	15	
					Non-Fibers	85	

**** Analytes in bold indicate asbestos mineral content.**

Certificate of Analysis
Client: **Peritus Environmental Consultants**
Client PO: **22-21-191661**

Report Date: 17-Dec-2020
Order Date: 14-Dec-2020
Project Description: **22-21-191661**

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	Lab Accreditation	*	Analysis Date
Asbestos, PLM Visual Estimation	by EPA 600/R-93/116	1 - Mississauga	NVLAP 200863-0		16-Dec-20

* Reference to the NVLAP term does not permit the user of this report to claim product certification , approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Mississauga Lab: 15 - 6800 Kitimat Rd Mississauga, Ontario, L5N 5M1

Work Order Revisions | Comments

None



Client Name: Peritus Environmental Consultants	Project Reference: 22-21-191661
Contact Name: Jonathan Sampath	Quote #: —
Address: 320 Woolwich St S., Breslau, ON, N0B 1M0	PO #: 22-21-191661
	Email Address: jonathan.sampath@peritusenv.com
Telephone: 519-594-0018	erin.janzen@peritusenv.com

Turnaround Time:

Immediate 1 Day
 4 Hour 2 Day
 8 Hour 3 Day
 Regular

Date Required: _____

ASBESTOS & MOLD ANALYSIS

Matrix: Air Bulk Tape Lift Swab Other **Regulatory Guideline:** ON QC AB SK Other:
Analyses: Microscopic Mold Culturable Mold Bacteria GRAM PCM Asbestos PLM Asbestos Chatfield Asbestos TEM Asbestos

Paracel Order Number: 2051017		Asbestos - Bulk			
Sample ID	Sampling Date	Air Volume (L)	Analysis Required	Identify Distinct Building Materials to Be Analyzed (if not specified, all materials identified will be analyzed) *	Positive Stop?
1	Dec 10	N/A	PLM	Vinyl Floor Tile	<input checked="" type="checkbox"/>
2				Plaster	<input checked="" type="checkbox"/>
3				Grout	<input checked="" type="checkbox"/>
4				Grey Caulk	<input checked="" type="checkbox"/>
5				Black Window Glazing	<input checked="" type="checkbox"/>
6				Grout (White)	<input checked="" type="checkbox"/>
7				Brown Mastik	<input checked="" type="checkbox"/>
8					<input type="checkbox"/>
9					<input type="checkbox"/>
10					<input type="checkbox"/>
11					<input type="checkbox"/>
12					<input type="checkbox"/>

* If left blank, all distinct materials identified in the samples will be analyzed and reported separately as per EPA 600/R-93/116. Additional charges will apply.

Comments: _____

Method of Delivery: Drop Box

Relinquished By (Sign):	Received at Depot:	Received at Lab:	Verified By:
Relinquished By (Print): Jonathan Sampath	Date/Time: December 11, 2020 20:40	Date/Time: Dec 14/20 8:30	Date/Time: Dec 14/20 9:54

Certificate of Analysis

Peritus Environmental Consultants

320 Woolwich St S
Breslau, ON N0B 1M0
Attn: Jonathan Sampath
Client PO: 22-21-191661
Project: 22-21-191661
Custody:

Report Date: 18-Dec-2020
Order Date: 14-Dec-2020

Order #: 2051113

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Parcel ID	Client ID
2051113-01	P-01
2051113-02	P-02
2051113-03	P-03

Approved By:



Alex Enfield, MSc
Lab Manager

Any use of these results implies your agreement that our total liability in connection with this work, however arising shall be limited to the amount paid by you for this work, and that our employees or agents shall not under circumstances be liable to you in connection with this work

Certificate of Analysis
Client: **Peritus Environmental Consultants**
Client PO: **22-21-191661**

Report Date: 18-Dec-2020
Order Date: 14-Dec-2020
Project Description: **22-21-191661**

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Metals, ICP-MS	EPA 6020 - Digestion - ICP-MS	16-Dec-20	16-Dec-20

Sample Data Revisions

None

Work Order Revisions/Comments:

None

Other Report Notes:

n/a: not applicable
ND: Not Detected
MDL: Method Detection Limit
Source Result: Data used as source for matrix and duplicate samples
%REC: Percent recovery.
RPD: Relative percent difference.

Certificate of Analysis
 Client: Peritus Environmental Consultants
 Client PO: 22-21-191661

Report Date: 18-Dec-2020
 Order Date: 14-Dec-2020
 Project Description: 22-21-191661

Sample Results

Lead				Matrix: Paint
				Sample Date: 10-Dec-20
Parcel ID	Client ID	Units	MDL	Result
2051113-01	P-01	ug/g	5	417
2051113-02	P-02	ug/g	5	64
2051113-03	P-03	ug/g	5	592

Laboratory Internal QA/QC

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Matrix Blank									
Lead	ND	5	ug/g						
Matrix Duplicate									
Lead	372	5	ug/g	417			11.30	50	
Matrix Spike									
Lead	1530	5	ug/g	417	88.7	70-130			

**Appendix C:
Environmental Submittals**

HAZARDOUS MATERIALS ABATEMENT CONTRACTOR SUBMITTAL REQUIREMENTS

A. CONTRACTOR SUBMITTALS

1. TRAINING CONFIRMATION

In accordance with Designated Substances and Hazardous Building Materials Specification: Successful respondent(s) are required to submit to the Hazardous Materials Consultant the items indicated below **within 4 (four) calendar days** of request by the Hazardous Materials Consultant.

All training must be facilitated by a competent person, as per the Occupational Health & Safety Act, and certificates must be issued by the same competent person.

- Training in Type 1 & 2 Asbestos Awareness, Work Procedures, and Care and Use of Respiratory Protection, as per Section 19 of O.Reg. 278/05. The duration of the course shall be a minimum of 8 hours in length. Proof of training is required for workers performing abatement. Changes in personnel shall be accompanied by certificates reflecting this change.
- Training in Type 3 Asbestos Work Procedures (MTCU 253W Certificate), as per Section 19 & 20 of O.Reg. 278/05.
- Training in Lead Awareness, Work Procedures and Personal Protective Equipment (PPE) as per the MOL Guideline – Lead on Construction Projects. The duration of the course shall be at least 4 hours in duration.
- Training on Mercury Work Procedures, as per Section 25(2)(h) of the Occupational Health & Safety Act. The duration of the course shall be up to 4 hours in duration.
- Training on Silica Work Procedures, as per the MOL Guideline – Silica on Construction Projects. The duration of the course shall be up to 4 hours in duration.
- Training on Level I and Level II Mould Work Procedures and remediation, as per the Section 25(2)(h) of the Occupational Health & Safety Act. The duration of the course shall be a minimum of 8 hours in length. Proof of training is required for workers performing remediation. Changes in personnel shall be accompanied by certificates reflecting this change.
- Training on Level III Mould Work Procedures and remediation, as per the Section 25(2)(h) of the Occupational Health & Safety Act. The duration of the course shall be a minimum of 8 hours in length. Proof of training is required for workers performing remediation. Changes in personnel shall be accompanied by certificates reflecting this change.
- Training on PCB Work Procedures, as per Section 25(2)(h) of the Occupational Health & Safety Act. The duration of the course shall be up to 4 hours in duration.
- WHMIS
- Working at heights training
- Confined Space Entry/Awareness
- Asbestos Abatement Supervisors Training Program (MTCU 253S Certificate), as per Section 20 of O.Reg. 278/05.
- Basics of Supervising course or proof of equivalent training or experience.

2. EXPERIENCE

Successful respondent(s) are required to submit to the Hazardous Materials Consultant the items indicated below ***within 4 (four) calendar days*** of request by the Hazardous Materials Consultant.

- Successful Respondent(s) are required to submit 3 project references demonstrating asbestos abatement experience. The examples shall be relevant to the project and describe the nature of the project, year of completion, approximate value, and client contact name and phone number. The project references shall include only crew/sub-contractors to be used on the work by Successful Respondent(s).

3. WASTE HAUL

Successful respondent(s) are required to submit to the Hazardous Materials Consultant the items indicated below ***within 4 (four) calendar days*** of request by the Hazardous Materials Consultant.

- Successful Respondent(s) are required to submit a copy of the company's Provisional Certificate of Approval Waste Management System Number as issued by the Ontario Ministry of Environment or certificate in the name of the approved waste hauler.

B: ABATEMENT WORK REQUIREMENTS

Prior to commencement and/or during abatement work, the successful respondent(s) shall submit to the Hazardous Materials Consultant as requested:

- Proposed work schedule
- Proposed project plan meeting the requirements of the specifications
- A WHMIS information package containing documentation addressing test results, flammability and fire data and Safety Data Sheets (SDSs) for products, chemicals and materials used on site during the course of the asbestos abatement project
- Proof satisfactory to the Hazardous Materials Consultant that each worker scheduled to work on the project has been fit tested for the appropriate respirator to be used
- Dioctyl Phthalate (DOP) test results and performance data for HEPA vacuums
- DOP test results and performance data for negative air unit systems
- Pressure differential monitoring data – to be submitted on a daily basis

C: MANIFESTS/WAYBILLS/BILLS OF LADING

At completion of abatement work, the successful respondent(s) shall submit to the Hazardous Materials Consultant as indicated:

- a copy of the weight scale or waste manifests/waybills/bill of lading, as applicable, for each type of waste to the Hazardous Materials Consultant at the completion of work. The waste manifest/waybills/bill of lading to be submitted with the final invoice. The board shall process payment upon receipt of the above along with the invoice.

Appendix D:
Technical Specifications for Asbestos Removal

PART 1 - GENERAL

1.1 General Requirements

- .1 All conditions of the contract and Division 1, General Requirements apply to this section.
- .2 All materials and equipment must be set up in a position satisfactory to the Owner's representative.
- .3 Scheduling of the work shall be discussed with and be subject to the approval of the Owner or Owner's representative.
- .4 It is the intent that work performed as outlined in this section will result in the removal and disposal of all asbestos-containing materials, existing asbestos-contaminated materials and materials that become contaminated by asbestos as a result of the work specified by this Section. The referenced materials include, but are not limited to asbestos-containing tar, felt, and caulking.
- .5 Dispose of all waste as specified in applicable sections of the specifications document.
- .6 The Environmental Consultant may perform area and personal air sampling to verify effectiveness of dust suppression methods and adequacy of the respirators used by the Contractor. Contractor's personnel shall co-operate with the Environmental Consultant in collecting air samples.
- .7 This project and all work associated with it is regulated by Ontario Regulation 278/05, The Occupational Health and Safety Act and other applicable regulations.
- .8 Provide all equipment, material, services, supervision and labour required or specified to complete the scope of work of this project as described in the Contract and Specifications Documents.
- .9 The Contractor shall be insured and possess all necessary requirements to perform Type 1 Asbestos Abatement work in Ontario as stated in Ontario Regulation 278/05.

1.2 Description of Work

- .1 Before submitting a bid, confirm the scope of work of the project by visiting the site and reading the entire Contract documents. The information and any drawings and figures presented should not be used as the only basis for submitting a bid.
- .2 Caulking around the perimeter of the door to the photocopier room contained non-friable 2% chrysotile.
 - .1 Caulking is grey in colour and soft.

- .2 May also be present around the perimeter of door frame around other rooms.
- .3 Estimated Quantity: 5 m (17 ft) around the perimeter of each door where similar material is observed.
- .3 Black glazing around the perimeter of the door/window unit to the main office contained non-friable 1% chrysotile. May be present on other similar units.
 - .1 Glazing is dark in colour.
 - .2 Estimated Quantity: 21 m (70 ft) around perimeter of door/window unit.
- .4 Work may be carried out as a Type 1 operation using hand held tools. Separate from rest of door frame and dispose as ACM waste.
- .5 Lead containing paint present as follows:
 - .1 Brown paint around door and frame contained 0.0417% by weight (417 µg/g) lead content.
 - .2 Light brown paint around door and frame contained 0.0592% by weight (592 µg/g) lead content.
- .6 Concrete block walls (masonry walls) are present throughout the building and may be impacted during the door replacement work.
- .7 The door frames are not planned for removal as part of this work. Contractors shall take precautions to manage dust to reduce the likelihood of lead and silica particles from becoming airborne using similar methods as for asbestos (Refer to Part 3).
- .8 Each Contractor must examine the Drawings and Specifications, and must also attend the site before submitting this Bid. They must satisfy themselves by personal examination as to specific conditions to be met with during the project. They shall make their own estimates of the facilities and difficulties to be encountered in completing the work under this Contract. They shall not claim at any time after submission of this Bid, that there was any misunderstanding of the terms and conditions relating to the site conditions.
- .9 No plea of ignorance of conditions that exist or that may be encountered in the execution of the work under this Contract as a result of the failure to make the necessary examinations and investigations will be accepted as an excuse for any failure or omission on the part of the Contractor to fulfill in every detail all requirements of said Contract Documents, or will be accepted as a basis for any claims whatsoever for extra compensation or any extension of time.

1.3 Work Schedule

- .1 It is the responsibility of the contractor to provide the necessary manpower and work shifts to meet the schedule as specified below:

- .2 The Owner and the project management team shall determine the schedule and the start date for the project.
- .3 The Contractor shall, at no extra cost to the owner, be responsible for the completion of work required or scheduled to be performed on weekends, holidays and after regular hours and shall be carried out as required to meet the schedule specified.
- .4 In all situations where the Contractor fails to meet the specified schedule, the Contractor shall pay all costs of inspection and air monitoring by the Environmental Consultant.

1.4 Quality Assurance

- .1 Ensure that work progresses according to schedule.
- .2 Ensure that work complies with all the requirements of the applicable regulations, guidelines and manuals.
- .3 Perform work so that airborne asbestos, asbestos waste, or water runoff do not contaminate areas outside asbestos work enclosure. The Environmental Consultant has been given authorization by the Owner to stop any work where contamination of areas outside enclosures are suspected. The Contractor shall be responsible for all costs to rectify the problem.
- .4 Use only skilled and qualified workers for all trades required to work on this project.
- .5 Only the asbestos abatement Contractor (and not the Client's Consultant), is responsible for the following:
 - .1 Safety programs and precautions required by applicable regulations for the work being performed.
 - .2 Control over the acts and omissions of the Contractor's workers, agents, subcontractors and other employees of the Contractor required to perform work on the project.
 - .3 Control over construction techniques, methods, means or procedures.
- .6 Final review may be carried out by Owner's Consultant to ensure no dust or debris remains.
- .7 From commencement of work until completion of clean-up operations, Client's Consultant may be present.
- .8 If visual inspection indicates that areas outside current asbestos work area enclosures are contaminated these areas are to be cleaned in same manner as that applicable to asbestos work areas, at no cost to Client.

1.5 Regulations

- .1 The Contractor shall comply with all local, provincial and federal requirements relating to asbestos and other work being carried out.

- .2 In case of conflict among the above-mentioned requirements or with these specifications, the more stringent requirements shall apply.
- .3 Perform work following the requirements of the various regulations in effect at the time the work is being carried out.
- .4 The regulations shall include, but are not limited to:
 - .1 Ontario Occupational Health and Safety Act.
 - .2 Ontario Regulation 278/05, Regulation Respecting Asbestos on Construction Projects and in Building and Repair Operations.
 - .3 Ontario Ministry of Environment Regulation 558/00 for the disposal of asbestos waste made under the Environmental Protection Act.
 - .4 Regulations respecting the Handling, Offering for Transport and Transportation of Dangerous Goods.
 - .5 Regulations for Construction Projects Ontario Regulation 213/91 made under the Occupational Health and Safety Act.
 - .6 Health and Safety Act.
 - .7 WHMIS Regulations.

1.6 Supervision

- .1 The Contractor shall provide a trained and qualified shift supervisor for each and every shift during which asbestos removal and clean up is being carried out. The Owner reserves the right to stop all work if this requirement is not complied with, at no additional charge to the Owner.
- .2 The shift supervisor shall have the authority to make decisions and take actions with respect to production, manpower and equipment.
- .3 The Contractor shall obtain approval from the Owner of his representative before replacing supervisory personnel.
- .4 At the request of the Owner or his representative, the Contractor shall, without asking for explanation, replace supervisory personnel with 2 days from receiving the Owner's written request.

1.7 NOTIFICATIONS

- .1 The Contractor shall be responsible for immediately notifying the following, orally and in writing, prior to any work on this project commencing:
 - .2 Ontario Ministry of Labour, Construction Health and Safety branch closest to the location of the project.
 - .3 The land fill site which agreed to accept the waste as per the requirements of regulation 558/00.
 - .4 The Fire Marshall, in cases were the execution of the work will result in blocking building exists or when turning off, removing or temporarily altering fire alarms.

1.8 WASTE DISPOSAL

- .1 Provide for storage and removal of garbage as a result of work and obtain approval of storage location(s) from Owner's Representative and the Consultant prior to commencement of work.
- .2 Disposal of debris and garbage is the responsibility of the Contractor and shall be on a daily basis with minimum disturbance to Owner and occupants.
- .3 At all times maintain work area and site free of accumulated waste, dust and debris.
- .4 Dispose of debris and garbage from the job site on a daily basis with minimum disturbance to Owner and occupants, and in accordance with authorities having jurisdiction.
- .5 Provide garbage bins that can be kept in a secure area and/or locked covered dumpsters for each type of designated material.
- .6 Obtain approval from the Client designee for the bin location prior to commencement of the work.
- .7 Remove full garbage bins immediately. Do not stockpile debris or garbage on project site.
- .8 During and upon completion of the work, the Contractor shall remove from the premises all surplus materials, equipment and debris.
- .9 All existing materials removed during construction shall be immediately taken off site to a legal dumping area authorized to receive such materials. Hazardous materials, such as materials containing asbestos, are to be removed and disposed of in strict accordance with applicable Municipal, Provincial, and Federal requirements.
- .10 All new waste material shall be immediately removed from the site by the Contractor and properly transported to a legal dumping area authorized to receive such material.
- .11 Obtain Environmental Compliance Approval from Ministry of Environment for waste management disposal system for asbestos, if necessary.
- .12 Follow appropriate notification procedures for disposing asbestos at the waste disposal site in accordance with the requirements of Ontario Regulation 347/90, as amended. Confirm acceptable waste containers at receiving site.
- .13 Contractor shall use licensed waste hauler to transport asbestos waste.
- .14 Each load requires completion of bill of lading showing type and weight of hazardous waste being transported.
- .15 Co-operate with Ministry of Environment and Ministry of Labour inspectors and immediately carry out instructions for remedial work at the waste disposal site to maintain environment, at no additional cost to Owner.

1.9 WARRANTY

- .1 The warranty period stipulated in the General Conditions of the Contract, shall be made in writing and extended as follows.
- .2 Agree to make good any defects and replace defective components. Replacement to include removal of defective components and installation of replacement components, including removal and replacement of adjacent materials as required to allow for proper replacement.

PART 2 - MATERIALS AND EQUIPMENT

2.1 Definition

- .1 Abatement: Procedures to control fibre release from asbestos containing building materials. Includes encapsulation, enclosure, and removal.
- .2 Amended Water: Water containing a wetting agent or surfactant that is added for the purpose of reducing water surface tension to allow proper wetting of asbestos material.
- .3 Asbestos: The term includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite, and any of these that have been chemically treated and/or altered.
- .4 Area Monitoring: Sampling of asbestos fibre concentrations within the asbestos control area and outside the asbestos control area which is representative of the airborne concentrations of asbestos fibers which may reach the breathing zone.
- .5 Asbestos Work/Control Area: An area where asbestos removal operations are performed which is isolated by physical boundaries to prevent the spread of asbestos dust, fibers, or debris.
- .6 Air Monitoring: The process of measuring the asbestos fibre content of a specific volume of air in a stated period of time.
- .7 Asbestos Containing Material (ACM): Any material analyzed and found to contain 0.5 percent more asbestos either alone or mixed with other fibrous or nonfibrous materials.
- .8 Asbestos Fibers: For this specification, asbestos fibers are those fibers 5 microns or longer having an aspect ratio of at least 3:1.
- .9 Asbestos Work Area(s): Area(s) where work takes place which will, or may disturb asbestos-containing material, including overspray and fallen material, or settled dust that may contain asbestos.
- .10 Authorized Visitor: The building Owner or designated representative, Construction Manager, persons of any regulatory or other agency having jurisdiction over the project and the asbestos abatement Consultant or designated representative.

- .11 Contractor/Supervisor: An individual who supervises asbestos abatement work and has the proper qualifications and training as specified in this document.
- .12 Disposal: Procedures necessary to transport and deposit the asbestos contaminated material stripped and removed from the building, piping, and equipment in an approved waste disposal site in compliance with the applicable environmental regulations.
- .13 Encapsulation: Procedures necessary to coat all asbestos-containing materials with an encapsulate to control the possible release of asbestos fibers into the ambient air.
- .14 Friable Asbestos Material: Material that when dry can be crumbled, pulverized or powdered by hand pressure and includes material that is crumbled, pulverized or powdered.
- .15 HEPA Filter Equipment: High efficiency particulate air filtered vacuuming equipment with a filter system capable of collecting and retaining asbestos fibers. Filters shall be capable of trapping and retaining at least 99.97 percent of 0.3 micrometer diameter particles.
- .16 Non-friable Asbestos Material: Material that contains asbestos in which the fibers have been locked in by a bonding agent, coating, binder, or other material so that the asbestos is well bound and will not release fibers during any appropriate use, handling, demolition, storage, transportation, processing, or disposal.
- .17 Polyethylene Sheeting: 0.15 mm (6 mil) minimum thickness unless otherwise specified; in sheet size to minimize joints.
- .18 Positive Pressure Respirator: A respirator that maintains a positive pressure inside the facepiece during inhalation and exhalation in relation to the atmospheric pressure.
- .19 Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.
- .20 Wetting Agent: Non-sudsing surface active agent; mixed with water in concentration to provide thorough wetting of asbestos fibre.
- .21 Wet Cleaning: The process of eliminating asbestos from building surfaces and objects by using cloths, mops, or other cleaning tools dampened with water.
- .22 Work: Includes all labour, supervision, materials and equipment required for the complete execution of the project as specified in the contract.

2.2 Materials and Equipment for Asbestos Removal

- .1 Materials for use on this project shall be undamaged, shall comply with the requirements of the contract and specifications and shall be unused at the time of installation unless otherwise indicated.
- .2 Asbestos Waste Container: Use an impermeable container that is impervious to asbestos waste and dust-tight. Shall be made of new material only and shall be labelled as required by applicable regulations with a pre-printed cautionary

asbestos warning label. The container shall (depending on the nature of the waste material) be comprised of the following:

- .1 A 6 mil thick leak-tight polyethylene bag labelled as required and placed inside another 6 mil sealed polyethylene bag (in case the waste does not contain any sharp objects).
- .2 A 6 mil sealed polyethylene bag positioned inside or outside a heavy duty leak tight solid sealed container of sufficient strength to prevent perforation of the container during handling (in case the waste contains sharp objects).
- .3 Disposal Bag: A 0.15 mm 6 mil thick, leak-tight plastic bag, pre-labeled as containing asbestos waste and used for transporting asbestos waste from containment to disposal site.
- .4 Caulking: Non-staining acrylic polymer sealant
- .5 Drop Sheets: Sheets made up of polyethylene of size and type appropriate to the work. To be placed under an area where work is being carried out.
- .6 Encapsulant: A liquid material which can be applied to asbestos containing material and which controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant). A third type of encapsulant (removal encapsulant) is a penetrating encapsulant and is designed to be applied during the removal of asbestos-containing materials to minimize the release of fibres. For this project, Contractor shall use Type 1 penetrating Class A water based encapsulant conforming to CGSB 1-GP-205M and approved by the Fire Marshall and having a flame spread and smoke development ratings both less than fifty.
- .7 Tape-Sealed Polyethylene Sheets: A 6 mil minimum (unless otherwise specified) thickness polyethylene film in maximum sheet size to minimize seams and black, frosted or clear as required to meet specifications.
- .8 Rip-proof polyethylene sheets or polyethylene sheets of type and thickness as specified, sealed with tape along the edges, around objects, over cuts and in other locations as required to provide a continuous polyethylene membrane to protect underlying surfaces from water damage and damage by sealant and to prevent the escape of asbestos fibres through the sheeting into a clean area.
 - .1 Rip-Proof Polyethylene: 0.20 mm (8 mil) fabric made up from 0.13 mm (5 mil) weave and 2 layers 0.04 mm (1.5 mil) poly laminate, in sheet size to minimize joints. Provide new material only in maximum size sheets (to fit work) to minimize joints.
 - .2 Tape: Tape suitable for sealing polyethylene to surface encountered under both wet conditions using amended water, and dry conditions. Typically 2" to 3" widths reinforced tape (cloth or fibreglass reinforced) appropriate for sealing polyethylene sheets under dry and wet conditions.
- .9 Fire Extinguisher: Provide type "ABC" dry chemical fire extinguishers of a combination of extinguishers suitable for the type of exposure in each case.

- .10 First Aid Supplies: Provide and maintain first aid supplies on the project site as required by applicable regulations and construction industry recommendations.
- .11 Flame Resistant Polyethylene Sheeting: a layer of polyethylene sheeting that conforms to the requirements of the NFPA Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films. Provide new material only in 6 mil thickness and in maximum size sheets (to fit work) to minimize joints.
- .12 Foam: Polyurethane expanding foam of low density.
- .13 Lock Down Sealant: a clear, non-staining, water dispersible type, slow drying sealant that is used for the purpose of trapping residual dust. The sealer shall remain sticky on the surface for an 8-hour period as a minimum. The product shall have flame spread and smoke development ratings of less than 50 for both. The sealant shall be compatible with replacement insulation or fireproofing and shall be capable of withstanding service temperature of substrate.
- .14 Protective Coveralls: Full body coveralls complete with hoods and shoe coverings, made up of a material which does not permit penetration of asbestos fibres and is disposable.
- .15 Wetting Agent: A mixture of water and a surfactant used for wetting asbestos-containing materials before removal to minimize the release of fibres during disturbance of the material.
- .16 Provide equipment that is suitable for intended use as specified by the proper standards. All equipment used on the project shall be clean and in good state of repair.

PART 3 - EXECUTION

3.1 Type 1 Removal Operation

- .1 Initial Preparation and Isolation of Work Areas: Unless otherwise specified, work carried out as part of this phase shall proceed as follows:
 - .1 Carry out a survey of the work areas to compile an inventory of existing damages and provide a copy to the Environmental Consultant.
 - .2 The Contractor is responsible for moving materials and objects which are present in the work areas.
 - .3 Prevent the spread of dust from the work area using measures appropriate to the work to be undertaken.
 - .4 Shut off, lock out and seal all ventilation duct vents with the application of one layer of 6 mil (0.15mm) thick clear polyethylene sheet sealed with tape, if applicable.
 - .5 Use FR polyethylene drop sheets over all flooring in work areas where dust and contamination cannot otherwise be thoroughly

- cleaned. This does not apply if work involves the removal of asbestos- containing floor tiles.
- .6 Use one layer of 6 mil (0.15 mm) thick clear polyethylene sheets to cover walls.
 - .7 Separate parts of the building required to remain in use from the work area by polyethylene drop sheets at the perimeter of the work area.
 - .8 Separate the work area with clearly visible warning signs advising of the hazards of asbestos dust and that entry is restricted to authorized trained personnel wearing personal protective equipment.
 - .9 Erect scaffolding or platforms where necessary to perform the removal work. All platforms that exceed 25 feet in height will require the submission of a shop drawing stamped by a professional engineer for approval by the inspector within a minimum of 5 days prior to commencing the work. Guard rails shall be provided around all platforms or scaffolding where practicable. Cover the floor area of the scaffold or platform with one layer of FR polyethylene. Extend the floor of scaffolding or platform under an item being removed to act as a receptacle. Polyethylene sheeting shall be suitably braced and/or restrained so that billowing or failure of the polyethylene sheeting or taped joints does not occur.
- .2 Prevent spread of dust from Asbestos Work Area by wetting materials.
 - .3 Work Area Entry Procedures:
 - .1 Every worker and visitor planning to enter the work area should wear appropriate personal protective equipment including a half-face respirator, safety boots, and clothing that covers exposed skin.
 - .4 Work Area Exit Procedures:
 - .1 Each worker shall decontaminate their protective clothing, boots and respirator by first HEPA vacuuming and then by damp wiping using soap and water.
 - .2 If disposable coveralls are worn, then these shall be disposed of as asbestos waste in a 0.15 mm (6 mil) labelled waste bag. Respirator filter inlets shall be sealed in tape or disposed of as asbestos waste.
 - .5 Asbestos Removal Procedures: Asbestos Removal shall not commence until:
 - .1 The work area is effectively separated from clean areas of the building.
 - .2 Warning signs are posted outside the removal work areas.
 - .3 All surfaces which are not possible to clean are sealed with polyethylene sheeting and tape.

- .4 Arrangements have been made for waste disposal, landfill site operator has been contacted and storage bin is on site.
 - .5 Tools equipment and materials are on hand and in the work area.
 - .6 Facilities for the washing of hands and face are available for workers leaving the work area.
 - .7 Before beginning work remove visible dust from surfaces in the work area where dust is likely to be disturbed during the course of the work. Use HEPA vacuum, or damp cloths where damp cleaning does not create a hazard and is otherwise appropriate. Do not use compressed air to clean up or remove dust from any surface.
 - .8 Wet materials containing asbestos to be cut, ground, abraded, drilled, or otherwise disturbed with amended water. Use garden type low velocity fine mist sprayer. Perform work in a manner to reduce dust creation to lowest levels practicable. Spray asbestos material repeatedly during the work process to minimize asbestos fibre release.
- .6 Additional cement board removal procedures (if applicable).
- .1 Cement board shall be removed intact where possible.
 - .2 When not possible to remove intact, the board shall be cut with hand saws where necessary and dust shall be collected with a HEPA vacuum cleaner nozzle held under the cut area.
 - .3 Drop sheets shall be used no more than 0.5 metres below the cutting location and shall be constructed in such a manner that any dust not removed by the HEPA vacuum is collected.
 - .4 Remove material in sections as intact as possible.
 - .5 Frequently during the work and immediately after completion of the work, clean up dust and waste containing asbestos using a HEPA vacuum or by damp wiping.
- .7 Final Clean
- .1 When removal is complete, clean the entire work area by HEPA vacuuming and wet wiping.
 - .2 The work area shall be deemed clean by the Inspector when there is no visible residue, dirt, film, stain, or discolouration resulting from either asbestos removal or cleaning activities.
- .8 After completion of the initial cleaning and after the Inspector has passed the visual inspection, spray sealant on all surfaces in the work area, including, but not limited to:
- .1 where asbestos material has been removed.

- .2 polyethylene sheeting used on walls, floors and ceilings.
 - .3 Sealant should be sprayed using a garden reservoir type low velocity fine mist sprayer. The sprayer cannot be used if the nozzle is partially obstructed, or if a uniform fine mist spray cannot be obtained.
 - .4 After the area is declared clean and written approval to proceed has been received from the
- .9 Inspector:
- .1 Dismantle boundaries and isolating barriers as asbestos waste. Drop sheets shall be wetted and folded to contain dust and then placed in waste bags.
 - .2 Immediately before their removal from the work area, and disposal, clean each filled labelled waste bag using damp cloths or HEPA vacuum and place in second clean clear polyethylene waste bag.
 - .3 Dispose of waste as per procedures specified in subsection 1.8 Waste Disposal.
- .10 Repair or replace objects damaged in the course of the work. Re-establish objects moved to temporary locations in the course of the work, in their proper positions. Re-secure mounted objects removed in the course of the work in their former positions.

APPENDIX 2:
Door Hardware Schedule

Opening: 1

General Office

Fire Rated

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 2

Principal Office

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 3

General Office Closet

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 22" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 4 **Vice Principal**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 5 **Health Room**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 6 **BF W/R**

<u>Qty.</u>	<u>Part #</u>	
1	93K0L15D-S3-626	Privacy Set
1	80A 8" x 34" x 32D	Kick Plate
1	CDL-18 x 12"	Louver
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers
1	CDL-18" x 12" AL	Louver

Opening: 7 Adult Washroom Confirm if Indicator Lock required

<u>Qty.</u>	<u>Part #</u>	
1	L9456-0-626-00B-L283-722	Indicator Lock
1	1E-74-C265-RP3-626	Mortise Cylinder
1	80A 8" x 28" x 32D	Kick Plate
1	CDL-14 x 12"	Louver
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers
1	CDL-12" x 12" AL	Louver

Opening: 8 Adult Washroom Confirm if Indicator Lock required

<u>Qty.</u>	<u>Part #</u>	
1	L9456-0-626-00B-L283-722	Indicator Lock
1	1E-74-C265-RP3-626	Mortise Cylinder
1	80A 8" x 28" x 32D	Kick Plate
1	CDL-14 x 12"	Louver
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers
1	CDL-12" x 12" AL	Louver

Opening: 9**Health Room to Corridor****Fire Rated**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 10**Kindergarten 101**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 11**Kindergarten 102**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 12 Kindergarten 102 Washroom

<u>Qty.</u>	<u>Part #</u>	
1	93K0N15D-S3-626	Passage Set
1	80A 8" x 22" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 13 Kindergarten 102 Interior Vestibule

<u>Qty.</u>	<u>Part #</u>	
1	2616H – C32D	Pull
1	80A 4" x 16" 32D	Push Plate
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 14 Kindergarten 101 Interior Vestibule

<u>Qty.</u>	<u>Part #</u>	
1	2616H – C32D	Pull
1	80A 4" x 16" 32D	Push Plate
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 16	Kindergarten 101 Washroom	Confirm Size
<u>Qty.</u>	<u>Part #</u>	
1	93KON15D-S3-626	Passage Set
1	80A 8" x 16" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 19	Kindergarten 101 Interior Closet	Confirm Size
<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 20	Boys Washroom	
<u>Qty.</u>	<u>Part #</u>	
1	2616H – C32D	Pull
1	80A 4" x 16" 32D	Push Plate
1	83T-7S-STK-626 CS	Classroom Deadbolt
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers
1	CDL-18" x 12" AL	Louver

Opening: 21**Hallway Double Door****Fire Rated**

<u>Qty.</u>	<u>Part #</u>	
2	12-NB8713J-ETL-32D	Vertical Rod Exit Device, with Trim
2	1E-74-C208-RP3-626	Mortise Cylinder
2	1E-R812-626	Cylinder Ring
2	80A 8" x 40" x 32D	Kick Plate, Stick On
1	4111SCSH-689 LH	Door Closer
1	4111SCSH-689 RH	Door Closer
8	5BB1HW454630NRP	H.D. Hinge

Opening: 22**Hallway Double Door to Staircase****Fire Rated**

<u>Qty.</u>	<u>Part #</u>	
2	12-NB8713F-ETL-32D	Vertical Rod Exit Device, with Trim
2	1E-74-C208-RP3-626	Mortise Cylinder
2	1E-R812-626	Cylinder Ring
2	80A 8" x 34" x 32D	Kick Plate, Stick On
1	4111SCSH-689 LH	Door Closer
1	4111SCSH-689 RH	Door Closer
8	5BB1HW454630NRP	H.D. Hinge

Opening: 23**General Purpose, Boys C/R**

<u>Qty.</u>	<u>Part #</u>	
1	2616H – C32D	Pull
1	80A 4" x 16" 32D	Push Plate
1	83T-7S-STK-626 CS	Classroom Deadbolt
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 24**Custodian, Next to Boy's C/R**

<u>Qty.</u>	<u>Part #</u>	
1	93K7D15D-S3-626	Storeroom Lock
3	5BB1454630NRP	Hinges
1	4040XP-689	Door Closer
3	SR64	Door Silencers

Opening: 25**General Purpose Kitchen**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 26**General Purpose Room****Fire Rated**

<u>Qty.</u>	<u>Part #</u>	
2	12-NB8713F-ETL-32D	Vertical Rod Exit Device, with Trim
2	1E-74-C208-RP3-626	Mortise Cylinder
2	1E-R812-626	Cylinder Ring
2	80A 8" x 34" x 32D	Kick Plate, Stick On
1	4111SCSH-689 LH	Door Closer
1	4111SCSH-689 RH	Door Closer
8	5BB1HW454630NRP	H.D. Hinge

Opening: 27**Kitchen Serving Door to General Purpose Room**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
4	5BB1454630NRP	Hinges
1	FB-458	Flush Bolt
4	SR64	Door Silencers

Opening: 28**Boys C/R @ General Purpose Room**

<u>Qty.</u>	<u>Part #</u>	
1	2616H – C32D	Pull
1	80A 4" x 16" 32D	Push Plate
1	83T-7S-STK-626 CS	Classroom Deadbolt
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 29 Boys C/R @ General Purpose Room

<u>Qty.</u>	<u>Part #</u>	
1	2616H – C32D	Pull
1	80A 4" x 16" 32D	Push Plate
1	83T-7S-STK-626 CS	Classroom Deadbolt
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 30 Door to Stage

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers
1	CDL-20" wide x 12" high	Door Louver

Opening: D31 Storage @ General Purpose Room

<u>Qty.</u>	<u>Part #</u>	
1	8T37SSTK 626	Deadbolt, Classroom Function
2	981 x 626	Finger Pull, with 2 1/8" Hole
2	80A 4"x 16" x 32D	Push Plate, Stick On
2	FB-458	Flush Bolts
2	80A 8" x 28" x 32D	Kick Plate
6	5BB14x4630NRP	Hinges
6	SR-64	1/8" Door Silencers

Opening: 32 **Girls C/R @ General Purpose Room**

<u>Qty.</u>	<u>Part #</u>	
1	2616H – C32D	Pull
1	80A 4" x 16" 32D	Push Plate
1	83T-7S-STK-626 CS	Classroom Deadbolt
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers
1	CDL-18" wide x 12" high	Door Louver

Opening: 33 **Girls W/R @ General Purpose Room**

<u>Qty.</u>	<u>Part #</u>	
1	2616H – C32D	Pull
1	80A 4" x 16" 32D	Push Plate
1	83T-7S-STK-626 CS	Classroom Deadbolt
1	80A 8" x 28" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers
1	CDL-12" x 12" AL	Louver

Opening: 34 **Girls C/R @ General Purpose Room**

<u>Qty.</u>	<u>Part #</u>	
1	2616H – C32D	Pull
1	80A 4" x 16" 32D	Push Plate
1	83T-7S-STK-626 CS	Classroom Deadbolt
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 35 **Instructor Room**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 36 **Classroom 103**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 37 **Classroom 104**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 38 **Classroom 105**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 39 **Classroom 106**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 40 **Custodian Storage**

<u>Qty.</u>	<u>Part #</u>	
1	93K7D15D-S3-626	Storeroom Lock
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 41 **Library 107**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 42 **Library 107**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 43 **Library 107**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 44 **Library 107**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 45

Music Classroom 108

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Location: 46

Men's Washroom

<u>Qty.</u>	<u>Part #</u>	
1	L9456L-0-626-00B-L283-722	Indicator Lock
1	1E-74-C265-RP3-626	Mortise Cylinder
1	80A 8 32D 28"	Kick Plate, Stick On
1	4040XP-689	Door Closer
3	5BB1454630NRP	Standard Wt. Hinge
3	SR64	Door Silencers
1	CDL-12" x 12" AL	Louwer

Location: 47

Women's Washroom

Confirm if Indicator Lock required

<u>Qty.</u>	<u>Part #</u>	
1	L9456L-0-626-00B-L283-722	Indicator Lock
1	1E-74-C265-RP3-626	Mortise Cylinder
1	80A 8 32D 28"	Kick Plate, Stick On
1	4040XP-689	Door Closer
3	5BB1454630NRP	Standard Wt. Hinge
3	SR64	Door Silencers
1	CDL-12" x 12" AL	Louwer

Opening: 48**Staff Room**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 49**Student Services**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 50**Classroom 109**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 51**Classroom 110**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 52 Classroom 111

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 53 Classroom 112

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 54 Girls W/R

<u>Qty.</u>	<u>Part #</u>	
1	2616H – C32D	Pull
1	80A 4" x 16" 32D	Push Plate
1	83T-7S-STK-626 CS	Classroom Deadbolt
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers
1	CDL-18" x 12" AL	Louver

Opening: 55 Custodian Janitor Room

<u>Qty.</u>	<u>Part #</u>	
1	93K7D15D-S3-626	Storeroom Lock
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 56 Boiler and Electrical Room

Fire Rated

<u>Qty.</u>	<u>Part #</u>	
1	93K7D15D-S3-626	Storeroom Lock
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers
1	SDL-FP-18" x 12"	Louver

Opening: 57 Custodian Office

<u>Qty.</u>	<u>Part #</u>	
1	93K7D15D-S3-626	Storeroom Lock
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 58**Mailroom / Xerox**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 59**Conference Room A**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 28" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 60**Door between Conference Room and Xerox Room**

<u>Qty.</u>	<u>Part #</u>	
1	93K7W15D-S3-626	Institutional Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 61**North Stair****Fire Rated**

<u>Qty.</u>	<u>Part #</u>	
2	12-NB8713E-ETL-32D	Vertical Rod Exit Device, with Trim
2	1E-74-C208-RP3-626	Mortise Cylinder
2	1E-R812-626	Cylinder Ring
2	80A 8" x 28" x 32D	Kick Plate, Stick On
1	4111SCSH-689 LH	Door Closer
1	4111SCSH-689 RH	Door Closer
8	5BB1HW454630NRP	H.D. Hinge

Opening: 62**Academic Storage**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 63**Boy's W/R**

<u>Qty.</u>	<u>Part #</u>	
1	2616H – C32D	Pull
1	80A 4" x 16" 32D	Push Plate
1	83T-7S-STK-626 CS	Classroom Deadbolt
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers
1	CDL-18" x 12" AL	Louver

Opening: 64**Storage Room**

<u>Qty.</u>	<u>Part #</u>	
1	93K7D15D-S3-626	Storeroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 65**Custodian Room**

<u>Qty.</u>	<u>Part #</u>	
1	93K7D15D-S3-626	Storeroom Lock
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 66**Girl's W/R**

<u>Qty.</u>	<u>Part #</u>	
1	2616H – C32D	Pull
1	80A 4" x 16" 32D	Push Plate
1	83T-7S-STK-626 CS	Classroom Deadbolt
1	80A 8" x 34" x 32D	Kick Plate
1	4040XP-689	Door Closer
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers
1	CDL-18" x 12" AL	Louver

Opening: 67 Classroom 224

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 68 Classroom 223

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 69 Classroom 222

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 70 Classroom 221 (1st door)

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 71 Classroom 221 (2nd door)

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 72 Classroom 220

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 73 Classroom 219

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 74**East Stair****Fire Rated**

<u>Qty.</u>	<u>Part #</u>	
2	12-NB8713J-ETL-32D	Vertical Rod Exit Device, with Trim
2	1E-74-C208-RP3-626	Mortise Cylinder
2	1E-R812-626	Cylinder Ring
2	80A 8" x 40" x 32D	Kick Plate, Stick On
1	4111SCSH-689 LH	Door Closer
1	4111SCSH-689 RH	Door Closer
8	5BB1HW454630NRP	H.D. Hinge

Opening: 75**Classroom 218**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 76**Conference Room B**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 77**Classroom 217**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 78**Academic Storage**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 79**Stair beside Classroom 216****Fire Rated**

<u>Qty.</u>	<u>Part #</u>	
2	12-NB8713J-ETL-32D	Vertical Rod Exit Device, with Trim
2	1E-74-C208-RP3-626	Mortise Cylinder
2	1E-R812-626	Cylinder Ring
2	80A 8" x 40" x 32D	Kick Plate, Stick On
1	4111SCSH-689 LH	Door Closer
1	4111SCSH-689 RH	Door Closer
8	5BB1HW454630NRP	H.D. Hinge

Opening: 80**Classroom 216**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 81**Classroom 215**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 82**Classroom 214**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

Opening: 83**Classroom 213**

<u>Qty.</u>	<u>Part #</u>	
1	93K7R15D-S3-626	Classroom Lock
1	80A 8" x 34" x 32D	Kick Plate
3	5BB1454630NRP	Hinges
3	SR64	Door Silencers

