

INVITATION TO TENDER

RETURN BIDS TO:

Bid Receiving / Agriculture and Agri-Food Canada

Agriculture and Agri-Food Canada
 Central Experimental Farm (CEF)
 K.W. Neatby Building #20 (Main Entrance)
 960 Carling Avenue, Ottawa ON K1A 0C6
 Attn: Daniel Lafreniere
 Solicitation #19-1252

TENDER TO:

Agriculture and Agri-Food Canada

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the construction listed herein and on any attached sheets at the price(s) set out therefor.

Comments

Title Building 50, Laboratory Renovation, Rooms EW-6, EW-14, EW-15 and EW-16.		
Solicitation No. 19-1252	Date 2019-11-29	
Client Reference No. 1920144210P0001		
File No. 19-1252		
Solicitation Closes: Tuesday, December 17, 2019, at 02:00 PM, EST.		
F.O.B <input type="radio"/> Plant <input checked="" type="radio"/> Destination <input type="radio"/> Other		
Address Enquiries to: Daniel Lafreniere		
Title: Senior Contracts Officer		
Email: daniel.lafreniere@canada.ca		
Telephone Number	Ext.	Fax Number
613 759-6876		
Destination Agriculture and Agri-Food Canada Central Experimental Farm (CEF) 960 Carling Ave. Ottawa ON K1A 0C6		

Instructions: See Herein

Delivery Required	Delivery Offered	
Vendor / Firm Name and Address		
Telephone Number	Ext.	Fax Number
Name and title of person authorized to sign on behalf of Vendor / Firm (type or print)		
Signature		Date

ISSUING OFFICE

Agriculture and Agri-Food Canada
 Integrated Services
 960 Carling Ave.
 Ottawa, Ontario
 K1A 0C6

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SI01 BID DOCUMENTS

- 1) The following are the bid documents:
 - (a) INVITATION TO TENDER - Page 1 form AAFC / AAC5323-E;
 - (b) SPECIAL INSTRUCTIONS TO BIDDERS form AAFC / AAC5301-E;
 - (c) GENERAL INSTRUCTIONS TO BIDDERS form AAFC / AAC5313-E;
 - (d) Clauses and Conditions identified in "CONTRACT DOCUMENTS";
 - (e) Drawings and Specifications;
 - (f) BID AND ACCEPTANCE form AAFC / AAC5320-E and any Appendices attached thereto; and,
 - (g) Any amendment issued prior to solicitation closing.

Submission of a bid constitutes acknowledgement that the Bidder has read and agrees to be bound by these documents.

SI02 ENQUIRIES DURING THE SOLICITATION PERIOD

- 1) Enquiries regarding this bid must be submitted in writing to the Contracting Officer named on the INVITATION TO TENDER - Page 1 as early as possible within the solicitation period. Except for the approval of alternative materials as described in G113 of the GENERAL INSTRUCTIONS TO BIDDERS, enquiries should be received no later than five (5) calendar days prior to the date set for solicitation closing to allow sufficient time to provide a response. Enquiries received after that time may not result in an answer being provided.
- 2) To ensure consistency and quality of the information provided to Bidders, the Contracting Officer shall examine the content of the enquiry and shall decide whether or not to issue an amendment.
- 3) All enquiries and other communications related to this bid sent throughout the solicitation period are to be directed ONLY to the Contracting Officer named on the INVITATION TO TENDER - Page 1. Non-compliance with this requirement during the solicitation period can, for that reason alone, result in disqualification of a bid.

SI03 MANDATORY SITE VISIT

- 1) There will be a site visit on Tuesday, December, 10, 2019 at 10:00 AM PM EST.

SPECIAL INSTRUCTIONS TO BIDDERS (Continued)

Interested bidders are to meet at:

Agriculture and Agri-Food Canada
Central Experimental Farm (CEF)
K.W. Neatby Building # 20, (Main Entrance)
960 Carling Avenue
Ottawa, Ontario K1A 0C6

The site visit for this project is MANDATORY. The representative of the bidder will be required to sign the Site Visit Attendance Sheet at the site visit. Bids submitted by Bidders who have not signed the attendance sheet will not be accepted.

SI04 REVISION OF BID

- 1) A bid may be revised by letter or facsimile in accordance with G109 of the GENERAL INSTRUCTIONS TO BIDDERS. The facsimile number for receipt of revisions is.

SI05 BID RESULTS

- 1) Following bid closing, bid results may be obtained from the bid receiving office by email at daniel.lafreniere@canada.ca

SI06 INSUFFICIENT FUNDING

- 1) In the event that the lowest compliant bid exceeds the amount of funding allocated for the Work, Canada in its sole discretion may:
 - (a) cancel the solicitation; or
 - (b) obtain additional funding and award the Contract to the Bidder submitting the lowest compliant bid; and/or
 - (c) negotiate a reduction in the bid price and/or scope of work of not more than 15% with the Bidder submitting the lowest compliant bid. Should an agreement satisfactory to Canada not be reached, Canada shall exercise option (a) or (b).

SI07 BID VALIDITY PERIOD

- 1) Canada reserves the right to seek an extension to the bid validity period prescribed in Clause 4 of the BID AND ACCEPTANCE Form. Upon notification in writing from Canada, Bidders shall have the option to either accept or reject the proposed extension.
- 2) If the extension referred to in paragraph 1) of SI07 is accepted, in writing, by all those who submitted bids, then Canada shall continue immediately with the evaluation of the bids and its approvals processes.
- 3) If the extension referred to in paragraph 1) of SI07 is not accepted in writing by all those who submitted bids then Canada shall, at its sole discretion, either:
 - (a) continue to evaluate the bids of those who have accepted the proposed extension and seek the necessary approvals; or
 - (b) cancel the invitation to bid.
- 4) The provisions expressed herein do not in any manner limit Canada's rights in law or under G110

SPECIAL INSTRUCTIONS TO BIDDERS (Continued)

of the GENERAL INSTRUCTIONS TO BIDDERS.

SI08 CONSTRUCTION DOCUMENTS

- 1) The successful contractor will be provided with one paper copy of the sealed and signed plans, the specifications and the amendments upon acceptance of the offer. Additional copies, up to a maximum of one (1), will be provided free of charge upon request by the Contractor. Obtaining more copies shall be the responsibility of the Contractor including costs.

SI09 WEB SITES

The connection to some of the Web sites in the solicitation documents is established by the use of hyperlinks. The following is a list of the addresses of the Web sites:

Treasury Board Appendix L, Acceptable Bonding Companies
<http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appL>

Canadian economic sanctions
<http://www.international.gc.ca/sanctions/index.aspx?lang=eng>

SI10 PERSONNEL SECURITY REQUIREMENTS

- 1) The successful Bidder's personnel, as well as any subcontractor and its personnel, who are required to perform any part of the work pursuant to the subsequent contract, must meet the following contract security requirements:
 - Personnel who are required to perform any part of the work must EACH hold a valid personnel security screening at the level of RELIABILITY STATUS, granted or approved by Agriculture and Agri-Food Canada. Until the security screening of the personnel has been completed satisfactorily by Agriculture and Agri-Food Canada, the Contractor/Subcontractor personnel MAY NOT perform contract work. Each of the proposed staff must complete "Security Clearance Form" (TBS 330-23E) upon request from Canada.



GENERAL INSTRUCTIONS TO BIDDERS

- GI01 Completion of Bid
- GI02 Identity or Legal Capacity of the Bidder
- GI03 Applicable Taxes
- GI04 Capital Development and Redevelopment Charges
- GI05 Registry and Pre-qualification of Floating Plant
- GI06 Listing of Subcontractors and Suppliers
- GI07 Bid Security Requirements
- GI08 Submission of Bid
- GI09 Revision of Bid
- GI10 Rejection of Bid
- GI11 Bid Costs
- GI12 Compliance with Applicable Laws
- GI13 Approval of Alternative Materials
- GI14 Conflict of Interest – Unfair Advantage
- GI15 Integrity Provisions – Bid
- GI16 Code of Conduct for Procurement – Bid

GI01 COMPLETION OF BID

- 1) The bid shall be:
 - (a) submitted on the BID AND ACCEPTANCE FORM provided by AAFC with the bid package or on a clear and legible reproduced copy of such BID AND ACCEPTANCE FORM that must be identical in content and format to the BID AND ACCEPTANCE FORM provided by AAFC;
 - (b) based on the Bid Documents listed in the Special Instructions to Bidders;
 - (c) correctly completed in all respects;
 - (d) signed, with an original signature, by a duly authorized representative of the Bidder; and
 - (e) accompanied by
 - (i) bid security as specified in GI07; and
 - (ii) any other document or documents specified elsewhere in the solicitation where it is stipulated that said documents are to accompany the bid.
- 2) Subject to paragraph 6) of GI10, any alteration to the pre-printed or pre-typed sections of the Bid and Acceptance Form, or any condition or qualification placed upon the bid shall be cause for disqualification. Alterations, corrections, changes or erasures made to statements or figures entered on the Bid and Acceptance Form by the Bidder shall be initialed by the person or persons signing the bid. Alterations, corrections, changes or erasures that are not initialed shall be deemed void and without effect.
- 3) Unless otherwise noted elsewhere in the Bid Documents, facsimile copies of bids are not acceptable.

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

GI02 IDENTITY OR LEGAL CAPACITY OF THE BIDDER

- 1) In order to confirm the authority of the person or persons signing the bid or to establish the legal capacity under which the Bidder proposes to enter into Contract, any Bidder who carries on business in other than its own personal name shall, if requested by Canada, provide satisfactory proof of
 - (a) such signing authority; and
 - (b) the legal capacity under which it carries on business;

prior to contract award. Proof of signing authority may be in the form of a certified copy of a resolution naming the signatory(ies) that is (are) authorized to sign this bid on behalf of the corporation or partnership. Proof of legal capacity may be in the form of a copy of the articles of incorporation or the registration of the business name of a sole proprietor or partnership.

GI03 APPLICABLE TAXES

- 1) "Applicable Taxes" means the Goods and Services Tax (GST), the Harmonized Sales Tax (HST), and any provincial tax, by law, payable by Canada such as, the Quebec Sales Tax (QST) as of April 1, 2013.

GI04 CAPITAL DEVELOPMENT AND REDEVELOPMENT CHARGES

- 1) For the purposes of GC1.8 LAWS, PERMITS AND TAXES in the General Conditions of the Contract, only fees or charges directly related to the processing and issuing of building permits shall be included. The Bidder shall not include any monies in the bid amount for special municipal development, redevelopment or other fees or charges which a municipal authority may seek as a prerequisite to the issuance of building permits.

GI05 REGISTRY AND PRE-QUALIFICATION OF FLOATING PLANT

- 1) Dredges or other floating plant to be used in the performance of the Work must be of Canadian registry. For dredges or other floating plant that are not of Canadian make or manufacture, the Bidder must obtain a certificate of qualification from Industry Canada and this certificate must accompany the bid. Plant so qualified by Industry Canada may be accepted on this project.

GI06 LISTING OF SUBCONTRACTORS AND SUPPLIERS

- 1) Notwithstanding any list of Subcontractors that the Bidder may be required to submit as part of the bid, the Bidder shall, within 48 hours of receipt of a notice to do so, submit all information requested in the said notice including the names of Subcontractors and Suppliers for the part or parts of the Work listed. Failure to do so shall result in the disqualification of its bid.

GI07 BID SECURITY REQUIREMENTS

- 1) The Bidder shall submit bid security with the bid in the form of a bid bond or a security deposit in an amount that is equal to not less than 10 percent of the bid amount. Applicable Taxes shall not be included when calculating the amount of any bid security that may be required. The maximum amount of bid security required with any bid is \$2,000,000.00.

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

- 2) A bid bond shall be in an approved form <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494#appS> , properly completed, with original signature(s) and issued by an approved company whose bonds are acceptable to Canada either at the time of solicitation closing or as identified in Treasury Board Appendix L: [Acceptable Bonding Companies](#).
- 3) A security deposit shall be an original, properly completed, signed where required and be either:
 - (a) a bill of exchange, bank draft or money order made payable to the Receiver General for Canada and certified by an approved financial institution or drawn by an approved financial institution on itself; or
 - (b) bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada;
- 4) For the purposes of subparagraph 3) (a) of GI07
 - (a) a bill of exchange is an unconditional order in writing signed by the Bidder and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a sum certain of money to, or to the order of, the Receiver General for Canada;
 - (b) if a bill of exchange, bank draft or money order is certified by or drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in subparagraph 4.c. of GI07, either by letter or by a stamped certification on the bill of exchange, bank draft or money; and
 - (c) An approved financial institution is:
 - (i) a corporation or institution that is a member of the Canadian Payments Association as defined in the [Canadian Payments Act](#);
 - (ii) a corporation that accepts deposits that are insured, to the maximum permitted by law, by the Canada Deposit Insurance Corporation or the "Autorité des marchés financiers";
 - (iii) a corporation that accepts deposits from the public if repayment of the deposit is guaranteed by Her Majesty the Queen in right of a province;
 - (iv) a corporation, association or federation incorporated or organized as a credit union or co-operative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137(6) of the [Income Tax Act](#); or
 - (v) Canada Post Corporation.
- 5) Bonds referred to in subparagraph 3)(b) of GI07 shall be provided on the basis of their market value current at the date of solicitation closing, and shall be:
 - (a) payable to bearer;
 - (b) accompanied by a duly executed instrument of transfer of the bonds to the Receiver General for Canada in the form prescribed by the Domestic Bonds of Canada Regulations; or
 - (c) registered as to principal or as to principal and interest in the name of the Receiver General for Canada pursuant to the Domestic Bonds of Canada Regulations.

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

- 6) As an alternative to a security deposit an irrevocable standby letter of credit is acceptable to Canada and the amount shall be determined in the same manner as a security deposit referred to above.
- 7) An irrevocable standby letter of credit referred to in paragraph 6) of GI07 shall
 - (a) be an arrangement, however named or described, whereby a financial institution (the "Issuer") acting at the request and on the instructions of a customer (the "Applicant") or on its own behalf,
 - (i) is to make a payment to, or to the order of, the Receiver General for Canada as the beneficiary;
 - (ii) is to accept and pay bills of exchange drawn by the Receiver General for Canada;
 - (iii) authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or
 - (iv) authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with;
 - (b) state the face amount which may be drawn against it;
 - (c) state its expiry date;
 - (d) provide for sight payment to the Receiver General for Canada by way of the financial institution's draft against presentation of a written demand for payment signed by the Departmental Representative identified in the letter of credit by his/her office;
 - (e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;
 - (f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice (UCP) for Documentary Credits, 2007 Revision, ICC Publication No. 600; pursuant to the ICC UCP; a credit is irrevocable even if there is no indication to that effect; and
 - (g) be issued or confirmed, in either official language, by a financial institution which is a member of the Canadian Payments Association and is on the letterhead of the Issuer or Confirmer. The format is left to the discretion of the Issuer or Confirmer.
- 8) Bid security shall lapse or be returned as soon as practical following:
 - (a) the solicitation closing date, for those Bidders submitting non-compliant bids; and
 - (b) the administrative bid review, for those Bidders submitting compliant bids ranked fourth to last on the schedule of bids; and
 - (c) the award of contract, for those Bidders submitting the second and third ranked bids; and
 - (d) the receipt of contract security, for the successful Bidder; or
 - (e) the cancellation of the solicitation, for all Bidders.
- 9) Notwithstanding the provisions of paragraph 8) of GI07 and provided more than three compliant bids have been received, if one or more of the bids ranked third to first is withdrawn or rejected for whatever reason then Canada reserves the right to hold the security of the next highest ranked compliant bid in order to retain the bid security of at least three valid and compliant bids.

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

GI08 SUBMISSION OF BID

- 1) The Bid and Acceptance Form, duly completed, and the bid security shall be enclosed and sealed in an envelope provided by the Bidder, and shall be addressed and submitted to the office designated on the INVITATION TO TENDER Form for the receipt of bids. The bid must be received on or before the date and time set for solicitation closing.
- 2) Unless otherwise specified in the Special Instructions to Bidders
 - (a) the bid shall be in Canadian currency;
 - (b) exchange rate fluctuation protection is not offered; and
 - (c) any request for exchange rate fluctuation protection shall not be considered.
- 3) Prior to submitting the bid, the Bidder shall ensure that the following information is clearly printed or typed on the face of the bid envelope:
 - (a) Solicitation Number;
 - (b) Name of Bidder;
 - (c) Return address; and
 - (d) Closing Date and Time.
- 4) Timely and correct delivery of bids is the sole responsibility of the Bidder.

GI09 REVISION OF BID

- 1) A bid submitted in accordance with these instructions may be revised by letter or facsimile provided the revision is received at the office designated for the receipt of bids, on or before the date and time set for the closing of the solicitation. The letter or facsimile shall be on the Bidder's letterhead or bear a signature that identifies the Bidder;
- 2) A revision to a bid that includes unit prices must clearly identify the changes(s) in the unit price(s) and the specific item(s) to which each change applies.
- 3) A letter or facsimile submitted to confirm an earlier revision shall be clearly identified as a confirmation.
- 4) Failure to comply with any of the above provisions shall result in the rejection of the non-compliant revision(s) only. The bid shall be evaluated based on the original bid submitted and all other compliant revision(s).

GI10 REJECTION OF BID

- 1) Canada may accept any bid, whether it is the lowest or not, or may reject any or all bids.
- 2) Without limiting the generality of paragraph 1) of GI10, Canada may reject a bid if any of the following circumstances is present:
 - (a) the Bidder, or any employee or subcontractor included as part of the bid, has been

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

convicted under Section 121 ("Frauds on the government" & "Contractor subscribing to election fund"), 124 "Selling or purchasing office"), 380 ("Fraud committed against Her Majesty") or 418 ("Selling defective stores to Her Majesty") of the Criminal Code of Canada, or under paragraph 80(1)(d) ("False entry, certificate or return"), subsection 80(2) ("Fraud against Her Majesty") or Section 154.01 ("Fraud against Her Majesty") of the *Financial Administration Act*,

- (b) the Bidder's bidding privileges are suspended or are in the process of being suspended;
 - (c) the bidding privileges of any employee or subcontractor included as part of the bid are suspended or are in the process of being suspended, which suspension or pending suspension would render that employee or subcontractor ineligible to bid on the Work, or the portion of the Work the employee or subcontractor is to perform;
 - (d) the Bidder is bankrupt, or where for whatever reason, its activities are rendered inoperable for an extended period;
 - (e) evidence, satisfactory to Canada, of fraud, bribery, fraudulent misrepresentation or failure to comply with any law protecting individuals against any manner of discrimination, has been received with respect to the Bidder, any of its employees or any subcontractor included as part of its bid;
 - (f) evidence satisfactory to Canada that based on past conduct or behavior, the Bidder, a sub-contractor or a person who is to perform the Work is unsuitable or has conducted himself/herself improperly;
 - (g) with respect to current or prior transactions with Canada
 - (i) Canada has exercised, or intends to exercise, the contractual remedy of taking the work out of the contractor's hands with respect to a contract with the Bidder, any of its employees or any subcontractor included as part of its bid; or
 - (ii) Canada determines that the Bidder's performance on other contracts is sufficiently poor to jeopardize the successful completion of the requirement being bid on.
- 3) In assessing the Bidder's performance on other contracts pursuant to subparagraph 2)(g)(ii) of GI10, Canada may consider, but not be limited to, such matters as:
- (a) the quality of workmanship in performing the Work;
 - (b) the timeliness of completion of the Work;
 - (c) the overall management of the Work and its effect on the level of effort demanded of the department and its representative; and
 - (d) the completeness and effectiveness of the Contractor's safety program during the performance of the Work.
- 4) Without limiting the generality of paragraphs 1), 2) and 3) of GI10, Canada may reject any bid based on an unfavourable assessment of the:
- (a) adequacy of the bid price to permit the work to be carried out and, in the case of a bid providing prices per unit or a combination of lump sum and prices per unit, whether each such price reasonably reflects the cost of performing the part of the work to which that

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

price applies;

- (b) Bidder's ability to provide the necessary management structure, skilled personnel, experience and equipment to perform competently the work under the Contract; and
 - (c) Bidder's performance on other contracts.
- 5) Where Canada intends to reject a bid pursuant to a provision of paragraphs 1), 2), 3) or 4) of GI10, other than subparagraph 2)(g) of IT10, the contracting authority will inform the Bidder and provide the Bidder ten (10) days within which to make representations, before making a final decision on the bid rejection.
- 6) Canada may waive informalities and minor irregularities in bids received if Canada determines that the variation of the bid from the exact requirements set out in the Bid Documents can be corrected or waived without being prejudicial to other Bidders.

GI11 BID COSTS

- 1) No payment will be made for costs incurred in the preparation and submission of a bid in response to the bid solicitation. Costs associated with preparing and submitting a bid, as well as any costs incurred by the Bidder associated with the evaluation of the bid, are the sole responsibility of the Bidder.

GI12 COMPLIANCE WITH APPLICABLE LAWS

- 1) By submission of a bid, the Bidder certifies that the Bidder has the legal capacity to enter into a contract and is in possession of all valid licences, permits, registrations, certificates, declarations, filings, or other authorizations necessary to comply with all federal, provincial and municipal laws and regulations applicable to the submission of the bid and entry into any ensuing contract for the performance of the work.
- 2) For the purpose of validating the certification in paragraph 1) of GI12, a Bidder shall, if requested, provide a copy of every valid licence, permit, registration, certificate, declaration, filing or other authorization listed in the request, and shall provide such documentation within the time limit(s) set out in the said request.
- 3) Failure to comply with the requirements of paragraph 2) of GI12 shall result in disqualification of the bid.

GI13 APPROVAL OF ALTERNATIVE MATERIALS

- 1) When materials are specified by trade names or trademarks, or by manufacturers' or suppliers' names, the bid shall be based on use of the named materials. During the solicitation period, alternative materials may be considered provided full technical data is received in writing by the Contracting Officer at least 10 calendar days prior to the solicitation closing date.

GI14 CONFLICT OF INTEREST - UNFAIR ADVANTAGE

- 1) In order to protect the integrity of the procurement process, bidders are advised that Canada may reject a bid in the following circumstances:
- (a) if the Bidder, any of its subcontractors, any of their respective employees or former

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

employees was involved in any manner in the preparation of the bid solicitation or in any situation of conflict of interest or appearance of conflict of interest;

- (b) if the Bidder, any of its subcontractors, any of their respective employees or former employees had access to information related to the bid solicitation that was not available to other bidders and that would, in Canada's opinion, give or appear to give the Bidder an unfair advantage.
- 2) The experience acquired by a bidder who is providing or has provided the goods and services described in the bid solicitation (or similar goods or services) will not, in itself, be considered by Canada as conferring an unfair advantage or creating a conflict of interest. This bidder remains however subject to the criteria established above.
 - 3) Where Canada intends to reject a bid under this section, the Contracting Authority will inform the Bidder and provide the Bidder an opportunity to make representations before making a final decision. Bidders who are in doubt about a particular situation should contact the Contracting Authority before bid closing. By submitting a bid, the Bidder represents that it does not consider itself to be in conflict of interest nor to have an unfair advantage. The Bidder acknowledges that it is within Canada's sole discretion to determine whether a conflict of interest, unfair advantage or an appearance of conflict of interest or unfair advantage exists.

GI15 INTEGRITY PROVISIONS - BID

- 1) Ineligibility and Suspension Policy (the "Policy"), and all related Directives, are incorporated by reference into, and form a binding part of the procurement process. The Supplier must comply with the Policy and Directives, which can be found at *Ineligibility and Suspension Policy*.
- 2) Under the Policy, charges and convictions of certain offences against a Supplier, its affiliates or first tier subcontractors, and other circumstances, will or may result in a determination by Public Works and Government Services Canada (PWGSC) that the Supplier is ineligible to enter, or is suspended from entering into a contract with Canada. The list of ineligible and suspended Suppliers is contained in PWGSC's Integrity Database. The Policy describes how enquiries can be made regarding the ineligibility or suspension of Suppliers.
- 3) In addition to all other information required in the procurement process, the Supplier must provide the following:
 - a. by the time stated in the Policy, all information required by the Policy described under the heading "Information to be Provided when Bidding, Contracting or Entering into a Real Property Agreement"; and
 - b. with its bid / quote / proposal, a complete list of all foreign criminal charges and convictions pertaining to itself, its affiliates and its proposed first tier subcontractors that, to the best of its knowledge and belief, may be similar to one of the listed offences in the Policy. The list of foreign criminal charges and convictions must be submitted using an Integrity Declaration Form, which can be found at *Declaration form for procurement*.
- 4) Subject to subsection 5, by submitting a bid / quote / proposal in response a request by AAFC, the Supplier certifies that:
 - a. it has read and understands the *Ineligibility and Suspension Policy*,
 - b. it understands that certain domestic and foreign criminal charges and convictions, and

GENERAL INSTRUCTIONS TO BIDDERS (Continued)

- other circumstances, as described in the Policy, will or may result in a determination of ineligibility or suspension under the Policy;
- c. it is aware that Canada may request additional information, certifications, and validations from the Supplier or a third party for purposes of making a determination of ineligibility or suspension;
 - d. it has provided with its bid / quote / proposal a complete list of all foreign criminal charges and convictions pertaining to itself, its affiliates and its proposed first tier subcontractors that, to the best of its knowledge and belief, may be similar to one of the listed offences in the Policy;
 - e. none of the domestic criminal offences, and other circumstances, described in the Policy that will or may result in a determination of ineligibility or suspension, apply to it, its affiliates and its proposed first tier subcontractors; and
 - f. it is not aware of a determination of ineligibility or suspension issued by PWGSC that applies to it.
- 5) Where a Supplier is unable to provide any of the certifications required by subsection 4, it must submit with its bid/ quote / proposal a completed Integrity Declaration Form, which can be found at [Declaration form for procurement](#).
- 6) Canada will declare non-responsive any bid / quote / proposal in respect of which the information requested is incomplete or inaccurate, or in respect of which the information contained in a certification or declaration is found by Canada to be false or misleading in any respect. If Canada establishes after award of the Contract that the Supplier provided a false or misleading certification or declaration, Canada may terminate the Contract for default. Pursuant to the Policy, Canada may also determine the Supplier to be ineligible for award of a contract for providing a false or misleading certification or declaration.

Ineligibility and Suspension Policy - <http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>

Declaration form for procurement - <http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>

GI16 CODE OF CONDUCT FOR PROCUREMENT - BID

- 1) The Code of Conduct for Procurement provides that Bidders must respond to bid solicitations in an honest, fair and comprehensive manner, accurately reflect their capacity to satisfy the requirements set out in the bid solicitation and resulting contract, submit bids and enter into contracts only if they will fulfill all obligations of the Contract. By submitting a bid, the Bidder is certifying that it is complying with the Code of Conduct for Procurement. Failure to comply with the Code of Conduct for Procurement may render the bid non-responsive.



MAJOR WORKS - CONTRACT DOCUMENTS

SC01 CONTRACT DOCUMENTS

- 1) The following are the contract documents:
 - (a) Contract page when signed by Canada;
 - (b) Duly completed Bid and Acceptance Form and any Appendices attached thereto;
 - (c) Drawings and Specifications;
 - (d) AAFC General Conditions form AAFC / AAC5321-E:
 - (i) GC1 General Provisions
 - (ii) GC2 Administration of the Contract
 - (iii) GC3 Execution and Control of the Work
 - (iv) GC4 Protective Measures
 - (v) GC5 Terms of Payment
 - (vi) GC6 Delays and Changes in the Work
 - (vii) GC7 Default, Suspension or Termination of Contract
 - (viii) GC8 Dispute Resolution
 - (ix) GC9 Contract Security
 - (x) GC10 Insurance
 - (e) Supplementary Conditions, if any;
 - (f) Insurance Terms form AAFC / AAC5315-E;
 - (g) Any amendment issued or any allowable bid revision received before the date and time set for solicitation closing;
 - (h) Any amendment incorporated by mutual agreement between Canada and the Contractor before acceptance of the bid; and
 - (i) Any amendment or variation of the contract documents that is made in accordance with the General Conditions.
- 2) The language of the contract documents shall be the language of the Bid and Acceptance Form submitted.

SC02 ACCEPTANCE AND CONTRACT

- 1) Upon acceptance of the Contractor's offer by Canada, a binding Contract shall be formed between Canada and the Contractor. The documents forming the Contract shall be the contract documents referred to in SC01 CONTRACT DOCUMENTS.

MAJOR WORKS – GENERAL CONDITIONS

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MAJOR WORKS GENERAL CONDITIONS FORM AAFC 5321:

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GC3	EXECUTION AND CONTROL OF THE WORK	2016-01-01
GC4	PROTECTIVE MEASURES	Original
GC5	TERMS OF PAYMENT	2016-05-01
GC6	DELAYS AND CHANGES IN THE WORK	Original
GC7	DEFAULT, SUSPENSION OR TERMINATION OF CONTRACT	Original
GC8	DISPUTE RESOLUTION	2016-05-01
GC9	CONTRACT SECURITY	2016-05-01
GC10	INSURANCE	Original

GC1 GENERAL PROVISIONS

- GC1.1 INTERPRETATION
 - GC1.1.1 Headings and References
 - GC1.1.2 Terminology
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- GC1.19 INTERNATIONAL SANCTIONS
- GC1.20 INTEGRITY PROVISIONS – CONTRACT
- GC1.21 CODE OF CONDUCT FOR PROCUREMENT - CONTRACT

GC1.1 (2016-05-01) INTERPRETATION

GC1.1.1 Headings and References

- 1) The headings in the contract documents, other than those in the drawings and specifications, form no part of the Contract but are inserted for convenience of reference only.
- 2) A reference made to a part of the Contract by means of numbers preceded by letters is a reference to the particular part of the Contract that is identified by that combination of letters and numbers and to any other part of the Contract referred to therein.
- 3) A reference to a paragraph or subparagraph followed by an identifying number, letter or combination thereof is, unless specifically stated otherwise, a reference to the paragraph or subparagraph that forms part of the clause within which the reference is made.

GC1.1.2 Terminology

In the Contract, unless the context otherwise requires:

“Administrative Agreement”

is a negotiated agreement with the Minister of AAFC as provided for in the Ineligibility and Suspension Policy.

“Affiliate”

is a person, including, but not limited to, organizations, bodies corporate, societies, companies, firms, partnerships, associations of persons, parent companies or subsidiaries, whether partly or wholly-owned, as well as individuals, directors, officers and key employees if:

- (i) one controls or has the power to control the other, or
- (ii) a third party has the power to control both.

"Applicable Taxes"

means the Goods and Services Tax (GST), the Harmonized Sales Tax (HST), and any provincial tax, by law, payable by Canada such as, the Quebec Sales Tax (QST) as of April 1, 2013;

"Canada", "Crown", "Her Majesty"

means Her Majesty the Queen in right of Canada;

"Contract"

means the contract documents referred to as such therein and every other document specified or referred to in any of them as forming part of the Contract, all as amended by agreement of the parties;

"Contract Amount"

means the amount set out in the Contract to be payable to the Contractor for the Work, subject to the terms and conditions of the Contract, exclusive of Applicable Taxes;

"Contract Security"

means any security given by the Contractor to Canada in accordance with the Contract;

"Contractor"

means the person contracting with Canada to provide or furnish all labour, Material and Plant for the execution of the Work under the Contract, and includes the Contractor's superintendent as designated in writing to Canada.

"Certificate of Completion"

means a certificate issued by Canada when the Work reaches Completion;

"Certificate of Measurement"

means a certificate issued by Canada certifying the correctness of the final quantities, prices per unit and values of labour, Plant and Material performed, used and supplied by the Contractor for the construction of the part of the Work to which a Unit Price Arrangement applies;

"Certificate of Substantial Performance"

means a certificate issued by Canada when the Work reaches Substantial Performance;

“Control”

means:

- a) direct control, such as where:
 - (i) a person controls a body corporate if securities of the body corporate to which are attached more than 50 percent of the votes that may be cast to elect directors of the body corporate are beneficially owned by the person and the votes attached to those securities are sufficient, if exercised, to elect a majority of the directors of the body corporate;

- (ii) a person controls a corporation that is organized on a cooperative basis if the person and all of the entities controlled by the person have the right to exercise more than 50 percent of the votes that may be cast at an annual meeting or to elect the majority of the directors of the corporation;
 - (iii) a person controls an unincorporated entity, other than a limited partnership, if more than 50 percent of the ownership interests, however designated, into which the entity is divided are beneficially owned by that person and the person is able to direct the business and affairs of the entity;
 - (iv) the general partner of a limited partnership controls the limited partnership; and
 - (v) a person controls an entity if the person has any direct or indirect influence that, if exercised, would result in control in fact of the entity.
- b) deemed control, such as where:
a person who controls an entity is deemed to control any entity that is controlled, or deemed to be controlled, by the entity
- c) indirect control, such as where:
a person is deemed to control, within the meaning of paragraph (a) or (b), an entity where the aggregate of:
- (i) any securities of the entity that are beneficially owned by that person, and
 - (ii) any securities of the entity that are beneficially owned by any entity controlled by that person

is such that, if that person and all of the entities referred to in paragraph (c)(ii) that beneficially own securities of the entity were one person, that person would control the entity.

"Departmental Representative"

means the person designated in the Contract, or by written notice to the Contractor, to act as the Departmental Representative for the purposes of the Contract, and includes a person, designated and authorized in writing by the Departmental Representative to the Contractor;

"herein", "hereby", "hereof", "hereunder"

and similar expressions refer to the Contract as a whole and not to any particular section or part thereof;

"Ineligibility"

means a person not eligible to contract with Canada;

"Lump Sum Arrangement"

means that part of the Contract that prescribes a lump sum as payment for performance of the Work to which it relates;

"Material"

includes all commodities, articles, machinery, equipment, fixtures and things required to be furnished in accordance with the Contract for incorporation into the Work;

"person"

also includes, unless there is an express stipulation in the Contract to the contrary, any partnership, proprietorship, firm, joint venture, consortium or corporation;

"Plant"

includes all tools, implements, machinery, vehicles, structures, equipment, articles and things that are necessary for the performance of the Contract, other than Material and those tools customarily provided by a tradesperson in practicing a trade;

"Subcontractor"

means a person having a direct contract with the Contractor, subject to GC3.6

"Subcontracting", to perform a part or parts of the Work, or to supply Material customized for the Work;

"Superintendent"

means the employee or representative of the Contractor designated by the Contractor to act pursuant to GC2.6, "Superintendent";

"Supplementary Conditions"

means the part of the Contract that amends or supplements the General Conditions;

"Supplier"

means a person having a direct contract with the Contractor to supply Plant or Material not customized for the Work;

"Suspension"

means a determination of temporary ineligibility by the Minister of AAFC;

"Total Estimated Cost", "Revised Estimated Cost", "Increase (Decrease)"

on Page 1 of the Contract or Contract Amendment means an amount used for internal administrative purposes only that comprises the Contract Amount, or the revised Contract Amount, or the amount that would increase or decrease the Contract Amount and the Applicable Taxes as evaluated by the Contracting Authority, and does not constitute tax advice on the part of Canada;

"Unit Price Arrangement"

means that part of the Contract that prescribes the product of a price per unit of measurement multiplied by a number of units of measurement for performance of the Work to which it relates;

"Unit Price Table"

means the table of prices per unit set out in the Contract;

"Work"

means, subject only to any express stipulation in the Contract to the contrary, everything that is necessary to be done, furnished or delivered by the Contractor to perform the Contract in accordance with the contract documents; and

"Working Day"

means a day other than a Saturday, Sunday, or a statutory holiday that is observed by the construction industry in the area of the place of the Work.

GC1.1.3 Application of Certain Provisions

- 1) Any provisions of the Contract that are expressly stipulated to be applicable only to a Unit Price Arrangement are not applicable to any part of the Work to which a Lump Sum Arrangement applies.
- 2) Any provisions of the Contract that are expressly stipulated to be applicable only to a Lump Sum Arrangement are not applicable to any part of the Work to which a Unit Price Arrangement applies.

GC1.1.4 Substantial Performance

- 1) The Work shall be considered to have reached Substantial Performance when
 - a) the Work or a substantial part thereof has passed inspection and testing and is, in the opinion of Canada, ready for use by Canada or is being used for the intended purposes; and
 - b) the Work is, in the opinion of Canada, capable of completion or correction at a cost of not more than
 - (i) 3 percent of the first \$500,000;
 - (ii) 2 percent of the next \$500,000; and
 - (iii) 1 percent of the balanceof the Contract Amount at the time this cost is calculated.
- 2) Where the Work or a substantial part thereof is ready for use or is being used for the purposes intended and
 - a. the remainder of the Work or a part thereof cannot be completed by the time specified in the Contract, or as amended in accordance with GC6.5, "Delays and Extension of Time", for reasons beyond the control of the Contractor; or
 - b. Canada and the Contractor agree not to complete a part of the Work within the specified time;

the cost of that part of the Work that was either beyond the control of the Contractor to complete or Canada and the Contractor have agreed not to complete by the time specified, shall be deducted from the value of the Contract referred to in subparagraph 1)(b) of GC1.1.4 and the said cost shall not form part of the cost of the Work remaining to be done in determining Substantial Performance.

GC1.1.5 Completion

The Work shall be deemed to have reached Completion when all labour, Plant and Material required have been performed, used or supplied, and the Contractor has complied with the Contract and all orders and directions made pursuant thereto, all to the satisfaction of Canada.

GC1.2 (2016-05-01) CONTRACT DOCUMENTS

The following discusses contract documents

GC1.2.1 General

- 1) The contract documents are complementary, and what is required by any one shall be as binding as if required by all.

- 2) References in the contract documents to the singular shall be considered to include the plural as the context requires.
- 3) Nothing contained in the contract documents shall create a contractual relationship between Canada and any Subcontractor or Supplier, their subcontractors or suppliers, or their agents or employees.

GC1.2.2 Order of Precedence

- 1) In the event of any discrepancy or conflict in the contents of the following documents, such documents shall take precedence and govern in the following order:
 - a) any amendment or variation of the contract documents that is made in accordance with the General Conditions;
 - b) any amendment issued prior to tender closing;
 - c) Supplementary Conditions;
 - d) General Conditions;
 - e) the duly completed Bid and Acceptance Form when accepted;
 - f) drawings and specifications.

later dates shall govern within each of the above categories of documents.

- 2) In the event of any discrepancy or conflict in the information contained in the drawings and specifications, the following rules shall apply:
 - a) specifications shall govern over drawings;
 - b) dimensions shown in figures on a drawings shall govern where they differ from dimensions scaled from the same drawings; and
 - c) drawings of larger scale govern over those of smaller scale.

GC1.2.3 Security and Protection of Documents and Work

- 1) The Contractor shall guard and protect contract documents, drawings, information, models and copies thereof, whether supplied by Canada or the Contractor, against loss or damage from any cause.
- 2) The Contractor shall keep confidential all information provided to the Contractor by or on behalf of Canada in connection with the Work, and all information developed by the Contractor as part of the Work, and shall not disclose any such information to any person without the written permission of Canada, except that the Contractor may disclose to a subcontractor, authorized in accordance with the Contract, information necessary to the performance of a subcontract. This section does not apply to any information that
 - a) is publicly available from a source other than the Contractor; or

- b) is or becomes known to the Contractor from a source other than Canada, except any source that is known to the Contractor to be under an obligation to Canada not to disclose the **information**.
- 3) When the Contract, the Work, or any information referred to in paragraph 2) is identified as top secret, secret, confidential, or protected by Canada, the Contractor shall, at all times, take all measures reasonably necessary for the safeguarding of the material so identified, including such measures as may be further specified elsewhere in the Contract or provided, in writing, from time to time by Canada.
- 4) Without limiting the generality of paragraphs 2) and 3) of GC1.2.3, when the Contract, the Work, or any information referred to in paragraph 2) is identified as top secret, secret, confidential, or protected by Canada, Canada shall be entitled to inspect the Contractor's premises and the premises of its subcontractors or suppliers and any other person at any tier, for security purposes at any time during the term of the Contract, and the Contractor shall comply with, and ensure that any such subcontractors or suppliers comply with all written instructions issued by Canada dealing with the material so identified, including any requirement that employees of the Contractor and its subcontractors and suppliers and any other person at any tier execute and deliver declarations relating to reliability screenings, security clearances and other procedures.
- 5) The Contractor shall safeguard the Work and the Contract, the specifications, drawings and any other information provided by Canada to the Contractor, and shall be liable to Canada for any loss or damage from any causes.

GC1.3 STATUS OF THE CONTRACTOR

- 1) The Contractor is engaged under the Contract as an independent contractor.
- 2) The Contractor, its subcontractors and suppliers and any other person at any tier and their employees are not engaged by the Contract as employees, servants or agents of Canada.
- 3) For the purposes of the contract the Contractor shall be solely responsible for any and all payments and deductions required to be made by law including those required for Canada or Quebec Pension Plans, Employment Insurance, Worker's Compensation, provincial health or insurance plans, and Income Tax.

GC1.4 (2016-05-01) RIGHTS AND REMEDIES

- 1) Except as expressly provided in the Contract, the duties and obligations imposed by the Contract and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights, and remedies otherwise imposed or available by law.

GC1.5 (2016-05-01) TIME OF THE ESSENCE

- 1) Time is of the essence of the Contract.

GC1.6 INDEMNIFICATION BY THE CONTRACTOR

- 1) The Contractor shall pay all royalties and patent fees required for the performance of the Contract and, at the Contractor's expense, shall defend all claims, actions or proceedings

against Canada charging or claiming that the Work or any part thereof provided or furnished by the Contractor to Canada infringes any patent, industrial design, copyright trademark, trade secret or other proprietary right enforceable in Canada.

- 2) The Contractor shall indemnify and save Canada harmless from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings by any third party, brought or prosecuted and in any manner based upon, arising out of, related to, occasioned by, or attributable to the activities of the Contractor, its subcontractors and suppliers and any other person at any tier, in performing the Work.
- 3) For the purposes of paragraph 2) of GC1.6, "activities" means any act improperly carried out, any omission to carry out an act and any delay in carrying out an act.

GC1.7 (2016-05-01) INDEMNIFICATION BY CANADA

- 1) Subject to the [Crown Liability and Proceedings Act](#), the [Patent Act](#), and any other law that affects Canada's rights, powers, privileges or obligations, Canada shall indemnify and save the Contractor harmless from and against all claims, demands, losses, costs, damage, actions, suits or proceedings arising out of the Contractor's activities under the Contract that are directly attributable to
 - a) a lack of or a defect in Canada's title to the Work site if owned by Canada, whether real or alleged; or
 - b) an infringement or an alleged infringement by the Contractor of any patent of invention or any other kind of intellectual property occurring while the Contractor was performing any act for the purposes of the Contract employing a model, plan or design or any other thing related to the Work that was supplied by Canada to the Contractor.

GC1.8 (2016-05-01) LAWS, PERMITS AND TAXES

- 1) The Contractor shall comply with all federal, provincial and municipal laws and regulations applicable to the performance of the Work or any part thereof including, without limitation, all laws concerning health and the protection of the environment, and shall require compliance therewith by all of its subcontractors and suppliers at any tier as if the Work were being performed for an owner other than Canada. The Contractor shall furnish evidence of compliance with such laws and regulations to Canada at such times as Canada may reasonably request.
- 2) Unless stipulated otherwise in the Contract, the Contractor shall obtain and maintain all permits, certificates, licences, registrations and authorizations required for the lawful performance of the Work.
- 3) Prior to the commencement of the Work at the site, the Contractor shall tender to a municipal authority an amount equal to all fees and charges that would be lawfully payable to that municipal authority in respect of building permits as if the Work were being performed for an owner other than Canada.
- 4) Within 10 days of making a tender pursuant to paragraph 3) of GC1.8, the Contractor shall notify Canada of the amount properly tendered and whether or not the municipal authority has accepted that amount.

- 5) If the municipal authority has not accepted the amount tendered, the Contractor shall pay that amount to Canada within 6 days after the time stipulated in paragraph 4) of GC1.8.
- 6) For the purposes of this clause, "municipal authority" means any authority that would have jurisdiction respecting permission to perform the Work if the owner were not Canada.
- 7) Notwithstanding the residency of the Contractor, the Contractor shall pay any applicable tax arising from or related to the performance of the Work under the Contract.
- 8) In accordance with the Statutory Declaration referred to in paragraph 4) of GC5.5, "Substantial Performance of the Work", a Contractor who has neither residence nor place of business in the province or territory in which work under the Contract is being performed shall provide Canada with proof of registration with the provincial sales tax authorities in the said province.
- 9) For the purpose of the payment of any Applicable Taxes or the furnishing of security for the payment of any Applicable Taxes arising from or related to the performance of the Work, and notwithstanding the provision that all Material, Plant and interest of the Contractor in all real property, licences, powers and privileges, become the property of Canada after the time of purchase in accordance with GC3.10, "Material Plant and Real Property Become Property of Canada", the Contractor shall be liable, as a user or consumer, for the payment or for the furnishing of security for the payment of any Applicable Taxes payable, at the time of the use or consumption of that Material, Plant or interest of the Contractor in accordance with the relevant legislation.
- 10) Federal government departments and agencies are required to pay Applicable Taxes.
- 11) Applicable Taxes will be paid by Canada as provided in the request for payment. It is the sole responsibility of the Contractor to charge Applicable Taxes at the correct rate in accordance with applicable legislation. The Contractor agrees to remit to appropriate tax authorities any amounts of Applicable Taxes paid or due.
- 12) The Contractor is not entitled to use Canada's exemptions from any tax, such as provincial sales taxes, unless otherwise specified by law. The Contractor must pay applicable provincial sales tax, ancillary taxes, and any commodity tax, on taxable goods or services used or consumed in the performance of the Contract (in accordance with applicable legislation), including for material incorporated into real property.
- 13) In those cases where Applicable Taxes, customs duties, and excise taxes are included in the Contract Amount, the Contract Amount will be adjusted to reflect any increase, or decrease, of Applicable Taxes, customs duties, and excise taxes that will have occurred between bid submission and contract award. However, there will be no adjustment for any change to increase the Contract Amount if public notice of the change was given before bid submission date in sufficient detail to have permitted the Contractor to calculate the effect of the change.
- 14) Tax Withholding of 15 Percent – Canada Revenue Agency
Pursuant to the [Income Tax Act](#), 1985, c. 1 (5th Supp.) and the [Income Tax Regulations](#), Canada must withhold 15 percent of the amount to be paid to the Contractor in respect of services provided in Canada if the Contractor is not a resident of Canada, unless the Contractor obtains a valid waiver from the Canada Revenue Agency. The amount withheld will be held on account for the Contractor in respect to any tax liability which may be owed to Canada.

GC1.9 WORKERS' COMPENSATION

- 1) Prior to commencement of Work, at the time of Substantial Performance of the Work, and prior to issuance of the Certificate of Completion, the Contractor shall provide evidence of compliance with workers' compensation legislation applicable to the place of the Work, including payments due thereunder.
- 2) At any time during the term of the Contract, when requested by Canada, the Contractor shall provide such evidence of compliance by the Contractor, its subcontractors and any other person at any tier and any other person performing part of the Work who is required to comply with such legislation.

GC1.10 NATIONAL SECURITY

- 1) If Canada determines that the Work is of a class or kind that involves national security, Canada may order the Contractor to
 - (a) provide Canada with any information concerning persons employed or to be employed by the Contractor for purposes of the Contract; and
 - (b) remove any person from the site of the Work if, in the opinion of Canada, that person may be a risk to the national security;and the Contractor shall comply with the order.
- 2) In all contracts with persons who are to be employed in the performance of the Contract, the Contractor shall make provision for the performance of any obligation that may be imposed upon the Contractor under paragraph 1) of GC1.10.

GC1.11 (2016-05-01) UNSUITABLE WORKERS

- 1) Canada shall instruct the Contractor to remove from the site of the Work any person employed by the Contractor for purposes of the Contract who, in the opinion of Canada, is incompetent or is guilty of improper conduct, and the Contractor shall not permit a person who has been removed to return to the site of the Work.

GC1.12 PUBLIC CEREMONIES AND SIGNS

- 1) The Contractor shall not permit any public ceremony in connection with the Work without the prior consent of Canada.
- 2) The Contractor shall not erect nor permit the erection of any sign or advertising on the Work or its site without the prior consent of Canada.

GC1.13 (2016-05-01) CONFLICT OF INTEREST

- 1) It is a term of the Contract that no individual, for whom the post-employment provisions of the Conflict of Interest and Post-Employment Code for Public Office Holders or the Values and Ethics Code for the Public Service apply, shall derive a direct benefit from the Contract unless that individual is in compliance with the applicable post-employment provisions.

GC1.14 AGREEMENTS AND AMENDMENTS

- 1) The Contract constitutes the entire and sole agreement between the parties with respect to the subject matter of the Contract and supersedes all previous negotiations, communications and other agreements, whether written or oral, relating to it, unless they are incorporated by reference in the Contract. There are no terms, covenants, representations, statements or conditions binding on the parties other than those contained in the Contract.
- 2) The failure of either party at any time to require performance by the other party of any provision hereof shall not affect the right thereafter to enforce such provision. Nor shall the waiver by either party of any breach of any covenant, term or condition hereof be taken to be held to be a waiver of any further breach of the same covenant, term or condition.
- 3) The Contract may be amended only as provided for in the Contract.

GC1.15 (2016-05-01) SUCCESSION

- 1) The Contract shall inure to the benefit of and be binding upon the parties hereto and their lawful heirs, executors, administrators, successors and, subject to GC1.16, "Assignment", permitted assigns.

GC1.16 (2016-05-01) ASSIGNMENT

- 1) The Contractor shall not make any assignment of the Contract, either in whole or in part, without the written consent of Canada.

GC1.17 (2016-05-01) NO BRIBE

- 1) The Contractor represents and covenants that no bribe, gift, benefit, nor other inducement has been nor shall be paid, given, promised or offered directly or indirectly to any official or employee of Canada or to a member of the family of such a person, with a view to influencing the entry into the Contract or the administration of the Contract.

GC1.18 CERTIFICATION - CONTINGENCY FEES

- 1) In this clause
 - (a) "contingency fee" means any payment or other compensation that is contingent upon or is calculated upon the basis of a degree of success in soliciting or obtaining a Government contract or negotiating the whole or any part of its terms;
 - (b) "employee" means a person with whom the Contractor has an employer/employee relationship; and
 - (c) "person" includes an individual or a group of individuals, a corporation, a partnership, an organization and an association and, without restricting the generality of the foregoing, includes any individual who is required to file a return with the registrar pursuant to section 5 of the [Lobbying Act](#) R.S.C. 1985 c.44 (4th Supplement) as the same may be amended from time to time.
- 2) The Contractor certifies that it has not directly or indirectly paid nor agreed to pay and covenants that it shall not directly or indirectly pay nor agree to pay a contingency fee for the solicitation, negotiation or obtaining of the Contract to any person other than an employee acting in the normal course of the employee's duties.

- 3) All accounts and records pertaining to payments of fees or other compensation for the solicitation, obtaining or negotiation of the Contract shall be subject to the accounts and audit provisions of the Contract.
- 4) If the Contractor certifies falsely under this section or is in default of the obligations contained therein, Canada may either take the Work out of the Contractor's hands in accordance with the provisions of the Contract or recover from the Contractor by way of reduction to the Contract Amount or otherwise, the full amount of the contingency fee.

GC1.19 INTERNATIONAL SANCTIONS

- 1) Persons and companies in Canada, and Canadians outside of Canada are bound by economic sanctions imposed by Canada. As a result, the Government of Canada cannot accept delivery of goods or services that originate, either directly or indirectly, from the countries or persons subject to **economic sanctions** (<http://www.international.gc.ca/sanctions/index.aspx?lang=eng>)
- 2) It is a condition of the Contract that the Contractor not supply to the Government of Canada any goods or services which are subject to economic sanctions.
- 3) By law, the Contractor must comply with changes to the regulations imposed during the life of the Contract. During the performance of the Contract should the imposition of sanctions against a country or person or the addition of a good or service to the list of sanctioned goods or services cause an impossibility of performance for the Contractor, the Contractor may request that the Contract be terminated in accordance with GC7.3 TERMINATION OF CONTRACT.

GC1.20 (2016-05-01) INTEGRITY PROVISIONS – CONTRACT

- 1) The Ineligibility and Suspension Policy (the “Policy”) and all related Directives are incorporated into, and form a binding part of the Contract. The Contractor must comply with the provisions of the Policy and Directives, which can be found on Public Works and Government Services Canada’s website at Ineligibility and Suspension Policy. (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>).

GC1.21 (2016-05-01) CODE OF CONDUCT FOR PROCUREMENT - CONTRACT

- 1) The Contractor agrees to comply with the Code of Conduct (<http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html>) for Procurement and to be bound by its terms for the period of the Contract.

GC2 ADMINISTRATION OF THE CONTRACT

- GC2.1 DEPARTMENTAL REPRESENTATIVE'S AUTHORITY
- GC2.2 INTERPRETATION OF CONTRACT
- GC2.3 NOTICES
- GC2.4 SITE MEETINGS
- GC2.5 REVIEW AND INSPECTION OF WORK
- GC2.6 SUPERINTENDENT
- GC2.7 NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR
- GC2.8 ACCOUNTS AND AUDITS

GC2.1 (2016-05-01) DEPARTMENTAL REPRESENTATIVE'S AUTHORITY

"Technical Authority" shall be recognized as the Departmental representative and designated at time of award of contract and shall perform the following:

- a) is responsible for all matters concerning the technical content of the work under the contract;
- b) authorized to issue notices, instructions, and changes within the scope of the Work, relevant to the contract.
- c) accept on behalf of Canada any notice, order or other communication from the contractor relating to the Work
- d) within a reasonable time, review and respond to submissions made by the Contractor in accordance with the requirements of the Contract

The technical authority has no authority to authorize changes to the Contract terms and conditions of the Contract.

"Contracting Authority" shall be recognized as the authority delegated by the Minister of AAFC to enter into contracts, amend the contracts and is responsible for all matters concerning and interpretation of the terms and conditions of the Contract.

The contracting authority is responsible for the management of the Contract and any changes to the Contract terms **and conditions must be authorized in writing by the Contracting Authority.**

GC2.2 INTERPRETATION OF CONTRACT

- 1) If, at any time before Canada has issued a Certificate of Completion, any question arises between the parties about whether anything has been done as required by the Contract or about what the Contractor is required by the Contract to do, and in particular but without limiting the generality of the foregoing, about
 - (a) the meaning of anything in the drawings and specifications;
 - (b) the meaning to be given to the drawings and specifications in case of any error therein, omission therefrom, or obscurity or discrepancy in their wording or intention;

- (c) whether or not the quality or quantity of any Material or workmanship supplied or proposed to be supplied by the Contractor meets the requirements of the Contract;
- (d) whether or not the labour, Plant or Material performed, used and supplied by the Contractor for performing the Work and carrying out the Contract are adequate to ensure that the Work shall be performed in accordance with the Contract and that the Contract shall be carried out in accordance with its terms;
- (e) what quantity of any of the Work has been completed by the Contractor; or
- (f) the timing and scheduling of the various phases of the performance of the Work as specified in the Contract;

the question shall be decided, subject to the provisions of GC8 DISPUTE RESOLUTION, by Canada.

- 2) The Contractor shall perform the Work in accordance with any decisions of Canada that are made under paragraph 1) of GC2.2 and in accordance with any consequential directions given by Canada.
- 3) If the Contractor fails to comply with any instruction or direction issued by Canada pursuant to the Contract, Canada may employ such methods as Canada deems advisable to do what the Contractor failed to do, and the Contractor shall, on demand, pay Canada an amount that is equal to the aggregate of all costs, expenses and damages incurred or sustained by Canada by reason of the Contractor's failure to comply with such instruction or direction, including the cost of any methods employed by Canada in doing what the Contractor failed to do.

GC2.3 NOTICES

- 1) Subject to paragraph 3) of GC2.3, any notice, order or other communication may be given in any manner, and if required to be in writing, shall be addressed to the party to whom it is intended at the address in the Contract or at the last address of which the sender has received written notice in accordance with this section.
- 2) Any notice, order or other communication given in writing in accordance with paragraph 1) of GC2.3 shall be deemed to have been received by either party
 - (a) if delivered personally, on the day that it was delivered;
 - (b) if forwarded by mail, on the earlier of the day it was received or the sixth day after it was mailed; and
 - (c) if forwarded by facsimile or electronic mail, 24 hours after it was transmitted.
- 3) A notice given under GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS, GC7.2 SUSPENSION OF WORK, and GC7.3 TERMINATION OF CONTRACT shall be given in writing and, if delivered personally, shall be delivered, if the Contractor is a sole proprietor, to the Contractor or, if the Contractor is a partnership or corporation, to an officer thereof.

GC2.4 (2016-05-01) SITE MEETINGS

- 1) In consultation with Canada, the Contractor shall arrange site meetings at regular intervals, with all involved parties who are to attend, in order to ensure, among other things, the proper co-ordination of the Work.

GC2.5 REVIEW AND INSPECTION OF WORK

- 1) Canada shall review the Work to determine if it is proceeding in conformity with the Contract and to record the necessary data to make an assessment of the value of Work completed. Canada shall measure and record the quantities of labour, Plant and Material performed, used or supplied by the Contractor in performing the Work or any part thereof that is subject to a Unit Price Arrangement and, on request, shall inform the Contractor of those measurements, and permit the Contractor to inspect any records pertaining thereto.
- 2) Canada shall reject Work or Material which in Canada's opinion does not conform to the requirements of the Contract, and shall require inspection or testing of Work, whether or not such Work is fabricated, installed, or completed. If such Work is not in accordance with the requirements of the Contract, the Contractor shall correct the Work and shall pay Canada, on demand, all reasonable costs and expenses that were incurred by Canada in having the examination performed.
- 3) The Contractor shall provide Canada with access to the Work and its site at all times, and at all times shall provide sufficient, safe, and proper facilities for the review and inspection of the Work by persons authorized by Canada and any representatives of those authorities having jurisdiction. If parts of the Work are in preparation at locations other than the site of the Work, Canada shall be given access to such Work whenever it is in progress.
- 4) The Contractor shall furnish Canada with such information respecting the performance of the Contract as Canada may require, and render every possible assistance to enable Canada to verify that the Work is performed in accordance with the Contract, carry out any other duties and exercise any powers in accordance with the Contract.
- 5) If Work is designated for tests, inspections, or approvals in the Contract or by Canada's instructions, or by laws or ordinances of the place of the Work, the Contractor shall give Canada reasonable notice of when such Work shall be ready for review and inspection. The Contractor shall arrange for and shall give Canada reasonable notice of the date and time of inspections, tests or approvals.
- 6) If the Contractor covers, or permits to be covered, Work that has been designated for tests, inspections or approvals before such tests, inspections or approvals are made, completed or given, the Contractor shall, if so directed by Canada, uncover such Work, have the inspections, tests or approvals satisfactorily made, completed or given and make good the covering of the Work at the Contractor's expense.

GC2.6 SUPERINTENDENT

- 1) Prior to commencing the Work, the Contractor shall designate a Superintendent and shall notify Canada of the name, address and telephone number of the Superintendent. The Contractor shall keep the Superintendent at the Work site during working hours until the Work has reached completion.
- 2) The Superintendent shall be in full charge of the operations of the Contractor during the performance of the Work and shall be authorized to accept on behalf of the Contractor any notice, order or other communication given to the Superintendent or the Contractor relating to the Work.

- 3) Upon request of Canada, the Contractor shall remove any Superintendent who, in the opinion of Canada, is incompetent or has been guilty of improper conduct, and shall forthwith designate another Superintendent who is acceptable to Canada.
- 4) The Contractor shall not substitute a Superintendent without the written consent of Canada. If a Superintendent is substituted without such consent, Canada shall be entitled to refuse to issue any documentation or certification relating to progress payments, Substantial Performance or Completion of the Work until the Superintendent has returned to the Work site or another Superintendent who is acceptable to Canada has been substituted.

GC2.7 (2016-05-01) NON-DISCRIMINATION IN HIRING AND EMPLOYMENT OF LABOUR

- 1) For the purposes of this clause, "persons" include the Contractor, its subcontractors and suppliers at any tier and their respective employees, agents, licensees or invitees and any other individual involved in the performance of the Work or granted access to the Work site. A "person" includes any partnership, proprietorship, firm, joint venture, consortium and corporation.
- 2) Without restricting the provisions of paragraph 3) of GC2.6, "Superintendent", the Contractor shall not refuse to employ and shall not discriminate in any manner against any person because
 - a) of that person's race, national or ethnic origin, colour, religion, age, sex, sexual orientation, marital status, disability, conviction for which a pardon has been granted, or family status;
 - b) of the race, national or ethnic origin, colour, religion, age, sex, sexual orientation, marital status, disability, conviction for which a pardon has been granted, or family status of any person having a relationship or association with that person, or
 - c) a complaint has been made or information has been given in respect of that person relating to an alleged failure by the Contractor to comply with subparagraph (a) or (b).
- 3) Within two working days immediately following receipt of a written complaint pursuant to paragraph 2) of GC2.7, the Contractor shall
 - a) cause to have issued a written direction to the person or persons named by the complainant to cease all actions that form the basis of the complaint;
 - b) forward a copy of the complaint to Canada by registered mail or courier service.
- 4) Within 24 hours immediately following receipt of a direction from Canada to do so, the Contractor shall cause to have removed from the site of the Work and from the performance of Work under the Contract, any person or persons whom Canada believes to be in breach of the provisions of paragraph 2) of GC2.7.
- 5) No later than 30 days after receipt of the direction referred to in paragraph 4) of GC2.7, the Contractor shall cause the necessary action to be commenced to remedy the breach described in the direction.
- 6) If a direction is issued pursuant to paragraph 4) of GC2.7, Canada may withhold from monies that are due and payable to the Contractor or setoff pursuant to GC5.9, "Right of Setoff", whichever is applicable, an amount representing the sum of the costs and payment referred to in paragraph 8) of GC2.7.

- 7) If the Contractor fails to proceed in accordance with paragraph 5) of GC2.7, Canada shall take the necessary action to have the breach remedied, and shall determine all supplementary costs incurred by Canada as a result.
- 8) Canada may make a payment directly to the complainant from monies that are due and payable to the Contractor upon receipt from the complainant of
 - a) a written award issued pursuant to the federal **Commercial Arbitration Act**, R.S. 1985, c. 17 (2nd Supp.);
 - b) a written award issued pursuant to the **Canadian Human Rights Act**, R.S. 1985, c. H-6;
 - c) a written award issued pursuant to provincial or territorial human rights legislation; or
 - d) a judgement issued by a court of competent jurisdiction.
- 9) If Canada is of the opinion that the Contractor has breached any of the provisions of this clause, Canada may take the Work out of the Contractor's hands pursuant to GC7.1, "Taking the Work out of the Contractor's Hands".
- 10) Subject to paragraph 7) of GC3.6, "Subcontracting", the Contractor shall ensure that the provisions of this clause are included in all agreements and contracts entered into as a consequence of the Work.

GC2.8 (2016-05-01) ACCOUNTS AND AUDITS

- 1) The Contractor shall, in addition to the requirements expressed in paragraph 6) of GC3.4, "Execution of the Work", maintain full records of the Contractor's estimated and actual cost of the Work together with all tender calls, quotations, contracts, correspondence, invoices, receipts and vouchers relating thereto, and shall make them available on request to audit and inspection by Canada and the Deputy Receiver General for Canada or by persons designated to act on behalf of either or both of them.
- 2) The Contractor shall allow any of the persons referred to in paragraph 1) of GC2.8 to make copies of and take extracts from any of the records and material, and shall furnish such persons or entities with any information those persons or entities may require from time to time in connection with such records and material.
- 3) The Contractor shall maintain and keep the records intact until the expiration of six (6) years after the date that a Certificate of Completion has been issued or until the expiration of such other period of time as Canada may direct.
- 4) The Contractor shall cause all subcontractors at any tier and all other persons directly or indirectly controlled by or affiliated with the Contractor and all persons directly or indirectly having control of the Contractor to comply with the requirements of this clause as if they were the Contractor.

GC3 EXECUTION AND CONTROL OF THE WORK

- GC3.1 PROGRESS SCHEDULE
- GC3.2 ERRORS AND OMISSIONS
- GC3.3 CONSTRUCTION SAFETY
- GC3.4 EXECUTION OF THE WORK
- GC3.5 MATERIAL
- GC3.6 SUBCONTRACTING
- GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS
- GC3.8 LABOUR
- GC3.9 TRUCK HAULAGE RATES (CANCELLED)
- GC3.10 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF CANADA
- GC3.11 DEFECTIVE WORK
- GC3.12 CLEANUP OF SITE
- GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

GC3.1 (2016-05-01) PROGRESS SCHEDULE

The Contractor shall

- a) prepare and submit to Canada, prior to the submission of the Contractor's first progress claim, a progress schedule in accordance with the requirements set out in the Contract;
- b) monitor the progress of the Work relative to the schedule and update the schedule as stipulated by the contract documents;
- c) advise Canada of any revisions to the schedule required as the result of any extension of time for completion of the Contract that was approved by Canada; and
- d) prepare and submit to Canada, at the time of issuance of a Certificate of Substantial Performance, an update of any schedule clearly showing a detailed timetable that is acceptable to Canada for the completion of any unfinished Work and the correction of all listed defects.

GC3.2 (2016-05-01) ERRORS AND OMISSIONS

- 1) The Contractor shall report promptly to Canada any errors, discrepancies, or omissions the Contractor may discover when reviewing the contract documents. In making a review, the Contractor does not assume any responsibility to Canada for the accuracy of the review. The Contractor shall not be liable for damage or costs resulting from such errors, discrepancies, or omissions in the contract documents prepared by or on behalf of Canada that the Contractor did not discover.

GC3.3 CONSTRUCTION SAFETY

- 1) Subject to GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS, the Contractor shall be solely responsible for construction safety at the place of the Work and for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Work. In any emergency, the Contractor shall either stop the Work,

make changes or order extra work to ensure the safety of life and the protection of the Work and neighbouring property.

- 2) Prior to commencing the Work, the Contractor shall notify the authorities having jurisdiction for construction safety at the site of the Work with respect to the intended commencement of the Work, and shall provide such authority with whatever additional information may be required by that authority.

GC3.4 EXECUTION OF THE WORK

- 1) The Contractor shall perform, use or supply and pay for, all labour, Plant, Material, tools, construction machinery and equipment, water, heat, light, power, transportation and other facilities and services necessary for the performance of the Work in accordance with the Contract.
- 2) The Contractor shall, at all times, perform the Work in a proper, diligent and expeditious manner as is consistent with construction industry standards and in accordance with the progress schedule prepared pursuant to GC3.1 PROGRESS SCHEDULE and shall provide sufficient personnel to fulfil the Contractor's obligations in accordance with that schedule.
- 3) Subject to paragraph 4) of GC3.4, the Contractor shall have complete care, custody and control of the Work and shall direct and supervise the Work so as to ensure compliance with the Contract. The Contractor shall be responsible for construction means, methods, techniques, sequences and procedures and for co-ordinating the various parts of the Work.
- 4) When requested in writing by Canada, the Contractor shall make appropriate alterations in the method, Plant or workforce at any time Canada considers the Contractor's actions to be unsafe or damaging to either the Work, existing facilities, persons at the site of the Work or the environment.
- 5) The Contractor shall have sole responsibility for the design, erection, operation, maintenance and removal of temporary structures and other temporary facilities and for the construction methods used in their erection, operation, maintenance and removal. The Contractor shall engage and pay for registered professional engineering personnel, skilled in the appropriate discipline to perform these functions if required by law or by the Contract, and in all cases when such temporary facilities and their methods of construction are of such a nature that professional engineering skill is required to produce safe and satisfactory results.
- 6) The Contractor shall keep at least one copy of current contract documents, submittals, reports, and records of meetings at the site of the Work, in good order and available to Canada.
- 7) Except for any part of the Work that is necessarily performed away from or off the site of the Work, the Contractor shall confine Plant, storage of Material, and operations of employees to limits indicated by laws, ordinances, permits or the contract documents.

GC3.5 MATERIAL

- 1) Unless otherwise specified in the Contract, all Material incorporated in the Work shall be new.
- 2) Subject to paragraph 3) of GC3.5, if a specified reused, refurbished, or recycled item of Material is not available, the Contractor shall apply to Canada to substitute a similar item for the one specified.

- 3) If Canada agrees that the Contractor's application for substitution of a reused, refurbished or recycled item is warranted, and that the substitute item is of acceptable quality and value to that specified and is suitable for the intended purpose, Canada may approve the substitution, subject to the following:
 - (a) the request for substitution shall be made in writing to Canada and shall be substantiated by information in the form of the manufacturer's literature, samples and other data that may be required by Canada;
 - (b) the Contractor shall make the request for substitution in a manner that shall not negatively affect the progress schedule of the Contract and well in advance of the time the item of Material must be ordered;
 - (c) substitution of Material shall be permitted only with the prior written approval of Canada, and any substituted items that are supplied or installed without such approval shall be removed from the site of the Work at the expense of the Contractor, and specified items installed at no additional cost to Canada; and
 - (d) the Contractor shall be responsible for all additional expenses incurred by Canada, the Contractor, its subcontractors and suppliers at any tier due to the Contractor's use of the substitute.

GC3.6 SUBCONTRACTING

- 1) Subject to the provisions of this clause, the Contractor may subcontract any part of the Work but not the whole of the Work.
- 2) The Contractor shall notify Canada in writing of the Contractor's intention to subcontract.
- 3) A notification referred to in paragraph 2) of GC3.6 shall identify the part of the Work and the Subcontractor with whom the Contractor intends to subcontract.
- 4) Canada may for reasonable cause, object to the intended subcontracting by notifying the Contractor in writing within six (6) days of receipt by Canada of a notification referred to in paragraph 2) of GC3.6.
- 5) If Canada objects to a subcontracting, the Contractor shall not enter into the intended subcontract.
- 6) The Contractor shall not change, nor permit to be changed, a Subcontractor engaged by the Contractor, in accordance with this clause, without the written consent of Canada.
- 7) The Contractor shall ensure that all the terms and conditions of the Contract that are of general application shall be incorporated in every other contract issued as a consequence of the Contract, at whatever tier, except those contracts issued solely to suppliers at any tier for the supply of Plant or Material.
- 8) Neither a subcontracting nor Canada's consent to a subcontracting shall be construed to relieve the Contractor from any obligation under the Contract or to impose any liability upon Canada.

GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS

- 1) Canada reserves the right to send other contractors or workers, with or without Plant and Material, onto the site of the Work.
- 2) When other contractors or workers are sent on to the site of the Work, Canada shall
 - (a) enter into separate contracts, to the extent it is possible, with the other contractors under conditions of contract that are compatible with the conditions of the Contract;
 - (b) ensure that the insurance coverage provided by the other contractors is co-ordinated with the insurance coverage of the Contractor as it affects the Work; and
 - (c) take all reasonable precautions to avoid labour disputes or other disputes arising from the work of the other contractors or workers.
- 3) When other contractors or workers are sent on to the site of the Work, the Contractor shall
 - (a) co-operate with them in the carrying out of their duties and obligations;
 - (b) co-ordinate and schedule the Work with the work of the other contractors and workers;
 - (c) participate with other contractors and workers in reviewing their construction schedules when directed to do so;
 - (d) where part of the Work is affected by or depends upon the work of other contractors or workers for its proper execution, promptly report to Canada in writing and prior to proceeding with that part of the Work, any apparent deficiencies in such work. Failure by the Contractor to so report shall invalidate any claims against Canada by reason of the deficiencies in the work of other contractors or workers except those deficiencies that are not then reasonably discoverable; and
 - (e) when designated as being responsible for construction safety at the place of work in accordance with the applicable provincial or territorial laws, carry out its duties in that role and in accordance with those laws.
- 4) If, when entering into the Contract, the Contractor could not have reasonably foreseen nor anticipated the sending of other contractors or workers on to the site of the Work and provided the Contractor
 - (a) incurs extra expense in complying with the requirements of paragraph 3) of GC3.7; and
 - (b) gives Canada written notice of a claim for that extra expense within thirty (30) days of the date that the other contractors or workers were sent onto the Work or its site;

Canada shall pay the Contractor the cost of the extra labour, Plant and Material that was necessarily incurred, calculated in accordance with GC6.4 DETERMINATION OF PRICE.

GC3.8 LABOUR

- 1) To the extent to which they are available, consistent with proper economy and the expeditious carrying out of the Work, the Contractor shall, in the performance of the Work, employ a reasonable number of persons who have been on active service with the Armed Forces of Canada and have been honourably discharged therefrom.

- 2) The Contractor shall maintain good order and discipline among the Contractor's employees and workers engaged in the Work and shall not employ on the site of the Work anyone not skilled in the tasks assigned.

GC3.9 TRUCK HAULAGE RATES

CANCELLED

GC3.10 MATERIAL, PLANT AND REAL PROPERTY BECOME PROPERTY OF CANADA

- 1) Subject to paragraph 9) of GC1.8 LAWS PERMITS AND TAXES, all Material and Plant and the interest of the Contractor in all real property, licences, powers and privileges purchased, used or consumed by the Contractor for the Work shall, immediately after the time of their purchase, use or consumption be the property of Canada for the purposes of the Work and they shall continue to be the property of Canada
 - (a) in the case of Material, until Canada indicates that the Materials shall not be required for the Work; and
 - (b) in the case of Plant, real property, licences, powers and privileges, until Canada indicates that the interest vested in Canada therein is no longer required for the purposes of the Work.
- 2) Material or Plant, that is the property of Canada by virtue of paragraph 1) of GC3.10, shall not be taken away from the site of the Work nor used nor disposed of except for the purposes of the Work without the written consent of Canada.
- 3) Canada is not liable for loss of nor damage from any cause to the Material or Plant referred to in paragraph 1) of GC3.10, and the Contractor is liable for such loss or damage notwithstanding that the Material or Plant is the property of Canada.

GC3.11 DEFECTIVE WORK

- 1) The Contractor shall promptly remove from the site of the Work and replace or re-execute defective Work whether or not the defective Work has been incorporated in the Work and whether or not the defect is the result of poor workmanship, use of defective Material, or damage through carelessness or other act or omission of the Contractor.
- 2) The Contractor, at the Contractor's expense, shall promptly make good other work destroyed or damaged by such removals or replacements.
- 3) If, in the opinion of Canada, it is not expedient to correct defective Work or Work not performed as provided for in the Contract documents, Canada may deduct from the amount otherwise due to the Contractor the difference in value between the Work as performed and that called for by the contract documents.
- 4) The failure of Canada to reject any defective Work or Material shall not constitute acceptance of the defective Work or Material.

GC3.12 CLEANUP OF SITE

- 1) The Contractor shall maintain the Work and its site in a tidy condition and free from an accumulation of waste material and debris.
- 2) Before the issue of a Certificate of Substantial Performance, the Contractor shall remove waste material and debris, and all Plant and Material not required for the performance of the remaining Work and, unless otherwise stipulated in the Contract Documents, shall cause the Work and its site to be clean and suitable for occupancy by Canada.
- 3) Before the issue of a Certificate of Completion, the Contractor shall remove all surplus Plant and Materials and any waste products and debris from the site of the Work.
- 4) The Contractor's obligations described in paragraphs 1) to 3) of GC3.12 do not extend to waste products and other debris caused by Canada's servants, or by other contractors and workers referred to in GC3.7 CONSTRUCTION BY OTHER CONTRACTORS OR WORKERS.

GC3.13 WARRANTY AND RECTIFICATION OF DEFECTS IN WORK

- 1) Without restricting any warranty or guarantee implied or imposed by law or contained in the Contract, the Contractor shall, at the Contractor's expense
 - (a) rectify and make good any defect or fault that appears in the Work or comes to the attention of Canada with respect to those parts of the Work accepted in connection with the Certificate of Substantial Performance within 12 months from the date of Substantial Performance; and
 - (b) rectify and make good any defect or fault that appears in or comes to the attention of Canada in connection with those parts of the Work described in the Certificate of Substantial Performance within 12 months from the date of the Certificate of Completion.
 - (c) transfer and assign, to Canada, any subcontractor, manufacturer or supplier extended warranties or guarantees implied or imposed by law or contained in the Contract covering periods beyond the 12 months stipulated above. Extended warranties or guarantees referred to herein shall not extend the 12-month period whereby the Contractor, except as may be provided elsewhere in the Contract, must rectify and make good any defect or fault that appears in the Work or comes to the attention of Canada.
 - (d) provide, to Canada prior to the issuance of the Certificate of Completion, a list of all extended warranties and guarantees referred to in paragraph (c) above.
- 2) Canada may direct the Contractor to rectify and make good any defect or fault referred to in paragraph 1) of GC3.13 or covered by any other expressed or implied warranty or guarantee and the Contractor shall rectify and make good such defect within the time stipulated in the direction.
- 3) A direction referred to in paragraph 2) GC3.13 shall be in writing and shall be given to the Contractor in accordance with GC2.3 NOTICES.

GC4 PROTECTIVE MEASURES

GC4.1 PROTECTION OF WORK AND PROPERTY

GC4.2 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE AND OTHER HAZARDS

GC4.3 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY CANADA

GC4.4 CONTAMINATED SITE CONDITIONS

GC4.1 PROTECTION OF WORK AND PROPERTY

- 1) The Contractor shall protect the Work and its site against loss or damage from any cause and shall similarly protect all Material, Plant and real property under the Contractor's care, custody and control whether or not such Material, Plant and real property are supplied by Canada to the Contractor.
- 2) The Contractor shall provide all facilities necessary for the purpose of maintaining security, and shall assist any person authorized by Canada to inspect or to take security measures in respect of the Work and its site.
- 3) Canada may direct the Contractor to do such things and to perform such work as Canada considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraphs 1) or 2) of GC4.1, and the Contractor, shall comply with such direction.

GC4.2 PRECAUTIONS AGAINST DAMAGE, INFRINGEMENT OF RIGHTS, FIRE AND OTHER HAZARDS

- 1) The Contractor shall do whatever is necessary to ensure that
 - (a) no person, property, right, easement nor privilege is injured, damaged or infringed upon by reasons of the Contractor's activities in performing the Work;
 - (b) pedestrian and other traffic on any public or private road or waterway is not unduly impeded, interrupted nor endangered by the performance or existence of the Work, Material or Plant;
 - (c) fire hazards in or about the site of the Work are eliminated and any fire is promptly extinguished;
 - (d) the health and safety of all persons employed in the performance of the Work is not endangered by the methods nor means of their performance;
 - (e) adequate medical services are available to all persons employed on the Work or its site at all times during the performance of the Work;
 - (f) adequate sanitation measures are taken in respect of the Work and its site; and
 - (g) all stakes, buoys and marks placed on the Work or its site by Canada are protected and are not removed, defaced, altered nor destroyed.
- 2) Canada may direct the Contractor to do such things and to perform such work as Canada considers reasonable and necessary to ensure compliance with or to remedy a breach of paragraph 1) of GC4.2, and the Contractor shall comply with the direction of Canada.

GC4.3 MATERIAL, PLANT AND REAL PROPERTY SUPPLIED BY CANADA

- 1) Subject to paragraph 2) of GC4.3, the Contractor is liable to Canada for any loss of or damage to Material, Plant or real property that is supplied or placed in the care, custody and control of the Contractor by Canada for use in connection with the Contract, whether or not that loss or damage is attributable to causes beyond the Contractor's control.
- 2) The Contractor is not liable to Canada for any loss or damage to Material, Plant or real property referred to in paragraph 1) of GC4.3 if that loss or damage results from and is directly attributable to reasonable wear and tear.
- 3) The Contractor shall not use any Material, Plant or real property supplied by Canada except for the purpose of performing the Contract.
- 4) When the Contractor fails to make good any loss or damage for which the Contractor is liable under paragraph 1) within a reasonable time, Canada may cause the loss or damage to be made good at the Contractor's expense, and the Contractor shall thereupon be liable to Canada for the cost thereof and shall, on demand, pay to Canada an amount equal to that cost.
- 5) The Contractor shall keep records of all Material, Plant and real property supplied by Canada as Canada requires and shall satisfy Canada, when requested, that such Material, Plant and real property are at the place and in the condition in which they ought to be.

GC4.4 CONTAMINATED SITE CONDITIONS

- 1) For the purposes of GC4.4, a contaminated site condition exists when a solid, liquid, gaseous, thermal or radioactive irritant or contaminant, or other hazardous or toxic substance or material, including moulds and other forms of fungi, is present at the site of the Work to an extent that constitutes a hazard, or potential hazard, to the environment, property, or the health or safety of any person.
- 2) If the Contractor encounters a contaminated site condition of which the Contractor is not aware or about which the Contractor has not been advised, or if the Contractor has reasonable grounds to believe that such a site condition exists at the site of the Work, the Contractor shall
 - (a) take all reasonable steps, including stopping the Work, to ensure that no person suffers injury, sickness or death, and that neither property nor the environment is injured or destroyed as a result of the contaminated site condition;
 - (b) immediately notify Canada of the circumstances in writing; and
 - (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.
- 3) Upon receipt of a notification from the Contractor, Canada shall promptly determine whether a contaminated site condition exists, and shall notify the Contractor in writing of any action to be taken, or work to be performed, by the Contractor as a result of Canada's determination.
- 4) If the Contractor's services are required by Canada, the Contractor shall follow the direction of Canada with regard to any excavation, treatment, removal and disposal of any polluting substance or material.

- 5) Canada, at Canada's sole discretion, may enlist the services of experts and specialty contractors to assist in determining the existence of, and the extent and treatment of contaminated site conditions, and the Contractor shall allow them access and co-operate with them in the carrying out of their duties and obligations.
- 6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE shall apply to any additional work made necessary because of a contaminated site condition.

GC5 TERMS OF PAYMENT

- GC5.1 INTERPRETATION
- GC5.2 AMOUNT PAYABLE
- GC5.3 INCREASED OR DECREASED COSTS
- GC5.4 PROGRESS PAYMENT
- GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK
- GC5.6 FINAL COMPLETION
- GC5.7 PAYMENT NOT BINDING ON CANADA
- GC5.8 CLAIMS AND OBLIGATIONS
- GC5.9 RIGHT OF SETOFF
- GC5.10 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION
- GC5.11 DELAY IN MAKING PAYMENT
- GC5.12 INTEREST ON SETTLED CLAIMS
- GC5.13 RETURN OF SECURITY DEPOSIT

GC5.1 INTERPRETATION

In these Terms of Payment

- 1) The "payment period" means a period of 30 consecutive days or such other longer period as may be agreed between the Contractor and Canada.
- 2) An amount is "due and payable" when it is due and payable by Canada to the Contractor according to GC5.4 PROGRESS PAYMENT, GC5.5 SUBSTANTIAL PERFORMANCE OF THE WORK or GC5.6 FINAL COMPLETION.
- 3) An amount is "overdue" when it remains unpaid on the first day following the day upon which it is due and payable.
- 4) The "date of payment" means the date of the negotiable instrument of an amount due and payable by the Receiver General for Canada.
- 5) The "Bank Rate" means the rate of interest established by the Bank of Canada as the minimum rate at which it makes short term advances to members of the Canadian Payments Association.
- 6) The "Average Bank Rate" means the simple arithmetic mean of the Bank Rate in effect at 4:00 p.m. Eastern Time each day during the calendar month which immediately precedes the calendar month in which payment is made.

GC5.2 AMOUNT PAYABLE

- 1) Subject to any other provisions of the Contract, Canada shall pay the Contractor, at the times and in the manner hereinafter set out, the amount by which the amounts payable by Canada to the Contractor in accordance with the Contract exceed the amounts payable by the Contractor to Canada, and the Contractor shall accept that amount as payment in full satisfaction for everything furnished and done by the Contractor in respect of the Work to which the payment relates.
- 2) When making any payment to the Contractor, the failure of Canada to deduct an amount payable to Canada by the Contractor shall not constitute a waiver of the right to do so, or an admission of lack of entitlement to do so in any subsequent payment to the Contractor.

- 3) Should any payment be made by Canada in excess of what is owed to the Contractor for the actual work performed, the Contractor will reimburse Canada the excess immediately, with or without demand, and any amounts outstanding shall bear simple interest at the Average Bank rate plus 3 percent per annum from the date of overpayment until the day prior to the date of repayment by the Contractor.
- 4) No payment other than a payment that is expressly stipulated in the Contract shall be made by Canada to the Contractor for any extra expense or any loss or damage incurred or sustained by the Contractor.

GC5.3 (2016-05-01) INCREASED OR DECREASED COSTS

1. The Contract Amount shall not be increased nor decreased by reason of any increase or decrease in the cost of the Work that is brought about by an increase or decrease in the cost of labour, Plant, Material or any wage adjustment.
2. Notwithstanding paragraph 1) of GC5.3, if any change, including a new imposition or repeal, of any tax, customs or other duty, charge, or any similar imposition that is imposed under sales, customs or excise tax legislation of the Government of Canada or any Provincial or Territorial legislation, affects the cost of the Work to the Contractor, and occurs
 - a) after the date of submission by the Contractor of its bid; or
 - b) after the date of submission of the last revision, if the Contractor's bid was revised;
 - c) the Contract Amount shall be adjusted in the manner provided in paragraph 3) of GC5.3.
3. If a change referred to in paragraph 2) of GC5.3 occurs, the Contract Amount shall be increased or decreased by an amount established by an examination by Canada of the relevant records of the Contractor referred to in GC2.8, "Accounts and Audits", to be the increase or decrease in the cost incurred by the Contractor that is directly attributable to that change.
4. For the purpose of paragraph 2) of GC5.3, if a tax is changed after the tender closing, but public notice of the change has been given by the Minister of Finance or the corresponding Provincial or Territorial authority before that closing, the change shall be deemed to have occurred before the solicitation closing.
5. Notwithstanding paragraphs 2) to 4) of GC5.3, no adjustment to the Contract Amount in respect of the Work or a part thereof shall be made for a change in any imposition referred to in this section that occurs after the date required by the Contract for completion of the Work or that part of the Work.

GC5.4 (2016-05-01) PROGRESS PAYMENT

- 1) On the expiration of a payment period, the Contractor shall deliver to Canada
 - a) a written progress claim in a form acceptable to Canada that fully describes any part of the Work that has been completed, and any Material that was delivered to the Work site but not incorporated into the Work, during that payment period, and

- b) a completed and signed statutory declaration containing a declaration that, up to the date of the progress claim, the Contractor has complied with all lawful obligations and that, in respect of the Work, all lawful obligations of the Contractor to its Subcontractors and Suppliers, referred to collectively in the declaration as "subcontractors and suppliers", have been fully discharged.
- 2) Within 10 days of receipt of a progress claim and statutory declaration from the Contractor, Canada shall inspect, or cause to have inspected, the part of the Work and the Material described in the progress claim, and shall issue a progress report to the Contractor, that indicates the value of the part of the Work and the Material described in the progress claim that, in the opinion of Canada
- a) is in accordance with the Contract; and
 - b) was not included in any other progress report relating to the Contract.
- 3) Subject to GC5.2, "Amount Payable", and paragraph 5) of GC5.4, Canada shall pay the Contractor an amount that is equal to
- a) 95 percent of the value that is indicated in Canada's progress report if a labour and material payment bond has been furnished by the Contractor; or
 - b) 90 percent of the value that is indicated in Canada's progress report if a labour and material payment bond has not been furnished by the Contractor.
- 4) Canada shall pay the amount referred to in paragraph 3) of GC5.4 not later than
- a) 30 days after receipt by Canada of both a progress claim and a statutory declaration referred to in paragraph 1) of GC5.4; or
 - b) 15 days after receipt by Canada of the Contractor's progress schedule or updated progress schedule, in accordance with GC3.1, "Progress Schedule",
- whichever is later.
- 5) In the case of the Contractor's first progress claim, it is a condition precedent to Canada's obligation under paragraph 3) of GC5.4 that the Contractor has provided all necessary documentation required by the Contract for the first progress claim.

GC5.5 (2016-05-01) SUBSTANTIAL PERFORMANCE OF THE WORK

1. If, at any time before the issuance of a Certificate of Completion, Canada determines that the Work has reached Substantial Performance as described in subparagraph 1) (b) of GC1.1.4, "Substantial Performance", Canada shall issue a Certificate of Substantial Performance to the Contractor. The Certificate of Substantial Performance shall state or describe
- a) the date of Substantial Performance;
 - b) the parts of the Work not completed to the satisfaction of Canada; and
 - c) all things that must be done by the Contractor before a Certificate of Completion is issued and before the 12-month warranty period referred to in GC3.13, "Warranty and Rectification of Defects in Work", commences for the said parts and all the said things.

2. The issuance of a Certificate of Substantial Performance does not relieve the Contractor from the Contractor's obligations under GC3.11, "Defective Work".
3. Subject to GC5.2, "Amount Payable", and paragraph 4) of GC5.5, Canada shall pay the Contractor the amount referred to in paragraph 1) of GC5.2, "Amount Payable", less the aggregate of
 - a) the sum of all payments that were made pursuant to GC5.4, "Progress Payment";
 - b) an amount that is equal to Canada's estimate of the cost to Canada of rectifying defects described in the Certificate of Substantial Performance; and
 - c) an amount that is equal to Canada's estimate of the cost to Canada of completing the parts of the Work described in the Certificate of Substantial Performance other than defects listed therein.
4. Canada shall pay the amount referred to in paragraph 3) of GC5.5 not later than
 - a) 30 days after the date of issue of a Certificate of Substantial Performance, or
 - b) 15 days after the Contractor has delivered to Canada
 - I. a statutory declaration containing a declaration by the Contractor that up to the date of the Certificate of Substantial Performance, the Contractor has complied with all lawful obligations, discharged all its lawful obligations to its Subcontractors and Suppliers in respect of the work under the Contract, and discharged its lawful obligations referred to in GC1.8, "Laws, Permits and Taxes";
 - II. evidence of compliance with workers' compensation legislation in accordance with GC1.9, "Workers' Compensation"; and
 - III. an update of the progress schedule in accordance with the requirements of GC3.1, "Progress Schedule"; whichever is later.

GC5.6 FINAL COMPLETION

- 1) When Canada is of the opinion that the Contractor has complied with the Contract and all orders and directions made pursuant thereto, and that the Work has been completed as described in GC1.1.5 COMPLETION, Canada shall issue a Certificate of Completion to the Contractor and, if the Work or a portion of the Work is subject to a Unit Price Arrangement, Canada shall issue a Certificate of Measurement that shall, subject to GC8, be binding upon and conclusive between Canada and the Contractor as to the quantities referred to therein.
- 2) Subject to GC5.2 AMOUNT PAYABLE and paragraph 3) of GC5.6, Canada shall pay the Contractor the amount referred to in GC5.2 AMOUNT PAYABLE, less the aggregate of the sum of all payments that were made pursuant to GC5.4 PROGRESS PAYMENT and GC5.5 SUBSTANTIAL PERFORMANCE OF WORK.
- 3) Canada shall pay the amount referred to in paragraph 2) of GC5.6 not later than
 - (a) 60 days after the date of issue of a Certificate of Completion; or
 - (b) 15 days after the Contractor has delivered to Canada

- (i) a statutory declaration which contains a declaration by the Contractor that all of the Contractor's lawful obligations and any lawful claims against the Contractor that arose out of the performance of the Contract have been discharged and satisfied; and
- (ii) evidence of compliance with workers' compensation legislation in accordance with GC1.9 WORKERS' COMPENSATION;

whichever is later.

GC5.7 (2016-05-01) PAYMENT NOT BINDING ON CANADA

- 1) Neither acceptance of a progress claim or progress report, nor any payment made by Canada under the Contract, nor partial or entire use or occupancy of the Work by Canada shall constitute an acceptance by Canada of any portion of the Work or Material that is not in accordance with the requirements of the Contract.

GC5.8 CLAIMS AND OBLIGATIONS

- 1) The Contractor shall discharge all the Contractor's lawful obligations and shall satisfy all lawful claims against the Contractor arising out of the performance of the Work at least as often as the Contract requires Canada to pay the Contractor.
- 2) Whenever requested to do so by Canada, the Contractor shall make a statutory declaration declaring to the existence and condition of any obligations and claims against the Contractor arising out of the performance of the Work.
- 3) In order to discharge lawful obligations of and satisfy lawful claims against the Contractor or its Subcontractors arising out of the performance of the Contract, Canada may pay an amount that is due and payable to the Contractor directly to the claimant. Such payment is, to the extent of the payment, a discharge of Canada's liability to the Contractor under the Contract and may be deducted from any amount payable to the Contractor under the Contract.
- 4) For the purposes of paragraph 3) of GC5.8, and subject to paragraph 6) of GC5.8, a claim or obligation shall be considered lawful when it is so determined by
 - (a) a court of legal jurisdiction;
 - (b) an arbitrator duly appointed to arbitrate the claim; or
 - (c) the written consent of the Contractor authorizing payment of the claim or obligation.
- 5) If a claim or obligation would have been subject to the provisions of Provincial or Territorial lien legislation or, in the Province of Quebec, the law relating to legal hypothecs had the Contractor been performing the Work for an entity other than Canada
 - (a) such amount as may be paid by Canada pursuant to paragraphs 3) and 4) of GC5.8 shall not exceed the amount that the Contractor would have been obliged to pay had the provisions of such legislation or law been applicable to the Work;
 - (b) a claimant need not comply with the provisions of such legislation, setting out the steps by way of notice, registration or otherwise as might have been necessary to preserve or perfect any claim for lien or privilege which the claimant might have had; and

- (c) for the purposes of determining the entitlement of a claimant, the notice required by paragraph 8) of GC5.8 shall be deemed to replace the registration or provision of notice after the performance of work as required by any applicable legislation and no claim shall be deemed to have expired, become void or unenforceable by reason of the claimant not commencing any action within the time prescribed by such legislation.
- 6) The Contractor shall, at the request of any claimant, submit to binding arbitration those questions that need to be answered to establish the entitlement of the claimant to payment. The arbitration shall have as parties to it any Subcontractor or Supplier to whom the claimant supplied Material, performed work or rented equipment should such Subcontractor or Supplier wish to be adjoined, and Canada shall not be a party to such arbitration. Subject to any agreement between the Contractor and the claimant, the arbitration shall be conducted in accordance with the governing Provincial or Territorial legislation applicable to the site of the Work.
 - 7) Paragraph 3) of GC5.8 shall apply only to claims and obligations
 - (a) the notification of which has set forth the amount claimed to be owing and the person who by contract is primarily liable and has been received by Canada in writing before final payment is made to the Contractor pursuant to GC5.6 FINAL COMPLETION, and within 120 days of the date on which the claimant
 - (i) should have been paid in full under the claimant's contract with the Contractor, its Subcontractor or Supplier if the claim is for money that was lawfully required to be held back from the claimant; or
 - (ii) performed the last of the services, work or labour, or furnished the last of the Material pursuant to the claimant's contract with the Contractor or its Subcontractor or Supplier where the claim is for money not lawfully required to be held back from the claimant; and
 - (b) the proceedings to determine the right to payment of which, pursuant to paragraph 5) of GC5.8, shall have commenced within one year from the date that the notification required by subparagraph 7)(a) of GC5.8 was received by Canada.
 - 8) Upon receipt of a notice of claim, Canada may withhold, from any amount that is due and payable to the Contractor pursuant to the Contract, the full amount of the claim or any portion thereof.
 - 9) Canada shall notify the Contractor in writing in a timely manner of receipt of any claim and of the intention of Canada to withhold funds. At any time thereafter and until payment is made to the claimant, the Contractor may be entitled to post, with Canada, security in a form acceptable to Canada in an amount equal to the value of the claim, and upon receipt of such security Canada shall release to the Contractor any funds that would be otherwise payable to the Contractor, that were withheld pursuant to the provisions of this clause in respect of the claim of any claimant for whom the security stands.

GC5.9 RIGHT OF SETOFF

- 1) Without limiting any right of setoff or deduction given or implied by law or elsewhere in the Contract, Canada may set off any amount payable to Canada by the Contractor under the Contract, or under any current contract, against any amount payable to the Contractor under the Contract.

- 2) For the purposes of paragraph 1) of GC5.9, "current contract" means a contract between Canada and the Contractor
 - (a) under which the Contractor has an undischarged obligation to perform or supply work, labour or material; or
 - (b) in respect of which Canada has, since the date of the Contract, exercised any right to take the work that is the subject of that contract out of the Contractor's hands.

GC5.10 ASSESSMENTS AND DAMAGES FOR LATE COMPLETION

- 1) For the purposes of this clause
 - (a) the Work shall be deemed to be completed on the date of the Certificate of Completion; and
 - (b) the "period of delay" means the number of days commencing on the day fixed for completion of the Work and ending on the day immediately preceding the day on which the Work is completed but does not include any day within a period of extension granted pursuant to GC6.5 DELAYS AND EXTENSION OF TIME and any other day on which, in the opinion of Canada, completion of the Work was delayed for reasons beyond the control of the Contractor.
- 2) If the Contractor does not complete the Work by the day fixed for its completion but completes it thereafter, the Contractor shall pay Canada an amount equal to the aggregate of
 - (a) all salaries, wages and travelling expenses incurred by Canada in respect of persons overseeing the performance of the Work during the period of delay;
 - (b) the cost incurred by Canada as a result of the inability to use the completed Work for the period of delay; and
 - (c) all other expenses and damages incurred or sustained by Canada during the period of delay as a result of the Work not being completed by the day fixed for its completion.
- 3) Canada may waive the right of Canada to the whole or any part of the amount payable by the Contractor pursuant to paragraph 2) of GC5.10 if, in the opinion of Canada, it is in the public interest to do so.

GC5.11 DELAY IN MAKING PAYMENT

- 1) Notwithstanding GC1.5 TIME OF THE ESSENCE, any delay by Canada in making any payment when it is due pursuant to GC5 TERMS OF PAYMENT, shall not be a breach of the Contract by Canada.
- 2) Subject to paragraph 3) of GC5.11, Canada shall pay to the Contractor simple interest at the Average Bank Rate plus 3 percent per annum on any amount that is overdue pursuant to paragraph 3) of GC5.1 INTERPRETATION, and the interest shall apply from and include the day such amount became overdue until the day prior to the date of payment.
- 3) Interest shall be paid without demand by the Contractor except that

- (a) in respect of amounts that are less than 15 days overdue, no interest shall be paid in respect of payment made within such 15 days unless the Contractor so demands after such amounts have become due and payable; and
- (b) interest shall not be payable or paid on overdue advance payments, if any.

GC5.12 INTEREST ON SETTLED CLAIMS

- 1) For the purposes of this clause, a claim means a disputed amount subject to negotiation between Canada and the Contractor under the Contract.
- 2) A claim is deemed to have been settled when an agreement in writing is signed by Canada and the Contractor setting out the amount of the claim to be paid by Canada and the items of work for which the said amount is to be paid.
- 3) A settled claim is deemed to be outstanding from the day immediately following the date the said claim would have been due and payable under the Contract had it not been disputed.
- 4) Canada shall pay to the Contractor simple interest on the amount of a settled claim at the Average Bank Rate plus 3 percent per annum from the date the settled claim was deemed to be outstanding until the day prior to the date of payment.

GC5.13 RETURN OF SECURITY DEPOSIT

- 1) After a Certificate of Substantial Performance has been issued, and if the Contractor is not in breach of nor in default under the Contract, Canada shall return to the Contractor all or any part of a Security Deposit that, in the opinion of Canada, is not required for the purposes of the Contract.
- 2) After a Certificate of Completion has been issued, Canada shall return to the Contractor the remainder of any security deposit unless the Contract stipulates otherwise.
- 3) If the security deposit was paid into the Consolidated Revenue Fund of Canada, Canada shall pay interest thereon to the Contractor at a rate established pursuant to section 21(2) of the [*Financial Administration Act \(FAA\)*](#).

GC6 DELAYS AND CHANGES IN THE WORK

- GC6.1 CHANGES IN THE WORK
- GC6.2 CHANGES IN SUBSURFACE CONDITIONS
- GC6.3 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST
- GC6.4 DETERMINATION OF PRICE
 - GC6.4.1 Price Determination Prior to Undertaking Changes
 - GC6.4.2 Price Determination Following Completion of Changes
 - GC6.4.3 Price Determination - Variations in Tendered Quantities
- GC6.5 DELAYS AND EXTENSION OF TIME

GC6.1 CHANGES IN THE WORK

- 1) At any time before issuance of a Certificate of Completion, Canada may issue orders for additions, deletions or other changes to the Work, or changes in the location or position of the whole or any part of the Work, if the addition, deletion, change or other revision is deemed by Canada to be consistent with the general intent of the Contract.
- 2) An order referred to in paragraph 1) of GC6.1 shall be in writing and given to the Contractor in accordance with GC2.3 NOTICES.
- 3) Upon receipt of an order, the Contractor shall promptly perform the work in accordance with the order as if the order had appeared in and been part of the original Contract.
- 4) If anything done or omitted by the Contractor pursuant to an order increases or decreases the cost of the Work to the Contractor, payment for the work shall be made in accordance with GC6.4 DETERMINATION OF PRICE.

GC6.2 CHANGES IN SUBSURFACE CONDITIONS

- 1) If, during the performance of the Work, the Contractor encounters subsurface conditions that are substantially different from the subsurface conditions described in the tender documents supplied to the Contractor, or a reasonable assumption of fact based thereon, the Contractor shall give notice to Canada immediately upon becoming aware of the situation.
- 2) If the Contractor is of the opinion that the Contractor may incur or sustain any extra expense or any loss or damage that is directly attributable to the changed subsurface conditions, the Contractor shall within 10 days of the date the changed subsurface conditions were encountered, give Canada written notice of intention to claim for that extra expense, loss or damage.
- 3) If the Contractor has given a notice referred to in paragraph 2) of GC6.2, the Contractor shall give Canada a written claim for extra expense, loss or damage no later than 30 days after the date that a Certificate of Substantial Performance is issued.
- 4) A written claim referred to in paragraph 3) of GC6.2 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified, and the Contractor shall supply such further and other information for that purpose as Canada requires.
- 5) If Canada determines that a claim referred to in paragraph 3) of GC6.2 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.

- 6) If, in the opinion of Canada, the Contractor effects a saving of expenditure that is directly attributable to a substantial difference between the information relating to subsurface conditions at the site of the Work that is contained in the tender documents, or a reasonable assumption of fact based thereon, and the actual subsurface conditions encountered by the Contractor, the Contract Amount shall be reduced by the amount of the saving of expenditure determined in accordance with GC6.4 DETERMINATION OF PRICE.
- 7) If the Contractor fails to give a notice referred to in paragraph 2) of GC6.2 and a claim referred to in paragraph 3) of GC6.2 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.
- 8) Canada does not warrant the content expressed in any subsurface report available for the perusal of the Contractor that does not form part of the tender and contract documents.

GC6.3 HUMAN REMAINS, ARCHAEOLOGICAL REMAINS AND ITEMS OF HISTORICAL OR SCIENTIFIC INTEREST

- 1) For the purposes of this clause
 - (a) "human remains" means the whole or any part of a deceased human being, irrespective of the time of death;
 - (b) "archaeological remains" are items, artefacts or things made, modified or used by human beings in antiquity and may include, but not be limited to, stone, wood or iron structures or monuments, dump deposits, bone artefacts, weapons, tools, coins, and pottery; and
 - (c) "items of historical or scientific interest" are naturally occurring or manufactured objects or things of any age that are not archaeological remains but may be of interest to society because of their historical or scientific significance, value, rarity, natural beauty, or other quality.
- 2) If, during the course of the Work, the Contractor encounters any object, item or thing which is described in paragraph 1) of GC6.3 or which resembles any object, item or thing described in paragraph 1) of GC6.3, the Contractor shall
 - (a) take all reasonable steps, including stopping work in the affected area, to protect and preserve the object, item or thing;
 - (b) immediately notify Canada of the circumstances in writing; and
 - (c) take all reasonable steps to minimize additional costs that may accrue as a result of any work stoppage.
- 3) Upon receipt of a notification in accordance with subparagraph 2)(b) of GC6.3, Canada shall promptly determine whether the object, item or thing is one described in, or contemplated by paragraph 1) of GC6.3, and shall notify the Contractor in writing of any action to be performed, or work to be carried out, by the Contractor as a result of Canada's determination.
- 4) Canada may, at any time, enlist the services of experts to assist in the investigation, examination, taking of measurements or other such recordings, placing of permanent protection around or removing of the object, item or thing encountered by the Contractor, and the Contractor shall, to the satisfaction of Canada, allow them access and co-operate with them in the carrying out of their duties and obligations.

- 5) Human remains, archaeological remains and items of historical or scientific interest encountered at the site of the Work shall be deemed to be the property of Canada.
- 6) Except as may be otherwise provided for in the Contract, the provisions of GC6.4 DETERMINATION OF PRICE and GC6.5 DELAYS AND EXTENSION OF TIME shall apply.

GC6.4 DETERMINATION OF PRICE

GC6.4.1 Price Determination Prior to Undertaking Changes

- 1) If a Lump Sum Arrangement applies to the Contract or a part thereof, the price of any change shall be the aggregate estimated cost of labour, Plant and Material that is required for the change as agreed upon in writing by the Contractor and Canada plus a negotiated allowance for supervision, co-ordination, administration, overhead, margin and the risk of undertaking the work within the stipulated amount.
- 2) If a Unit Price Arrangement applies to the Contract or a part thereof, the Contractor and Canada may, by agreement in writing, add items, units of measurement, estimated quantities and prices per unit to the Unit Price Table.
- 3) A price per unit referred to in paragraph 2) of GC6.4.1 shall be determined on the basis of the aggregate estimated cost of labour, Plant and Material that is required for the additional item as agreed upon by the Contractor and Canada, plus a negotiated allowance.
- 4) To facilitate approval of the price of the change or the additional price per unit as applicable, the Contractor shall submit a cost estimate breakdown identifying, as a minimum, the estimated cost of labour, Plant, Material, each subcontract amount, and the amount of the negotiated allowance.
- 5) If no agreement is reached as contemplated in paragraph 1) of GC6.4.1, the price shall be determined in accordance with GC6.4.2.
- 6) If no agreement is reached, as contemplated in paragraphs 2) and 3) of GC6.4.1, Canada shall determine the class and the unit of measurement of the item of labour, Plant or Material and the price per unit shall be determined in accordance with GC6.4.2.

GC6.4.2 Price Determination Following Completion of Changes

- 1) If it is not possible to predetermine, or if there is failure to agree upon the price of a change in the Work, the price of the change shall be equal to the aggregate of
 - (a) all reasonable and proper amounts actually expended or legally payable by the Contractor in respect of the labour, Plant and Material that fall within one of the classes of expenditure described in paragraph 2) of GC6.4.2, that are directly attributable to the performance of the Contract;
 - (b) an allowance for profit and all other expenditures or costs, including overhead, general administration costs, financing and interest charges, in an amount that is equal to 10 percent of the sum of the expenses referred to in subparagraph 1)(a) of GC6.4.2; and
 - (c) interest on the amounts determined under subparagraphs 1)(a) and 1)(b) of GC6.4.2 calculated in accordance with GC5.12 INTEREST ON SETTLED CLAIMS;

- 2) The cost of labour, Plant and Material referred to in subparagraph 1)(a) of GC6.4.2 shall be limited to the following categories of expenditure:
- (a) payments to Subcontractors and Suppliers;
 - (b) wages, salaries, bonuses and, if applicable, travel and lodging expenses of employees of the Contractor located at the site of the Work and that portion of wages, salaries, bonuses and, if applicable, travel and lodging expenses of personnel of the Contractor generally employed at the head office or at a general office of the Contractor provided they are actually and properly engaged on the Work under the Contract;
 - (c) assessments payable under any statutory authority relating to workers' compensation, employment insurance, pension plan or holidays with pay, provincial health or insurance plans, environmental reviews, and Applicable Taxes collection costs;
 - (d) rent that is paid for Plant, or an amount equivalent to the said rent if the Plant is owned by the Contractor, that is necessary for and used in the performance of the Work, if the rent or the equivalent amount is reasonable and use of that Plant has been approved by Canada;
 - (e) payments for maintaining and operating Plant necessary for and used in the performance of the Work, and payments for effecting repairs thereto that, in the opinion of Canada, are necessary for the proper performance of the Contract, other than payments for any repairs to the Plant arising out of defects existing before its allocation to the Work;
 - (f) payments for Material that is necessary for and incorporated in the Work, or that is necessary for and consumed in the performance of the Contract;
 - (g) payments for preparation, delivery, handling, erection, installation, inspection, protection and removal of the Plant and Material necessary for and used in the performance of the Contract; and
 - (h) any other payments made by the Contractor with the approval Canada that are necessary for the performance of the Contract in accordance with the Contract Documents.

GC6.4.3 Price Determination - Variations in Tended Quantities

- 1) Except as provided in paragraphs 2), 3), 4) and 5) of GC6.4.3, if it appears that the final quantity of labour, Plant and Material under a price per unit item shall exceed or be less than the estimated tendered quantity, the Contractor shall perform the Work or supply the Plant and Material required to complete the item and payment shall be made for the actual Work performed or Plant and Material supplied at the price per unit set out in the Contract.
- 2) If the final quantity of the price per unit item exceeds the estimated tendered quantity by more than 15 percent, either party to the Contract may make a written request to the other party to negotiate an amended price per unit for that portion of the item which exceeds 115 percent of the estimated tendered quantity, and to facilitate approval of any amended price per unit, the Contractor shall, on request, provide Canada with
- (a) detailed records of the actual cost to the Contractor of performing or supplying the tendered quantity for the price per unit item up to the time the negotiation was requested; and

- (b) the estimated unit cost of labour, Plant and Material required for the portion of the item that is in excess of 115 percent of the tendered quantity.
- 3) If agreement is not reached as contemplated in paragraph 2) of GC6.4.3, the price per unit shall be determined in accordance with GC6.4.2.
 - 4) If it appears that the final quantity of labour, Plant and Material under a price per unit item shall be less than 85 percent of the estimated tendered quantity, either party to the Contract may make a written request to the other party to negotiate a change to the price per unit for the item if
 - (a) there is a demonstrable difference between the unit cost to the Contractor of performing or supplying the estimated tendered quantity and the unit cost to the Contractor for performing or supplying the final quantity; and
 - (b) the difference in unit cost is due solely to the decrease in quantity and not to any other cause.
 - 5) For the purposes of the negotiation referred to in paragraph 4) of GC6.4.3
 - (a) the onus of establishing, justifying and quantifying a proposed change lies with the party making the request for negotiation; and
 - (b) in no event shall the total price for an item that has been amended as a result of a reduction in quantity pursuant to paragraph 4) of GC6.4.3 exceed the amount that would have been payable to the Contractor had 85 percent of the tendered quantity actually been performed or supplied.

GC6.5 DELAYS AND EXTENSION OF TIME

- 1) Upon application of the Contractor made before the date first fixed for completion of the Work or before any other date previously fixed under this clause, Canada may extend the time for completion of the Work by fixing a new date if Canada determines that causes beyond the control of the Contractor have delayed its completion.
- 2) The Contractor's application shall be accompanied by the written consent of the bonding company whose bond forms part of the Contract Security.
- 3) Subject to paragraph 4) of GC6.5, no payment, other than a payment that is expressly stipulated in the Contract, shall be made by Canada to the Contractor for any extra expense, loss or damage incurred or sustained by the Contractor due to delay, whether or not the delay is caused by circumstances beyond the control of the Contractor.
- 4) If the Contractor incurs or sustains any extra expense or any loss or damage that is directly attributable to any neglect or delay that occurs after the date of the Contract on the part of Canada in providing any information or in doing any act that the Contract either expressly requires Canada to do or that would ordinarily be done by an owner in accordance with the practice of the trade, the Contractor shall give Canada written notice of intention to claim for that extra expense or loss or damage within ten working days of the date the neglect or delay first occurred.
- 5) When the Contractor has given a notice referred to in paragraph 4) of GC6.5, the Contractor shall give Canada a written claim for the extra expense, loss or damage no later than 30 days after the date that a Certificate of Completion is issued and not afterwards.

- 6) A written claim referred to in paragraph 5) of GC6.5 shall contain a sufficient description of the facts and circumstances of the occurrence that is the subject of the claim to enable Canada to determine whether or not the claim is justified and the Contractor shall supply such further and other information for that purpose as Canada may require.
- 7) If Canada determines that a claim referred to in paragraph 5) of GC6.5 is justified, Canada shall make an extra payment to the Contractor in an amount that is calculated in accordance with GC6.4 DETERMINATION OF PRICE.
- 8) If the Contractor fails to give a notice referred to in paragraph 4) and a claim referred to in paragraph 5) of GC6.5 within the times stipulated, an extra payment shall not be made to the Contractor in respect of the occurrence.

GC7 DEFAULT, SUSPENSION OR TERMINATION OF CONTRACT

- GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS
- GC7.2 SUSPENSION OF WORK
- GC7.3 TERMINATION OF CONTRACT
- GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN

GC7.1 TAKING THE WORK OUT OF THE CONTRACTOR'S HANDS

- 1) By giving notice in writing to the Contractor in accordance with GC2.3 NOTICES, Canada, without any other authorization, may take all or any part of the Work out of the Contractor's hands, and may employ such means as Canada sees fit to have the Work completed if the Contractor:
 - (a) fails to remedy any delay in the commencement or default in the diligent performance of the Work to the satisfaction of Canada within six days of Canada giving notice to the Contractor in writing in accordance with GC2.3 NOTICES;
 - (b) defaults in the completion of any part of the Work within the time fixed for its completion by the Contract;
 - (c) becomes insolvent, or has committed an act of bankruptcy, and has neither made a proposal to its creditors nor filed a notice of intention to make such a proposal, pursuant to the [Bankruptcy and Insolvency Act](#);
 - (d) abandons the work;
 - (e) makes an assignment of the Contract without the consent required by GC1.16 ASSIGNMENT; or
 - (f) otherwise fails to observe or perform any of the provisions of the Contract.
- 2) If the whole or any part of the Work is taken out of the Contractor's hands, the Contractor's right to any further payment that is due or accruing due under the Contract is, subject only to paragraph 3) of GC7.1, extinguished, and the Contractor is liable to pay Canada, upon demand, an amount that is equal to the amount of all loss and damage incurred or sustained by Canada in respect of the Contractor's failure to complete the Work.
- 3) If the whole or any part of the Work that is taken out of the Contractor's hands is completed by Canada, Canada may pay the Contractor the amount, if any, of the holdback or a progress claim as determined by Canada that had accrued and was due prior to the date on which the Work was taken out of the Contractor's hands and that is not required for the purposes of having the Work performed or of compensating Canada for any other loss or damage incurred or sustained by reason of the Contractor's default.
- 4) The taking of the Work or any part thereof out of the Contractor's hands does not relieve the Contractor from any obligation under the Contract or imposed by law except the obligation to complete the performance of that part of the Work that was taken out of the Contractor's hands.
- 5) If the Work or any part thereof is taken out of the Contractor's hands, all Plant and Material and the interest of the Contractor, or its suppliers or subcontractors at any tier, in all real property, licences, powers and privileges acquired, used or provided by the Contractor, or its suppliers or subcontractors at any tier, under the Contract shall continue to be the property of Canada without compensation.

- 6) When Canada certifies that any Plant, Material, or any interest of the Contractor is no longer required for the purposes of the Work, or that it is not in the interests of Canada to retain that Plant, Material, or interest, it shall revert to the Contractor.
- 7) If the Contractor has become insolvent or has committed an act of bankruptcy, and has either made a proposal to its creditors or filed a notice of intention to make such a proposal, pursuant to the [Bankruptcy and Insolvency Act](#), the Contractor shall immediately forward a copy of the proposal or the notice of intention to Canada.

GC7.2 SUSPENSION OF WORK

- 1) When, in Canada's opinion, it is in the public interest to do so, Canada may require the Contractor to suspend performance of the Work either for a specified or an unspecified period, by giving a notice of suspension in writing to the Contractor in accordance with GC2.3 NOTICES.
- 2) When a notice of suspension is received by the Contractor, the Contractor shall suspend all operations in respect of the Work except those that Canada determines are necessary for the care and preservation of the Work, Plant and Material.
- 3) During a period of suspension, the Contractor shall not remove any part of the Work, Plant or Material from its site without the consent of Canada.
- 4) If a period of suspension is 60 days or less, the Contractor shall resume the performance of the Work on the expiration of that period, and the Contractor is entitled to be paid the extra costs necessarily incurred by the Contractor as a result of the suspension, determined in accordance with GC6.4 DETERMINATION OF PRICE.
- 5) If a period of suspension is more than 60 days, Canada and the Contractor may agree that the performance of the Work shall be continued by the Contractor, and the Contractor shall resume performance of the Work subject to any terms and conditions agreed upon by Canada and the Contractor. If Canada and the Contractor do not agree that performance of the Work shall be continued by the Contractor, or upon the terms and conditions under which the Contractor shall continue the Work, the notice of suspension shall be deemed to be a notice of termination pursuant to GC7.3 TERMINATION OF CONTRACT.

GC7.3 TERMINATION OF CONTRACT

- 1) Canada may terminate the Contract at any time by giving a notice of termination in writing to the Contractor in accordance with GC2.3 NOTICES.
- 2) If the Contractor receives a notice of termination, the Contractor shall forthwith cease all operations in performance of the Contract, subject to any conditions stipulated in the notice.
- 3) Subject to paragraph 4) of GC7.3, if the Contract is terminated, Canada shall pay the Contractor an amount determined to be due to the Contractor pursuant to GC6.4 DETERMINATION OF PRICE less the aggregate of all amounts that were paid to the Contractor by Canada and all amounts that are due to Canada from the Contractor pursuant to the Contract.
- 4) In no event shall the total amount payable by Canada to the Contractor exceed the amount, calculated in accordance with GC5 TERMS OF PAYMENT, that would have been payable to the Contractor had the Contractor completed the Work.

- 5) Payment to the Contractor, if any, shall be made as soon as practicable under the circumstances.

GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN

- 1) If the Work is taken out of the Contractor's hands, or the Contractor is in breach of, or in default under, the Contract, Canada may convert a security deposit to Canada's own use.
- 2) If Canada converts a security deposit, the amount realized shall be deemed to be an amount due from Canada to the Contractor under the Contract.
- 3) Any balance of the amount realized that remains after payment of all losses, damage and claims of Canada and others shall be paid by Canada to the Contractor if, in the opinion of Canada, it is not required for the purposes of the Contract.

GC8 DISPUTE RESOLUTION

- GC8.1 INTERPRETATION
- GC8.2 CONSULTATION AND CO-OPERATION
- GC8.3 NOTICE OF DISPUTE
- GC8.4 NEGOTIATION
- GC8.5 MEDIATION
- GC8.6 BINDING ARBITRATION
- GC8.7 DISPUTES NOT SUBJECT TO ARBITRATION
- GC8.8 CONFIDENTIALITY
- GC8.9 SETTLEMENT
- GC8.10 RULES FOR MEDIATION OF DISPUTES
 - GC8.10.1 Interpretation
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 - GC8.10.4 Appointment of Project Mediator
 - GC8.10.5 Confidentiality
 - GC8.10.6 Time and Place of Mediation
 - GC8.10.7 Representation
 - GC8.10.8 Procedure
 - GC8.10.9 Settlement Agreement
 - GC8.10.10 Termination of Mediation
 - GC8.10.11 Costs
 - GC8.10.12 Subsequent Proceedings

GC8.1 INTERPRETATION

- 1) "dispute" means any disagreement regarding any issue identified by the Contractor in the notice submitted to Canada in accordance with paragraph 2 of GC8.3 NOTICE OF DISPUTE, and includes any claim by the Contractor arising from such disagreement and any counterclaim by Canada, but does not include any claim by either party for punitive or exemplary damages, injury to persons, death, or any claim based on an allegation of libel or slander.
- 2) The alternative dispute resolution procedures set out in GC8, do not apply to any claim by Canada against the Contractor except any counterclaim in a dispute as defined in paragraph 1 of GC8.1, including, but not limited to, any claim of setoff regarding any amount due to Canada under GC5.10 ASSESSMENT AND DAMAGES FOR LATE COMPLETION.

GC8.2 CONSULTATION AND CO-OPERATION

- 1) The parties agree to maintain open and honest communication throughout the performance of the Contract.
- 2) The parties agree to consult and co-operate with each other in the furtherance of the Work and the resolution of problems or differences that may arise.

GC8.3 NOTICE OF DISPUTE

- 1) Any difference between the parties to the Contract of any nature arising out of or in connection with the Contract which could result in a claim by the Contractor against Canada, and which is not settled by consultation and co-operation as envisaged in GC8.2

CONSULTATION AND CO-OPERATION, shall be resolved in the first instance by Canada, whose written decision or direction shall be final and binding subject only to the provisions of GC8. Such written decision or direction includes, but is not limited to, any written decision or direction by Canada under any provision of the General Conditions.

- 2) The Contractor shall be deemed to have accepted the decision or direction of Canada referred to in paragraph 1) of GC8.3 and to have expressly waived and released Canada from any claim in respect of the particular matter dealt with in that decision or direction unless, within 15 working days after receipt of the decision or direction, the Contractor submits to Canada a written notice of dispute requesting formal negotiation under GC8.4 NEGOTIATION. Such notice shall refer specifically to GC8.4 NEGOTIATION, and shall specify the issues in contention and the relevant provisions of the Contract.
- 3) The giving of a written notice in accordance with paragraph 2) of GC8.3 shall not relieve the Contractor from complying with the decision or direction that is the subject of the dispute. Such compliance, however, shall not be construed as an admission by the Contractor of the correctness of such decision or direction.
- 4) If a dispute is not resolved promptly, Canada shall give such instructions as, in Canada's opinion, are necessary for the proper performance of the Work and to prevent delays pending a resolution of the matter. Unless Canada terminates the Contract, orders the Contractor to suspend the Work, or takes the Work out of the hands of the Contractor, the Contractor shall continue to perform the Work in accordance with the provisions and requirements of the Contract and the instructions of Canada. Such performance shall not prejudice any claim that the Contractor may have.
- 5) Nothing in GC8 relieves the Contractor from its obligation to provide any other notice required by the Contract within the time specified in the Contract, including but not limited to, any notice required under GC6.2 CHANGES IN SUBSURFACE CONDITIONS.

GC8.4 NEGOTIATION

- 1) Within 10 working days after receipt by Canada of a notice referred to in paragraph 2) of GC8.3 NOTICE OF DISPUTE, or within such other period of time as may be mutually agreed to, the parties shall commence formal negotiations in order to resolve the dispute. Negotiations shall occur initially between representatives of the Contractor and Canada who play a direct supervisory role in the performance, administration or management of the Contract.
- 2) If the representatives referred to in paragraph 1) of GC8.4 are unable to resolve some or all of the issues which are the subject of the negotiations within 10 working days, the parties shall refer the remaining issues which are in dispute to a second level of negotiation between a principal or principals of the Contractor and a senior level manager or senior level managers representing Canada.
- 3) If negotiations fail to resolve the dispute within 30 working days from the date of delivery of the notice referred to in paragraph 2) of GC8.3 NOTICE OF DISPUTE, or within such longer period as may have been agreed to by the parties, the Contractor may, by giving written notice to Canada, in accordance with GC2.3 NOTICES, within 10 working days from the end of such period, request that mediation be undertaken to assist the parties to reach agreement on the outstanding issues.
- 3) If the Contractor does not request mediation within the period permitted by paragraph 3) of GC8.4, the Contractor shall be deemed to have accepted the decision or direction of Canada under paragraph 1) of GC8.3 NOTICE OF DISPUTE and to have expressly waived and

released Canada from any claim in respect of the particular matter dealt with in that decision or direction.

GC8.5 MEDIATION

- 1) If the Contractor has requested mediation in accordance with paragraph 3) of GC8.4 NEGOTIATION, mediation shall be conducted in accordance with GC8.8 RULES FOR MEDIATION OF DISPUTES.
- 2) If a Project Mediator has not previously been appointed for the purposes of the Contract, a Project Mediator shall be appointed in accordance with GC8.8 RULES FOR MEDIATION OF DISPUTES forthwith after delivery of a notice in accordance with paragraph 3) of GC8.4 NEGOTIATION, requesting mediation.
- 3) If the dispute has not been resolved within
 - (a) Ten (10) working days following the appointment of a Project Mediator in accordance with paragraph 2) of GC8.5, if a Project Mediator was not previously appointed;
 - (b) Ten (10) working days following receipt by Canada of a written notice in accordance with paragraph 3) of GC8.4 NEGOTIATION, if a Project Mediator was previously appointed; or
 - (c) such other longer period as may have been agreed to by the parties;

the Project Mediator shall terminate the mediation by giving written notice to the parties stating the effective date of termination.

GC8.6 BINDING ARBITRATION

- 1) If mediation of the dispute is terminated pursuant to the provisions of GC8.5, "Mediation", and
 - a) the termination of mediation occurs prior to the applicable date set out in paragraph 4) of GC8.6; and
 - b) the disputed issues involve issues of fact or issues of arbitral questions of law or issues of mixed fact and arbitral questions of law;either party, by giving notice in writing to the other party in accordance with GC2.3, "Notices", may require that the dispute be resolved by binding arbitration pursuant to GC8.6.
- 2) A notice referred to in paragraph 1) of GC8.6 shall be given within 10 working days of the date of termination of mediation under GC8.5 Mediation and shall be in accordance with GC2.3, "Notices".
- 3) If no notice is given within the period set out in paragraph 2) of GC8.6, or if the conditions set out in subparagraphs 1)(a) and 1)(b) of GC8.6 are not met, the arbitration provisions set out in GC8.6 do not apply to the dispute.
- 4) Unless otherwise agreed, the arbitration of the dispute shall be held in abeyance until the earlier of
 - a) the date of issuance of a Certificate of Substantial Performance under GC5.5, "Substantial Performance of the Work";

- b) the date the Work is taken out of the Contractor's hands; and
- c) the date of termination of the Contract;

and consolidated with all other such disputes into a single arbitration.

- 5) Arbitral proceedings under this GC8.6 shall be governed by and conducted in accordance with the **Commercial Arbitration Act**, R.S. 1985, c. 17 (2nd Supp.) and the provisions of GC8.11, "Rules for Arbitration of Disputes".
- 6) For the purposes of calculating time under the Rules for Arbitration referred to in paragraph 5) of GC8.6, arbitration proceedings shall commence on the applicable date set out in paragraph 4) of GC8.6.
- 7) Notwithstanding anything else contained in GC8.6, the arbitration provisions in GC8.6 do not apply if the aggregate amount of all claims by the Contractor required to be arbitrated on the applicable date set out in paragraph 4) of GC8.6 is less than \$25,000.

GC8.7 DISPUTES NOT SUBJECT TO ARBITRATION

- 1) Where the arbitration provisions in GC8.6, "Binding Arbitration", do not apply to a dispute as a result of paragraphs 3) or 7) of GC8.6, "Binding Arbitration", either party may take such court action or proceedings as it considers appropriate, including, without limiting the foregoing, all suits that would otherwise have been immediately available to it but for the provisions of these Dispute Resolution Conditions. Subject to the provisions of paragraph 2) of GC8.7, the Contractor shall initiate any such action or proceeding no later than three calendar months after the date that a Certificate of Completion is issued under GC5.6, "Final Completion", and not afterwards, except where it is otherwise provided by law.
- 2) Any action or proceeding resulting from a direction under GC3.13, "Warranty and Rectification of Defects in Work", shall be initiated by the Contractor no later than three calendar months after the expiry of the warranty or guarantee period and not afterwards, except where it is otherwise provided by law.

GC8.8 (2016-05-01) CONFIDENTIALITY

All information exchanged during alternative dispute resolution procedures, by whatever means, shall be without prejudice and shall be treated as confidential by the parties and their representatives, unless otherwise required by law. However, evidence that is independently admissible or discoverable shall not be rendered inadmissible or non-discoverable by virtue of its use during an alternative dispute resolution process.

GC8.9 (2016-05-01) SETTLEMENT

Any agreement to settle all or any part of a dispute, by whatever means, shall be in writing and be signed by the parties or their authorized representatives.

GC8.10 (2016-05-01) RULES FOR MEDIATION OF DISPUTES

GC8.10.1 Interpretation

In these Rules

- 1) “Coordinator” means the person designated by Canada to act as the Dispute Resolution Coordinator.

GC8.10.2 Application

- 1) By mutual agreement, the parties may change or make additions to the Rules.

GC8.10.3 Communication

- 1) Written communications pursuant to these Rules shall be given in accordance with GC2.3 NOTICES.

GC8.10.4 Appointment of Project Mediator

- 1) The parties to the Contract may, by mutual consent, at any time after entry into the Contract, appoint a mediator (the “Project Mediator”) to conduct mediation proceedings in accordance with these Rules for Mediation of Disputes, in regard to any dispute that may arise with regard to the interpretation, application or administration of the Contract. In this case, they shall jointly enter into a contract with the appointed Project Mediator, which contract shall be in a form drafted by the Coordinator and agreed to by the parties.
- 2) If the parties do not appoint a Project Mediator pursuant to paragraph 1) of GC8.8.4, the parties shall appoint a Project Mediator within 17 working days following receipt of a written notice from the Contractor, in accordance with GC2.3 NOTICES, requesting that mediated negotiations be undertaken in accordance with these Rules to assist the parties to reach agreement on any outstanding issues that may be in dispute. Any contract entered into with the appointed Project Mediator shall meet the requirements as set out for the contract described in paragraph 1) of GC8.8.4.
- 3) When mediation is requested by the Contractor pursuant to paragraph 3) of GC8.4 NEGOTIATION, if the parties have previously entered into a contract with a Project Mediator, the parties shall within 2 days send to both the Project Mediator and the Coordinator
 - (a) a copy of the notice requesting negotiation under paragraph 2) of GC8.3 NOTICE OF DISPUTE;
 - (b) a copy of Canada’s written position in relation to the notice, the issues in contention and the relevant provisions of the contract; and
 - (c) a copy of the Contractor’s written request for mediation required under paragraph 3) of GC8.4 NEGOTIATION.
- 4) If the parties have not agreed on a Project Mediator, the parties shall forthwith provide the Coordinator with the written materials referred to in subparagraphs 3)(a), 3)(b) and 3)(c) of GC8.8.4 together with a request that the Coordinator assist in the appointment of a mutually acceptable Project Mediator in accordance with these Rules.
- 5) Within 5 working days following receipt of the request and materials referred to in paragraph 4) of GC8.8.4, the Coordinator shall provide the parties with a list of qualified private sector mediators obtained from an independent and impartial entity, together with instructions to

each party to individually and confidentially select and rank their preferred and fully acceptable choices of mediator in descending order. Each mediator listed shall be impartial and independent of the parties, and shall be an experienced and skilled commercial mediator, preferably with knowledge of the subject matter of the dispute.

- 6) Within 10 working days of receipt of the list referred to in paragraph 5) of GC8.8.4 each party shall comply with the instructions accompanying the list(s) and shall deliver the completed listing to the Coordinator.
- 7) Within 2 working days following receipt of the completed listings, the Coordinator shall select the highest common ranked mediator to act as Project Mediator for the purposes of the contract.
- 8) In the event of a tie, the Coordinator shall consult both parties to re-evaluate their rankings in order to assist the Coordinator in selecting a Project Mediator acceptable to both parties. If the parties cannot agree upon a Project Mediator, the Coordinator shall forthwith provide the parties with a second list of mediators and the procedure shall be repeated.
- 9) If the parties have not previously entered into a contract with a mutually acceptable Project Mediator, the Coordinator shall use reasonable efforts to negotiate a contract with a mutually acceptable Project Mediator on behalf of the parties, which contract shall incorporate or otherwise comply with the provisions of these Rules. If negotiations are unsuccessful, or if for other reason the individual is unwilling or unable to enter into a contract to act as Project Mediator, the Coordinator shall repeat the process with the second-highest common ranked mediator.
- 10) The parties agree that, upon successful completion of the negotiations referred to in paragraph 9) of GC8.8.4, they shall jointly enter into a contract with the selected Project Mediator, which contract shall be in a form drafted by the Coordinator and agreed to by the parties.
- 11) Upon execution of the contract with the Project Mediator referred to in paragraph 10) of GC8.8.4 the Coordinator shall provide the Project Mediator with copies of the documents referred to in paragraph 3) of GC8.8.4.

GC8.10.5 Confidentiality

- 1) Subject to paragraph 2) of GC8.8.5, and unless otherwise agreed in writing by the parties, the Project Mediator, the parties and their counsel or representatives shall keep confidential all matters and documents disclosed during mediation proceedings except where the disclosure is necessary for any implementation of any agreement reached or is required by law.
- 2) Evidence that is independently admissible or discoverable in any arbitral or judicial proceeding shall not be rendered inadmissible or non-discoverable by virtue of its use in mediation proceedings.
- 3) Neither party shall make transcripts, minutes or other records of a mediation conference.
- 4) The personal notes and written opinions of the Project Mediator made in relation to mediation are in the Project Mediator's sole possession and control, are confidential, and may not be used in any subsequent proceeding between the parties or where they are opposed in interest without the express written permission of the parties.

- 5) All information exchanged during mediation procedures, by whatever means, shall be without prejudice and shall be treated as confidential by the parties and their representatives, unless otherwise required by law.

GC8.10.6 Time and Place of Mediation

- 1) The Project Mediator, in consultation with the parties shall set the date, time and place of any mediation conference as soon as possible, bearing in mind that, subject to agreement to the contrary between the parties, only 10 working days are available within which to attempt to settle the dispute.

GC8.10.7 Representation

- 1) Representatives of the parties may be accompanied at the mediation conference by legal counsel or any other person.
- 2) If the Project Mediator is a lawyer, the Project Mediator shall not provide legal advice to a party during the course of the mediation conference, but may recommend that a party obtain independent legal advice before finalizing a settlement agreement.

GC8.10.8 Procedure

- 1) The parties agree to an exchange of all facts, information and documents upon which they intend to rely in any oral or written presentation during the mediation. This exchange shall be completed no later than 2 working days prior to the date set for a mediation conference.
- 2) The Project Mediator shall be free to meet with the parties individually during a mediation conference if the Project Mediator is of the opinion that this may improve the chances of a mediated settlement, and either party may request such an individual meeting at any time.
- 3) The parties may agree to extend the 10 working days available for settlement of the dispute through mediation, and the Project Mediator shall record that agreement in writing.

GC8.10.9 Settlement Agreement

- 1) The parties shall record in writing any settlement agreement reached, with sufficient detail to ensure a clear understanding of
 - (a) the issues resolved;
 - (b) any obligations assumed by each party including criteria to determine if and when these obligations have been met; and
 - (c) the consequences of failure to comply with the agreement reached.
- 2) The parties agree to carry out the terms of a settlement agreement as soon as possible and, in any event, within any time periods specified in the agreement.

GC8.10.10 Termination of Mediation

- 1) Either party may withdraw from mediation at any time without reason and, in that event, the Project Mediator shall give each party a written notice terminating the mediation and establishing the effective date of termination.
- 2) If, in the opinion of the Project Mediator, either party fails to mediate in good faith or fails to comply with the terms of these Rules, or if the Project Mediator, at any time during mediation, is of the opinion that further negotiations will fail to resolve the issues outstanding, the Project Mediator may terminate the negotiations by providing the parties with a written notice of termination, stating therein the Project Mediator's reasons for the termination, and the effective date of termination.
- 3) If a dispute has not been resolved within 10 working days or such other longer period as may have been agreed to by the parties, the Project Mediator shall terminate the mediation by giving written notice to the parties stating the effective date of termination.

GC8.10.11 Costs

- 1) The parties agree that they will each be responsible for the costs of their own representatives and advisors and associated travel and living expenses. Fees and expenses of the Project Mediator and all administrative costs of mediation, such as the cost of the meeting room(s), if any, shall be borne equally by the parties.

GC8.10.12 Subsequent Proceedings

- 1) The parties shall not rely on or introduce as evidence in any arbitral or judicial proceeding, whether or not such proceeding relates to the subject matter of mediation,
 - (a) any documents of other parties that are not otherwise producible in those proceedings;
 - (b) any views expressed or suggestions made by any party in respect of a possible settlement of issues;
 - (c) any admission made by any party in the course of mediation unless otherwise stipulated by the admitting party; and
 - (d) the fact that any party has indicated a willingness to make or accept a proposal or recommendation for settlement.
- 2) The Project Mediator shall neither represent nor testify on behalf of either of the parties in any subsequent investigation, action or proceeding relating to the issues in mediation proceedings.
- 3) The Project Mediator shall not be subpoenaed to give evidence relating to
 - (a) the Project Mediator's role in mediation; or
 - (b) the matters or issues in mediation;**

in any subsequent investigation, action or proceeding and the parties agree to vigorously oppose any effort to have the Mediator so subpoenaed.

GC9 CONTRACT SECURITY

GC9.1 OBLIGATION TO PROVIDE CONTRACT SECURITY

GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY

GC9.1 OBLIGATION TO PROVIDE CONTRACT SECURITY

- 1) The Contractor shall, at the Contractor's expense and within 14 days after the date that the Contractor receives notice that the Contractor's bid was accepted by Canada, obtain and deliver Contract Security to Canada in one of the forms prescribed in GC9.2 TYPES AND AMOUNTS OF CONTRACT SECURITY.
- 2) If the whole or a part of the Contract Security provided is in the form of a security deposit, it shall be held and disposed of in accordance with GC5.13 RETURN OF SECURITY DEPOSIT and GC7.4 SECURITY DEPOSIT - FORFEITURE OR RETURN.
- 3) If a part of the Contract Security provided is in the form of a labour and material payment bond, the Contractor shall post a copy of that bond at the site of the Work.
- 4) It is a condition precedent to the release of the first progress payment that the Contractor has provided the Contract Security as specified herein.

GC9.2 (2016-05-01) TYPES AND AMOUNTS OF CONTRACT SECURITY

- 1) The Contractor shall deliver to Canada either (a) or (b).
 - a) A performance bond and a labour and material payment bond each in an amount that is equal to not less than 50 percent of the Contract Amount (excluding applicable tax(es)).
 - b) A security deposit or an irrevocable standby letter of credit in an amount that is equal to not less than 20 percent of the Contract Amount (excluding applicable tax(es)).
- 2) A performance bond and a labour and material payment bond referred to in paragraph 1) of GC9.2 shall be in a form and be issued by a bonding or surety company that is approved by Canada.
 - (a) The approved form for the performance bond is displayed at the following Website: <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appS>
 - (b) The approved form for the labour and material payment bond is displayed at the following website: <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appS>; and
 - (c) The list of approved bonding or surety companies is displayed at the following Website: <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=14494§ion=text#appl>
- 3) A security deposit referred to in subparagraph 1)(b) of GC9.2 shall be in the form of
 - a. a bill of exchange, bank draft or money order made payable to the Receiver General for Canada and certified by an approved financial institution or drawn by an approved financial institution on itself; or

- b. bonds of, or unconditionally guaranteed as to principal and interest by, the Government of Canada.
- 4) For the purposes of subparagraph 3)(a) of GC9.2
- a) a bill of exchange is an unconditional order in writing signed by the Contractor and addressed to an approved financial institution, requiring the said institution to pay, on demand, at a fixed or determinable future time a sum certain of money to, or to the order of, the Receiver General for Canada;
 - b) if a bill of exchange, bank draft or money order is certified by or drawn on an institution or corporation other than a chartered bank, it must be accompanied by proof that the said institution or corporation meets at least one of the criteria described in subparagraph 4)(c) of GC9.2, either by letter or by a stamped certification on the bill of exchange, bank draft or money; and
 - c) An approved financial institution is
 - I.a corporation or institution that is a member of the Canadian Payments Association as defined in the [Canadian Payments Act](#);
 - II.a corporation that accepts deposits that are insured, to the maximum permitted by law, by the Canada Deposit Insurance Corporation or the "Autorité des marchés financiers";
 - III.a corporation that accepts deposits from the public if repayment of the deposit is guaranteed by Her Majesty the Queen in right of a province;
 - IV.a corporation, association or federation incorporated or organized as a credit union or co-operative credit society that conforms to the requirements of a credit union which are more particularly described in paragraph 137(6) of the [Income Tax Act](#); or
 - V.Canada Post Corporation.
- 5) Bonds referred to in subparagraph 3)(b) of GC9.2 shall be provided on the basis of their market value current at the date of the Contract, and shall be
- a) made payable to bearer; or
 - b) accompanied by a duly executed instrument of transfer of the bonds to the Receiver General for Canada in the form prescribed by the Domestic Bonds of Canada Regulations; or
 - c) registered as to principal, or as to principal and interest, in the name of the Receiver General for Canada pursuant to the Domestic Bonds of Canada Regulations.
- 6) An irrevocable standby letter of credit referred to in subparagraph 1)(b) of GC9.2 shall
- a) be an arrangement, however named or described, whereby a financial institution (the "Issuer") acting at the request and on the instructions of a customer (the "Applicant") or on its own behalf,
 - I.is to make a payment to, or to the order of, Canada as the beneficiary;
 - II.is to accept and pay bills of exchange drawn by Canada;

- III. authorizes another financial institution to effect such payment or accept and pay such bills of exchange; or
- IV. authorizes another financial institution to negotiate against written demand(s) for payment provided that the terms and conditions of the letter of credit are complied with;
- b) state the face amount that may be drawn against it;
 - c) state its expiry date;
 - d) provide for sight payment to the Receiver General for Canada by way of the financial institution's draft against presentation of a written demand for payment signed by Canada;
 - e) provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face value of the letter of credit;
 - f) provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice (UCP) for Documentary Credits, 2007 Revision, ICC Publication No. 600. Pursuant to the ICC UCP, a credit is irrevocable even if there is no indication to that effect; and
 - g) be issued or confirmed, in either official language in a format left to the discretion of the issuer or confirmer, by an approved financial institution on its letterhead.

GC10 INSURANCE

GC10.1 INSURANCE CONTRACTS

GC10.2 INSURANCE PROCEEDS

GC10.1 INSURANCE CONTRACTS

- 1) The contractor shall, at the contractor's expense, obtain and maintain insurance contracts in respect of the work and shall provide evidence thereof to Canada in accordance with the requirements of the INSURANCE TERMS.
- 2) The insurance contracts referred to in paragraph 1) of GC10.1 shall
 - (a) be in a form, of the nature, in the amounts, for the periods and containing the terms and conditions specified in INSURANCE TERMS; and
 - (b) provide for the payment of claims under such insurance contracts in accordance with GC10.2 INSURANCE PROCEEDS.

GC10.2 INSURANCE PROCEEDS

- 1) In the case of a claim payable under a Builders Risk/Installation (All Risks) insurance contract maintained by the contractor pursuant to GC10.1 INSURANCE CONTRACTS, the proceeds of the claim shall be paid directly to Canada, and
 - (a) the monies so paid shall be held by Canada for the purposes of the contract, or
 - (b) if Canada elects, shall be retained by Canada, in which event they vest in Canada absolutely.
- 2) In the case of a claim payable under a General Liability insurance contract maintained by the contractor pursuant to GC10.1 INSURANCE CONTRACTS, the proceeds of the claim shall be paid by the insurer directly to the claimant.
- 3) If an election is made pursuant to paragraph 1) of GC10.2, Canada may cause an audit to be made of the accounts of the contractor and of Canada in respect of the part of the work that was lost, damaged or destroyed for the purpose of establishing the difference, if any, between
 - (a) the aggregate of the amount of the loss or damage suffered or sustained by Canada, including any costs incurred in respect of the clearing and cleaning of the work and its site and any other amount that is payable by the contractor to Canada under the contract, minus any monies retained pursuant to subparagraph 1)(b) of GC10.2; and
 - (b) the aggregate of the amounts payable by Canada to the contractor pursuant to the contract up to the date of the loss or damage.
- 4) A difference that is established pursuant to paragraph 3) of GC10.2 shall be paid forthwith by the party who is determined by the audit to be the debtor to the party who is determined by the audit to be the creditor.

- 5) When payment of a deficiency has been made pursuant to paragraph 4) of GC10.2, all rights and obligations of Canada and the contractor under the contract shall, with respect only to the part of the work that was the subject of the audit referred to in paragraph 3) of GC10.2, be deemed to have been expended and discharged.
- 6) If an election is not made pursuant to subparagraph 1)(b) of GC10.2, the contractor shall, subject to paragraph 7) of GC10.2, clear and clean the work and its site and restore and replace the part of the work that was lost, damaged or destroyed at the contractor's expense as if that part of the work had not yet been performed.
- 7) When the contractor clears and cleans the work and its site and restores and replaces the work referred to in paragraph 6) of GC10.2, Canada shall pay the contractor out of the monies referred to in paragraph 1) of GC10.2 so far as they will thereunto extend.
- 8) Subject to paragraph 7) of GC10.2, payment by Canada pursuant to paragraph 7) of GC10.2 shall be made in accordance with the contract but the amount of each payment shall be 100 percent of the amount claimed notwithstanding subparagraphs 3)(a) and 3)(b) of GC5.4 PROGRESS PAYMENT.



INSURANCE TERMS

IN1 GENERAL

- IN1.1 Worker's Compensation
- IN1.2 Indemnification
- IN1.3 Proof of Insurance
- IN1.4 Insured
- IN1.5 Payment of Deductible

IN2 COMMERCIAL GENERAL LIABILITY

- IN2.1 Scope of Policy
- IN2.2 Period of Insurance

IN3 AUTOMOBILE INSURANCE

- IN3.1 Scope of Policy

IN4 BUILDER'S RISK / INSTALLATION FLOATER

- IN4.1 Scope of Policy
- IN4.2 Amount of Insurance
- IN4.3 Period of Insurance
- IN4.4 Insurance Proceeds

IN1 GENERAL

IN1.1 Worker's Compensation

- 1) The Contractor shall provide and maintain Worker's Compensation Insurance in accordance with the legal requirements of the Province or Territory where the work is being carried out.

IN1.2 Indemnification

- 1) The insurance required by the provisions of these Insurance Terms shall in no way limit the Contractor's responsibility under the Indemnification clause of the General Conditions of the contract. Any additional coverage the Contractor may deem necessary to fulfill his obligations under the aforesaid clause shall be at his own discretion and expense.

IN1.3 Proof of Insurance

- 1) Before commencement of the Work, and within thirty (30) days after acceptance of its bid, the Contractor shall deposit with Canada a CERTIFICATE OF INSURANCE (form AAFC / AAC5314) available upon request.
- 2) In the event that the Contractor already possesses an insurance certificate clearly demonstrating that their insurance coverage meets IN2.1 Scope of Policy provisions, then the Contractor may deposit an original copy of this insurance certificate.
- 3) Upon request by Canada, the Contractor shall provide originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the provisions contained herein.

IN1.4 Insured

- 1) Each policy shall insure the Contractor and shall include Her Majesty the Queen in right of Canada, represented by the Minister of Agriculture & Agri-Food Canada as an additional Insured, with respect to liability arising out of the operations of the contractor with regard to the work.

INSURANCE TERMS (Continued)

IN1.5 Payment of Deductible

- 1) The payment of monies up to the deductible amount made in satisfaction of a claim shall be borne by the Contractor.

IN2 COMMERCIAL GENERAL LIABILITY

IN2.1 Scope of Policy

- 1) The insurance coverage provided shall not be less than that provided by IBC Form 2100, as amended from time to time, and shall have:
 - (a) an Each Occurrence Limit of not less than \$5,000,000.00 ;
 - (b) a Products/Completed Operations Aggregate Limit of not less than \$5,000,000.00 ; and
 - (c) a General Aggregate Limit of not less than \$10,000,000.00 per policy year, if the policy is subject to such a limit.
- 2) The policy shall either include or be endorsed to include coverage for the following exposures or hazards if the Work is subject thereto:
 - (a) Blasting.
 - (b) Pile driving and caisson work.
 - (c) Underpinning.
 - (d) Removal or weakening of support of any building or land whether such support be natural or otherwise if the work is performed by the insured contractor.
 - (e) Asbestos.
 - (f) Non-owned Automobile Policy.

IN2.2 Period of Insurance

- 1) Unless otherwise directed in writing by Canada, or, otherwise stipulated elsewhere herein, the policy required herein shall be in force and be maintained from the date of contract award until the day of issue of the Certificate of Completion except that the coverage for Completed Operations Liability shall, in any event, be maintained for a period of at least six (6) years beyond the date of the CERTIFICATE OF SUBSTANTIAL PERFORMANCE.

IN3 AUTOMOBILE INSURANCE

IN3.1 Scope of Policy

- 1) Automobile Liability Insurance in respect of licensed vehicles shall have limits of not less than one million dollars inclusive per occurrence for bodily injury, death, and damage to property.

INSURANCE TERMS (Continued)

IN4 BUILDER'S RISK / INSTALLATION FLOATER

IN4.1 Scope of Policy

- 1) The insurance coverage provided by a Builder's Risk policy or an Installation Floater policy shall not be less than that provided by IBC Forms 4042 and 4047, as amended from time to time.
- 2) The policy shall permit use and occupancy of the project, or any part thereof, where such use and occupancy is for the purposes for which the project is intended upon completion.
- 3) The policy may exclude or be endorsed to exclude coverage for loss or damage caused by any of the following:
 - (a) Asbestos.
 - (b) Fungi or spores.
 - (c) Cyber.
 - (d) Terrorism.

IN4.2 Amount of Insurance

- 1) The amount of insurance shall not be less than the sum of the contract value plus the declared value (if any) set forth in the contract documents of all material and equipment supplied by Canada at the site of the project to be incorporated into and form part of the finished Work. If the value of the Work is changed, the policy shall be changed to reflect the revised contract value.

IN4.3 Period of Insurance

- 1) Unless otherwise directed in writing by Canada, or, stipulated elsewhere herein, the policy required herein shall be in force and be maintained from prior to the commencement of work until the day of issue of the CERTIFICATE OF SUBSTANTIAL PERFORMANCE.

IN4.4 Insurance Proceeds

- 1) The policy shall provide that the proceeds thereof are payable to Her Majesty or as Canada may direct in accordance with GC 10.2 Insurance Proceeds.
- 2) The Contractor shall, without delay, do such things and execute such documents as are necessary to effect payment of the proceeds.

BID AND ACCEPTANCE FORM

CONSTRUCTION CONTRACT - MAJOR WORKS

BA01 IDENTIFICATION					
Description of the Work CEF, Building 50, Laboratory Renovation - Rooms EW-6, EW-14, EW-15 and EW-16.					
Solicitation Number 19-1252			File / Project Number 1920144210P0001		
BA02 BUSINESS NAME AND ADDRESS OF BIDDER					
Name					
Address					
Unit/Suite/Apt.	Street number	Number suffix	Street name	Street type	Street direction
PO Box or Route Number			Municipality (City, Town, etc.)		Province
Phone number		Fax number		Email address	
BA03 THE OFFER					
1) The Bidder offers to Canada as represented by the Minister of Agriculture and Agri-food Canada to perform and complete the Work for the above named project in accordance with the Bid Documents for the Total Bid Amount of: \$ _____ excluding Applicable Taxes (GST/HST/QST). (to be expressed in numbers only)					
BA04 BID VALIDITY PERIOD					
1) The bid shall not be withdrawn for a period of <u>60</u> days following the date of solicitation closing.					
BA05 APPENDICES					
1) The following appendices are included in this Bid and Acceptance Form: <input type="checkbox"/> No appendices <input type="checkbox"/> Appendix 1 <input type="checkbox"/> Appendix 2					
BA06 ACCEPTANCE AND CONTRACT					
1) Upon acceptance of the Bidder's offer by Canada, a binding Contract shall be formed between Canada and the resulting Contractor. The documents forming the Contract shall be the contract documents referred to in SC01 CONTRACT DOCUMENTS.					
BA07 CONSTRUCTION TIME					
1) The Contractor shall perform and complete the Work <u>on or before 2020-03-31</u>					
BA08 BID SECURITY					
1) The Bidder shall enclose bid security with its bid in accordance with GI07 BID SECURITY REQUIREMENTS.					
2) If a security deposit is furnished as bid security, it shall be forfeited in the event that the bid is accepted by Canada and the Contractor fails to provide Contract Security in accordance with GC9 CONTRACT SECURITY, provided that Canada may, if it is in the public interest, waive the right of Canada to forfeiture any or all of the security deposit.					

BA09 SIGNATURE

Name and title of person authorized to sign on behalf of Bidder (type or print)	Name
	Title
	Signature _____ Date _____
	Name
	Title
Signature _____ Date _____	

BA10 INTEGRITY PROVISIONS - LIST OF NAMES

If the required list of names has not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to provide the names within the time frame specified will render the bid non-responsive. Providing the required names is a mandatory requirement for contract award.

Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Bidder.

Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s).

Bidders bidding as societies, firms or partnerships do not need to provide lists of names.



Agriculture and
Agri-Food Canada

Agriculture et
Agroalimentaire Canada

DRAWINGS & SPECIFICATIONS

#19-1252

FOR

CEF - BUILDING 50

LABORATORY RENOVATION,
ROOMS EW-6, EW-14, EW-15
& EW-16

**CENTRAL EXPERIMENTAL FARM (CEF)
Agriculture and Agri-Food Canada (AAFC)
960 Carling Ave.
Ottawa, ON K1A 0C6**

Building 50
LABS/GENOMICS
OTTAWA, ONTARIO

CONTACT LIST
CLIENT
AGRICULTURE AND AGRI-FOOD CANADA (AAFC)
CONTACT: NEIL SNELSON
OTTAWA, ON
t: 613.715.5109

ARCHITECT
STEWART + TSAI ARCHITECTS INC.
160 CLEMON AVENUE
OTTAWA, ON K1S 2B4
CONTACT: KEN TSAI
t: 613.686.5910
f: 613.686.6216
e: info@stewarttsai.com

MECHANICAL AND ELECTRICAL ENGINEERING
VANDERWESTEN & RUTHERFORD
(VR ENGINEERING)
1130 MORRISON DRIVE, SUITE 260
OTTAWA, ON K2H 9N6
CONTACT: SHARON BARR
t: 613.563.2100

STRUCTURAL ENGINEERING
CLELAND JARDINE ENGINEERING LTD.
200-560 TERRY FOX DRIVE
KANATA, ON K2L 4B9
CONTACT: BRENT WEATHERDON
t: 613.591-1533

ENVIRONMENTAL CONSULTANT
CNS ENVIRONMENTAL
5710 ANKINS ROAD
OTTAWA, ON K2S 1B8
CONTACT: TRENT WINDSOR
t: 613.838.2323

DRAWING LIST
ARCHITECTURAL
A-001 COVER SHEET
A-002 SPECIFICATIONS
A-003 SPECIFICATIONS
A-004 SPECIFICATIONS & SCHEDULES
A-005 DESIGNATED SUBSTANCES
A-101 BUILDING 50 FLOOR PLANS
A-102 BUILDING 50 REFLECTED CEILING PLANS
A-103 INTERIOR ELEVATIONS

MECHANICAL
M-001 MECHANICAL DRAWING LIST, LEGEND & NOTES
M-002 MECHANICAL SPECIFICATIONS
M-003 MECHANICAL SCHEDULES AND KEY PLANS
M-101 BUILDING 50 DEMOLITION AND NEW PLUMBING PLANS
M-201 BUILDING 50 DEMOLITION AND NEW HVAC PLANS
M-301 BUILDING 50 DEMOLITION AND NEW ROOF PLAN AND DETAILS
M-401 MECHANICAL DETAILS AND CONTROL SCHEMATICS

ELECTRICAL
E-001 ELECTRICAL DRAWING LIST, LEGEND, NOTES, SPECIFICATIONS & KEY PLANS
E-101 BUILDING 50 GROUND FLOOR DEMOLITION AND NEW POWER AND SYSTEMS PLANS
E-102 BUILDING 50 ROOF AND BASEMENT POWER PLAN

STRUCTURAL
SK-1 GENERAL NOTES
SK-2 GENERAL NOTES
SK-3 PARTIAL PLAN: ROOF
SK-4 ROOF FRAMING @ RTU

ÉDIFICE 50
LABORATOIRES/GÉNOMIQUE
OTTAWA, ONTARIO

LISTE DE CONTACTS
CLIENT
AGRICULTURE ET AGROALIMENTAIRE CANADA (AAC)
CONTACT: NEIL SNELSON
OTTAWA, ON
t: 613.715.5109

ARCHITECTE
STEWART + TSAI ARCHITECTS INC.
160 CLEMON AVENUE
OTTAWA, ON K1S 2B4
CONTACT: KEN TSAI
t: 613.686.5910
f: 613.686.6216
e: info@stewarttsai.com

INGÉNIEUR EN MÉCANIQUE ET ÉLECTRICITÉ
VANDERWESTEN & RUTHERFORD
(VR ENGINEERING)
1130 MORRISON DRIVE, SUITE 260
OTTAWA, ON K2H 9N6
CONTACT: SHARON BARR
t: 613.563-2100

INGÉNIEUR EN STRUCTURE
CLELAND JARDINE ENGINEERING LTD.
200-560 TERRY FOX DRIVE
KANATA, ON K2L 4B9
CONTACT: BRENT WEATHERDON
t: 613.591-1533

CONSULTANT EN ENVIRONNEMENT
CNS ENVIRONMENTAL
5710 ANKINS ROAD
OTTAWA, ON K2S 1B8
CONTACT: TRENT WINDSOR
t: 613.838.2323

LISTE DE DESSINS
ARCHITECTURE
A-001 PAGE DE COUVERTURE
A-002 DEVIS
A-003 DEVIS
A-004 DEVIS & TABLEAUX
A-005 SUBSTANCES DESIGNÉES
A-101 ÉDIFICE 50 PLANS
A-102 ÉDIFICE 50 PLANS DU PLAFOND RÉFLÉCHI
A-103 ÉLÉVATIONS INTÉRIEURES

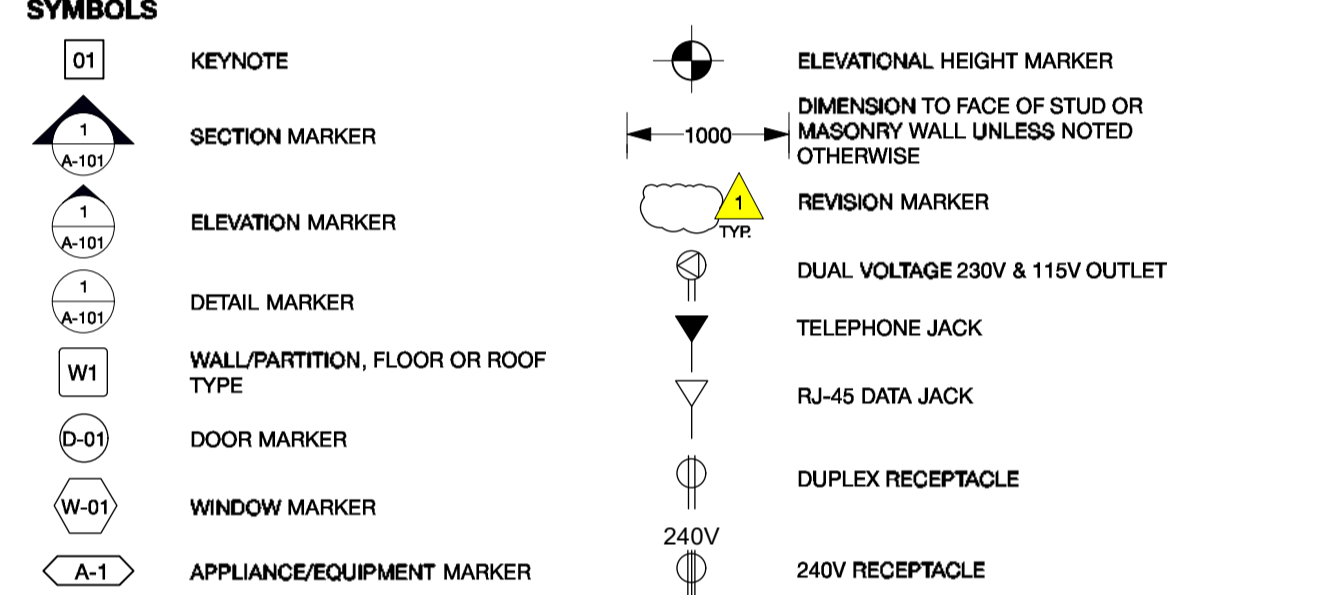
MÉCANIQUE
M-001 LISTE DES DESSINS DE MÉCANIQUE, LEGENDES, NOTES ET DEVIS
M-002 DEVIS DE MÉCANIQUE (SUITE)
M-003 NOMENCLATURES DES ÉLÉMENTS MÉCANIQUES ET PLANS CLÉS
M-101 ÉDIFICE 50 DÉMOLITION ET PLANS DE LA NOUVELLE PLOMBERIE
M-201 ÉDIFICE 50 DÉMOLITION ET PLANS DU NOUVEAU CVCA
M-301 ÉDIFICE 50 DÉMOLITION ET NOUVEAUX PLANS ET DÉTAILS DE LA TOITURE
M-401 DÉTAILS ET SCHEMAS DE COMMANDE MÉCANIQUES

ÉLECTRICITÉ
E-001 LISTE DES DESSINS D'ÉLECTRICITÉ, LÉGENDE, NOTES, DEVIS ET PLANS CLÉS
E-101 ÉDIFICE 50 DÉMOLITION AU REZ-DE-CHAUSSÉE ET PLANS DE LA NOUVELLE ALIMENTATION ET DES NOUVEAU SYSTÈMES
E-102 ÉDIFICE 50 PLAN DE L'ALIMENTATION EN TOITURE

STRUCTURE
SK-1 NOTES GÉNÉRALES
SK-2 NOTES GÉNÉRALES
SK-3 PLAN PARTIEL: TOIT
SK-4 CADRAGE A L'UNITÉ

ABBREVIATIONS

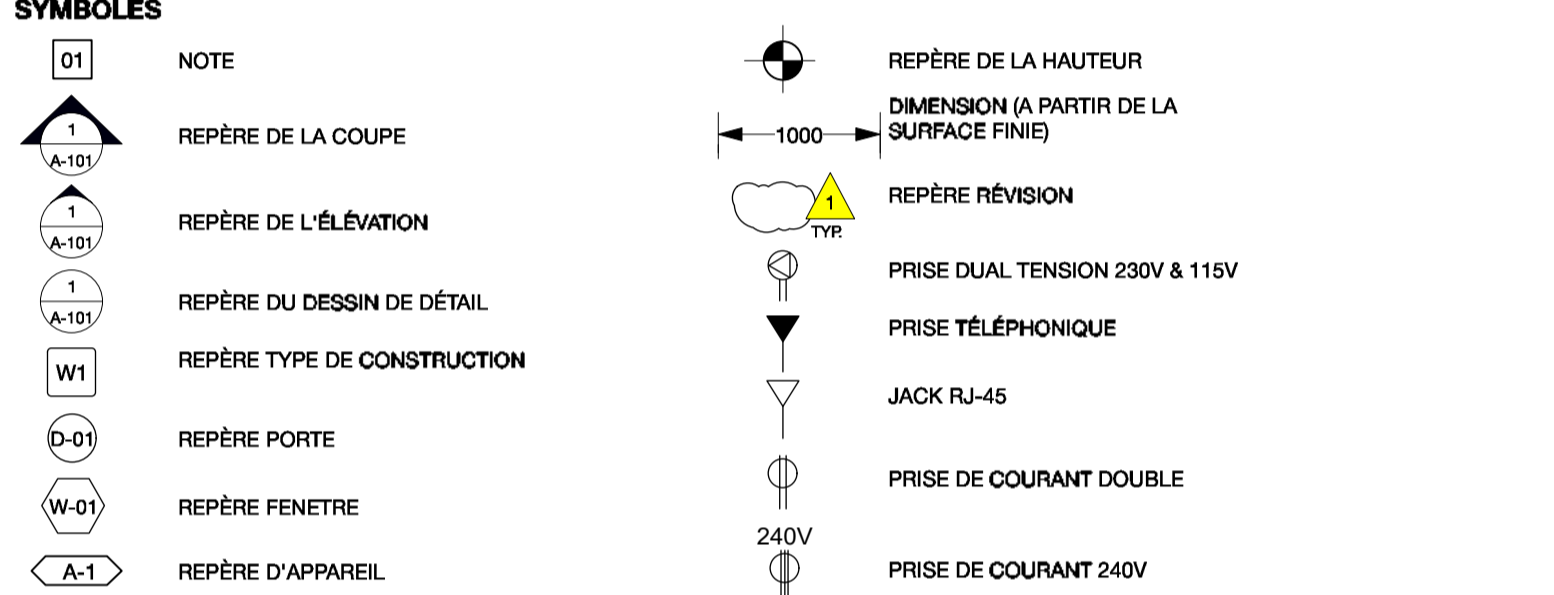
ALUM	ALUMINUM	FIN	FINISH	T.O.	TOP OF
CLR	CLEAR	MTL	MATERIAL	TYR	TYPICAL
CL	CENTRELINE	N/A	NOT APPLICABLE	T&G	TONGUE AND GROOVE
C/W	COMES WITH	NIC	NOT IN CONTRACT	U/S	UNDERSIDE
DIM	DIMENSION	O.C.	ON CENTRE	UNO	UNLESS NOTED OTHERWISE
EQ	EQUAL	SIM	SIMILAR	VB	VAULTED BARRIER
EXIST	EXISTING	TBD	TO BE DETERMINED	V.I.F.	VERIFY IN FIELD
				WD	WOOD



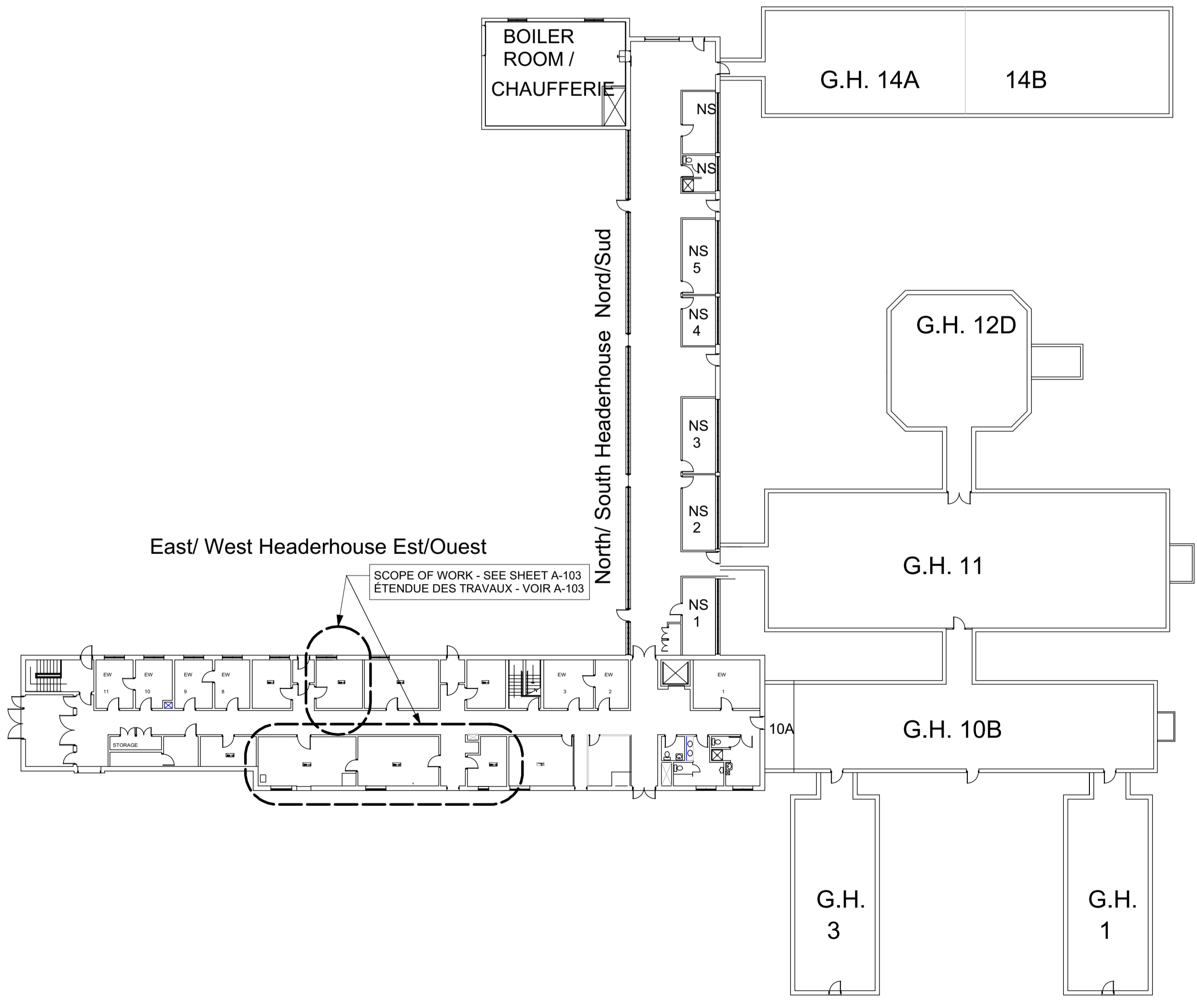
- GENERAL CONSTRUCTION NOTES**
- THE CONTRACTOR AND ALL EMPLOYEES AND SUBCONTRACTORS SHALL HAVE PROOF OF RELIABILITY STATUS SECURITY LEVEL IN PLACE PRIOR TO THE AWARD OF CONTRACT, TO THE SATISFACTION OF THE OWNER'S REQUIREMENTS.
 - THESE DRAWINGS FORM THE CONTRACT DOCUMENTS. ALL WORK SHALL CONFORM TO THE CONTRACT DOCUMENTS, WHICH INCLUDE THE ADDENDA AND MODIFICATIONS ISSUED BY THE DEPARTMENTAL REPRESENTATIVE. ALL WORK TO BE ACCEPTABLE, MUST BE IN COMPLIANCE WITH THESE DOCUMENTS, AND MUST BE OF A QUALITY EQUAL OR BETTER THAN THE STANDARD OF THE TRADE. ANY CONFLICTS OR DISCREPANCIES IN THE CONTRACT DOCUMENTS SHALL BE REFERRED TO THE DEPARTMENTAL REPRESENTATIVE IN WRITING PRIOR TO PROCEEDING.
 - ALL CODES HAVING JURISDICTION ARE HEREBY MADE A PART OF THIS DOCUMENT AND ARE TO BE STRICTLY OBSERVED BY THE CONTRACTOR IN THE CONSTRUCTION OF THE PROJECT. THIS INCLUDES THE CURRENT EDITION OF THE NATIONAL BUILDING CODE INCLUDING AMENDMENTS. IN CASE OF CONFLICT BETWEEN THESE DOCUMENTS AND THE CODE, THE CODE SHALL PREVAIL. IN CASE OF CONFLICT OR DISCREPANCY IMMEDIATELY NOTIFY THE DEPARTMENTAL REPRESENTATIVE.
 - THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURE AND FOR ALL SAFETY PROGRAMS AND PRECAUTIONS IN CONNECTION WITH THE PROJECT. NEITHER THE OWNER NOR THE ARCHITECT IS RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO FOLLOW PROPER SAFETY PROCEDURES.
 - ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN TO THE BEST PRESENT KNOWLEDGE. ANY DISCREPANCIES BETWEEN THE DOCUMENTS AND THE EXISTING CONDITIONS SHALL BE REFERRED TO THE DEPARTMENTAL REPRESENTATIVE IN WRITING PRIOR TO PROCEEDING.
 - PRIOR TO BEGINNING WORK, CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ENSURE THAT ALL WORK IS BUILDABLE AS SHOWN. CONDITIONS THAT ARE NOT REFLECTIVE OF THAT WHICH IS SHOWN SHALL BE REFERRED TO THE DEPARTMENTAL REPRESENTATIVE IN WRITING PRIOR TO COMMENCING CONSTRUCTION.
 - CONTRACTOR SHALL AT ALL TIMES PROVIDE PROTECTION TO MAINTAIN ALL WORK, MATERIALS, AND EQUIPMENT FREE FROM DAMAGE.
 - CONTRACTOR SHALL DEMOLISH/REMOVE FROM SITE ALL EXISTING CONSTRUCTION AND IMPROVEMENTS AS NECESSARY FOR COMPLETION OF WORK; CONTRACTOR SHALL SUPPLY SHORING C/W ENGINEERING WHERE NECESSARY AND AS REQUIRED.
 - CONTRACTOR MUST FOLLOW THE ABATEMENT PROCEDURES FOR DESIGNATED SUBSTANCES AS SET OUT BY THE ENVIRONMENTAL CONSULTANT.
 - PROVIDE CONSTRUCTION WASTE BIN AND RECYCLING BINS AS REQUIRED IN LOCATION APPROVED BY DEPARTMENTAL REPRESENTATIVE. RECYCLE ALL MATERIALS IF FACILITIES EXIST. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR THE COST OF WASTE DISPOSAL.
 - MATERIALS, PRODUCTS AND EQUIPMENT SHALL ALL BE NEW, EXCEPT AS SPECIFICALLY NOTED OTHERWISE. SUPPLY SHOP DRAWINGS FOR REVIEW; PROVIDE A LETTER OF CONFIRMATION THAT SUPPLIES ARE IN INVENTORY IN ADVANCE OF MOBILIZATION.
 - CONTRACTOR TO PRECISELY LOCATE ALL UTILITIES PRIOR TO ANY CONSTRUCTION AND/OR EXCAVATION.
 - PATCH/REPAIR AND MAKE GOOD ALL SURFACES AFFECTED BY CONSTRUCTION. PROVIDE ADEQUATE BLOCKING AND/OR BRACING AT WALL, HUNG OR WALL BRACED ITEMS. CUT AND PATCH FLOORS AS REQUIRED. SUPPLY AND INSTALL HIGH EARLY STRENGTH CONCRETE (24 HOURS MAX TO MEET REQUIRED STRENGTH) FOR ALL PATCHES/REPAIRS.
 - DO NOT SCALE DRAWINGS. ALL DIMENSIONS MARKED "CLEAR" SHALL BE MAINTAINED AND SHALL ALLOW FOR THICKNESS OF ALL FINISHES.
 - "TYPICAL" OR "TYP." SHALL MEAN THAT THE CONDITION IS REPRESENTATIVE FOR SIMILAR CONDITIONS THROUGHOUT, UNLESS OTHERWISE NOTED (U.O.N.). "ALIGN" SHALL MEAN TO ACCURATELY LOCATE FINISH FACES IN THE SAME PLANE. "SIMILAR OR "SIM." MEANS COMPARABLE CHARACTERISTICS FOR THE CONDITIONS NOTED. VERIFY DIMENSIONS AND ORIENTATION ON PLANS AND ELEVATIONS.
 - SUBMIT SHOP DRAWINGS AND PRODUCT INFORMATION FOR REVIEW. PROVIDE WRITTEN CONFIRMATION THAT PRODUCT AND MATERIALS REQUIRED TO COMPLETE THE WORK ARE AVAILABLE PRIOR TO COMMENCING WORK.

ABRÉVIATIONS

ALUM	ALUMINIUM	FIN	FINITION	T.O.	AU-DESSUS
CLR	OUVERTURE LIBRE	MTL	MATÉRIAU	TYR	TYPIQUE
CL	À L'AXE	N/A	NE S'APPLIQUE PAS	T&G	RAINURES ET LANGUETTES
C/W	INCLUANT	NIC	NON INCLU DANS LE CONTRAT	U/S	LE DESSOUS
DIM	DIMENSION	O.C.	ESPACEMENT	UNO	AUF INDICATION CONTRAIRE
EQ	ÉGAL	SIM	SIMILAIRE	VB	PARE-VAPEUR
EXIST	EXISTANT	TBD	À DÉTERMINER	V.I.F.	VÉRIFIER SUR PLACE
				WD	BOIS



- NOTES GÉNÉRALES DE CONSTRUCTION**
- L'ENTREPRENEUR ET TOUTS LES EMPLOYÉS ET SOUS-TRAITANTS DOIVENT POSSÉDER UNE PREUVE DE FIABILITÉ DE NIVEAU SÉCURITAIRE AVANT L'ATTRIBUTION DU CONTRAT, À LA SATISFACTION DES EXIGENCES DU PROPRIÉTAIRE.
 - LES PRÉSENTS DESSINS CONSTITUENT DES DOCUMENTS CONTRACTUELS. TOUTS LES TRAVAUX DOIVENT ÊTRE CONFORMES AUX DOCUMENTS CONTRACTUELS, Y COMPRIS LES MODIFICATIONS ET ADDENDAS ÉMIS PAR LE REPRÉSENTANT DU MINISTÈRE. TOUTS LES TRAVAUX, POUR ÊTRE ACCEPTABLES, DOIVENT ÊTRE CONFORMES À CES DOCUMENTS ET DOIVENT ÊTRE D'UNE QUALITÉ ÉGALE OU SUPÉRIEURE AUX NORMES DE L'INDUSTRIE. TOUTS CONFLITS OU DIVERGENCES DANS LES DOCUMENTS CONTRACTUELS DOIVENT ÊTRE ADRESSÉS PAR ÉCRIT AU REPRÉSENTANT DU MINISTÈRE AVANT LE DÉBUT DES TRAVAUX.
 - TOUTS LES CODES TOUTS LE CODES EN VIGUEUR FONT PARTIE DU PRÉSENT DOCUMENT ET LES ENTREPRENEURS DOIVENT S'Y CONFORMER STRICTEMENT LORS DES TRAVAUX DE CONSTRUCTION DU PRÉSENT PROJET. CE CI COMPREND L'ÉDITION ACTUELLE DU CODE NATIONAL DU BÂTIMENT, Y COMPRIS LES MODIFICATIONS. EN CAS DE CONFLIT ENTRE CES DOCUMENTS ET LE CODE, LE CODE PRÉVAUDRA. EN CAS DE CONFLIT OU DE DIVERGENCE, AVISER IMMÉDIATEMENT LE REPRÉSENTANT DU MINISTÈRE.
 - L'ENTREPRENEUR EST SEUL RESPONSABLE DES MOYENS DE CONSTRUCTION, DES MÉTHODES, DES TECHNIQUES, DES SÉQUENCES ET DE LA PROCÉDURE ET DE TOUTS LES PROGRAMMES ET PRÉCAUTIONS DE SÉCURITÉ EN RAPPORT AVEC LE PROJET. NI LE PROPRIÉTAIRE, NI L'ARCHITECTE NE SONT RESPONSABLES DE L'INCAPACITÉ DE L'ENTREPRENEUR À RESPECTER LES PROCÉDURES DE SÉCURITÉ APPROPRIÉES.
 - TOUTES LES INFORMATIONS INDIQUÉES SUR LES DESSINS RELATIVES AUX CONDITIONS EXISTANTES SONT DONNÉES AVEC LES MEILLEURES CONNAISSANCES ACTUELLES. LES DIVERGENCES ENTRE LES DOCUMENTS ET LES CONDITIONS EXISTANTES DOIVENT ÊTRE RENVYÉES AU REPRÉSENTANT DU MINISTÈRE PAR ÉCRIT AVANT LE DÉBUT DES TRAVAUX.
 - AVANT DE COMMENCER LE TRAVAIL, L'ENTREPRENEUR DOIT VÉRIFIER TOUTES LES DIMENSIONS ET S'ASSURER QUE TOUT LE TRAVAIL EST CONSTRUIT COMME INDIQUÉ. LES CONDITIONS QUI NE RÉFLÈTENT PAS CE QUI EST INDIQUÉ DOIVENT ÊTRE RENVYÉES AU REPRÉSENTANT DU MINISTÈRE PAR ÉCRIT AVANT DE COMMENCER LA CONSTRUCTION.
 - L'ENTREPRENEUR FOURNIT EN TOUT TEMPS UNE PROTECTION POUR MAINTENIR TOUTS LES TRAVAUX, MATÉRIEL ET ÉQUIPEMENTS SANS EXEMPTS DE DOMMAGES.
 - L'ENTREPRENEUR DOIT DÉMOLIR / ÉVACUER DU SITE TOUTES LES CONSTRUCTIONS EXISTANTES ET LES AMÉLIORATIONS NÉCESSAIRES POUR L'ACHÈVEMENT DES TRAVAUX; L'ENTREPRENEUR FOURNIT L'ÉTAGAGE ET L'INGÉNIEURIE LORSQUE NÉCESSAIRE ET SELON LES BESOINS.
 - L'ENTREPRENEUR DOIT RESPECTER LES PROCÉDURES D'ENLÈVEMENT ET D'ÉLIMINATION DES SUBSTANCES DESIGNÉES ÉTABLIES PAR LE CONSULTANT EN ENVIRONNEMENT.
 - FOURNIR DES BACS DE DÉCHETS DE CONSTRUCTION ET DES BACS DE RECYCLAGE SELON LES BESOINS, AUX ENDROITS APPROUVÉS PAR LE REPRÉSENTANT DU MINISTÈRE. RECYCLER TOUTES LES MATIÈRES OU LES INSTALLATIONS EXISTENT. L'ENTREPRENEUR SERA SEUL RESPONSABLE DU COÛT DE L'ÉLIMINATION DES DÉCHETS.
 - LES MATÉRIEL, PRODUITS ET ÉQUIPEMENTS DOIVENT ÊTRE NEUFS, SAUF INDICATION SPÉCIFIQUE CONTRAIRE. FOURNIR DES DESSINS D'ATELIER POUR L'EXAMEN; FOURNIR UNE LETTRE DE CONFIRMATION QUE LES FOURNITURES SONT EN INVENTAIRE AVANT LA MOBILISATION.
 - L'ENTREPRENEUR DOIT LOCALISER PRÉCISÉMENT TOUTS LES SERVICES PUBLICS AVANT TOUTE CONSTRUCTION ET / OU EXCAVATION.
 - RÉPARER ET REMETTRE EN ÉTAT TOUTES LES SURFACES TOUCHÉES PAR LES TRAVAUX DE CONSTRUCTION. ASSURER LE BLOCAJE OU L'ÉTAGAGE ADEQUAT DES ARTICLES FIXÉS OU SUSPENDUS AUX MURS. DÉCOUPER ET RÉPARER LES PLANCHERS SELON LES BESOINS; FOURNIR ET INSTALLER DU BÉTON DE HAUTE RÉSISTANCE INITIALE (POUVANT ATTEINDRE LA RÉSISTANCE REQUISE EN MOINS DE 24 HEURES) POUR TOUTES LES RÉPARATIONS.
 - IL EST INTERDIT DE RELEVER DES DIMENSIONS À L'ÉCHELLE SUR LES DESSINS. TOUTES LES DIMENSIONS MARQUÉES "CLR" DOIVENT ÊTRE MAINTENUES ET PERMETTENT L'ÉPAISSEUR DE TOUTES LES FINITIONS.
 - "TYPIQUE" OU "TYP." SIGNIFIE QUE CETTE CONDITION EST REPRESENTATIVE POUR DES CONDITIONS SIMILAIRES TOUT AU LONG DE LA MESURE, SAUF INDICATION CONTRAIRE (U.O.N.). "ALIGN" SIGNIFIE DE LOCALISER AVEC PRÉCISION LES FACES DE FINITION DANS LE MÊME PLAN. "SIMILAR" OU "SIM." SIGNIFIE DES CARACTÉRISTIQUES COMPARABLES POUR LES CONDITIONS INDIQUÉES; VÉRIFIER LES DIMENSIONS ET L'ORIENTATION DES PLANS ET DES ÉLÉVATIONS.
 - SOUMETTRE DES DESSINS D'ATELIER ET DES INFORMATIONS SUR LE PRODUIT POUR L'EXAMEN. FOURNIR UNE CONFIRMATION ÉCRITE QUE LE PRODUIT ET LES MATÉRIELS REQUIS POUR EFFECTUER LE TRAVAIL SONT DISPONIBLES AVANT D'ENTREPRENDRE DES TRAVAUX.



BUILDING 50 MAIN FLOOR PLAN
PLAN D'ÉTAGE AU REZ-DE-CHAUSSÉE, DE L'ÉDIFICE 50
Scale: 1:300 Échelle 1:300

SEAL / SCEAU

CONSULTANTS / EXPERTS-CONSEILS

KEY PLAN / PLAN CLÉ

#	ISSUE / REVISION	DATE
01	ISSUED FOR CLIENT REVIEW	OCT 7 2019
01	À FAIRE RÉVISER PAR LE CLIENT	7 OCT 2019

PROJECT NAME

CENTRAL EXPERIMENTAL FARM
Building 50
Labs/Genomics
RENOVATIONS
OTTAWA, ON

NOM DU PROJET
FERME EXPÉRIMENTALE CENTRALE

Édifice 50
Laboratoires/
Génomique
RÉNOVATIONS
OTTAWA, ONTARIO

SHEET TITLE / TITRE DE LA FEUILLE

COVER SHEET
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SHEET / FEUILLE

A-001

1) SOMMAIRE DES TRAVAUX

Travaux visés par les documents contractuels

1. Les Travaux faisant l’objet du présent contrat comprennent la rénovation, la construction générale incluant menuiserie, plomberie, l’électricité, mécanique, structure et travaux connexes.
2. L’information plomberie, l’électricité, mécanique, structure est fournie pour la référence seulement. Reportez-vous aux schémas et spécifications de plomberie, mécanique, électrique, structure.

3. Une description détaillée, des dessins de construction et des spécifications de matériaux sont fournis, notamment:

- Les dimensions, les finitions et les sélections de matériel de menuiserie.
- Spécifications des appareils, y compris l'évier et le robinet. Appareils par des tiers.
- Notes pour la construction:
 - Le travail doit être coordonné avec le Représentant du Ministère.
 - Enlever les finis, l'équipement, la menuiserie et toute autre construction requise pour terminer le travail.
 - Réparer ou remplacer selon les directives, aux fins de raccordement à l'ouvrage existant ou à un ouvrage adjacent, ou aux fins d'harmonisation avec ceux-ci, les parties de l'ouvrage existant qui ont été modifiées durant les travaux de construction.
 - Fournir tous les matériaux et effectuer tous les travaux pour une installation complète.

Documents Complémentaires

- Dessins, cahiers des charges et horaires sont complémentaires et ce que l'on appelle à être contraignant comme si tous le réclamant. Si une divergence apparaît entre les documents, ce qui laisse planer un doute sur l'intention ou la signification, contactez le Représentant du Ministère pour obtenir des directives.
- Revoir les dessins d'atelier, les fiches techniques, les échantillons ainsi que les autres documents à soumettre. Signaler au Représentant du Ministère tous les écarts observés ou les problèmes prévus à cause de la non-conformité des produits avec les exigences des Documents Contractuels.

Ordre d'exécution des travaux

- Coordonner le calendrier d’avancement des travaux avec le Représentant du Ministère.
- Complétez le travail conformément aux exigences.

Utilisation des lieux par l’Entrepreneur

- Coordonner l’utilisation des lieux selon les directives du Représentant du Ministère.
- L’utilisation des lieux est restreinte aux zones afin de permettre : l’occupation des lieux par le Maître de l’ouvrage et l’utilisation des lieux par le public.

Occupation partielle des lieux par le Maître de l’ouvrage

- Le Maître de l’ouvrage occupera les lieux pendant toute la durée des travaux de construction et poursuivra ses activités normales durant cette période.
- Collaborer avec le Maître de l’ouvrage à l’établissement du calendrier des travaux, de manière à réduire les conflits et à faciliter l’utilisation des lieux par ce dernier.
- Maintenir l’accès aux fins de la lutte contre l’incendie; prévoir également les moyens de lutte contre l’incendie.

Services d'utilités existants

- Avant d’interrompre des services d’utilités, en informer le Représentant du Ministère ainsi que les entreprises d'utilités concernées, et obtenir les autorisations nécessaires.
- S'il faut exécuter des plaques sur les canalisations d'utilités existantes ou des raccordements à ces canalisations, donner au Représentant du Ministère un avis préalable de 48 heures avant le moment prévu d'interruption des services électriques ou mécaniques correspondants.

Palissades

- Ériger, autour du chantier, une palissade temporaire constituée d’éléments d’ossature en bois de construction de 38 mm x 89 mm disposés à 900 mm d’entraxe, et de panneaux de contreplaqué de sapin, pour l’extérieur, de 1200 mm x2400 mm x 13 mm , conforme à la norme CSA O211.
- Poser les panneaux de contreplaqué à la verticale, et les assembler bout à bout et d’affleurement.
- Prévoir au moins une porte piétonne, selon les directives. Prévoir des serrures et des clés pour la porte.

Écrans pare-poussière et protection des surfaces finies du bâtiment

- Prévoir des écrans pare-poussière ou des cloisons pour fermer les espaces où sont exécutées des activités génératrices de poussière, afin de protéger les travailleurs, le public et les surfaces ou les secteurs fins de l’ouvrage.
- Garder ces écrans et les déplacer au besoin jusqu'à ce que ces activités soient terminées.
- Pendant toute la période d’exécution des travaux, protéger le matériel ainsi que les surfaces complètement ou partiellement finies de l’ouvrage.
- Prévoir les écrans, les bâches et les barrières nécessaires.
- Trois (3) jours avant l’installation des éléments de protection, confirmer avec le Représentant du Ministère l’emplacement de chacun ainsi que le calendrier d’installation.

L'achèvement substantiel des travaux

- Les exigences du propriétaire telles que stipulées dans l'accord avec le Maître de l'ouvrage.

Paiement de la retenue à l'achèvement substantiel des travaux

- Les exigences du propriétaire telles que stipulées dans l'accord avec le Maître de l'ouvrage.

Paiement final

- Les exigences du propriétaire telles que stipulées dans l'accord avec le Maître de l'ouvrage.

2) EXIGENCES D'ADMINISTRATION

1. Effectuer la coordination des calendriers d’avancement, des soumissions, de l’utilisation du site, des services publics temporaires, des installations de construction et des travaux de construction, avec l’avancement du travail des autres.

Soumissions

- Soumettre les demandes d’interprétation des documents contractuels au Représentant du Ministère.

Achèvement des travaux

- Aviser le Représentant du Ministère lorsque le travail est jugé prêt pour l’achèvement substantielle.
- Accompagner le Représentant du Ministère à l’inspection préliminaire pour déterminer les éléments énumérés pour l’achèvement ou la correction.
- Se conformer aux instructions du Représentant du Ministère pour la correction des éléments de travail énumérés.
- Aviser le Représentant du Ministère à la fin des travaux.

Gestion des déchets, stockage et élimination

- L’entrepreneur doit fournir des bacs de recyclage et des déchets et éliminer les matériaux de façon légale. L’utilisation de la poubelle du propriétaire est interdite sauf accord contraire du Représentant du Ministère.
- Entreposer les matériaux devant être réutilisés, recyclés et récupérés aux endroits indiqués par le Représentant du Ministère.
- L’élimination des déchets dans les cours d’eau, les égouts pluviaux, les égouts sanitaires ou sur le site est interdite.

Utilisation du site et des installations

- Effectuer les travaux en perturbant le moins possible l’utilisation normale des lieux.
- Fournir des mesures de sûreté et de sécurité temporaires selon les directives du Représentant du Ministère.

Nettoyage

- Retirer les outils et les déchets à la fin des travaux et laisser la zone de travail et le site dans un état propre et ordonné. Nettoyez la zone de travail au fur et à mesure que le travail progresse.

Lois, avis, permis et frais

- L’entrepreneur doit obtenir, moyennant paiement de tous les frais connexes, les permis, les licences, les certificats et les approbations requises par les règlements et les Documents contractuels, conformément au Conditions générales du contrat.
- Donner les avis requis et se conformer aux lois, ordonnances, règles, règlements ou codes qui sont ou deviennent en vigueur pendant l’exécution des travaux et qui se rapportent aux travaux.
- Pour exécuter ou permettre sciemment d’exécuter un travail, qui est contraire aux lois, ordonnances, règles, règlements ou codes, le contractant est responsable et doit corriger les violations, et doit supporter les coûts, dépenses et dommages imputables au défaut de le faire.

Examen par le Représentant du Ministère

- Le Représentant du Ministère peut ordonner la révision de toute partie des travaux, si les travaux sont soupçonnés de ne pas être conformes aux documents contractuels.

Travail rejeté

1. Enlever les travaux défectueux, qu'ils résultent d'un mauvais travail, de l'utilisation de produits défectueux ou de dommages et qu'ils soient incorporés ou non dans le travail, ce qui a été rejeté par le Représentant du Ministère comme non conforme aux documents contractuels. Remplacer ou ré-exécuter conformément aux documents contractuels.

3) EXIGENCES GÉNÉRALES CONCERNANT LES PRODUITS

Qualité

- En cas de conflit quant à la qualité ou à la convenance des produits, seul le Représentant du Ministère pourra trancher la question en se fondant sur les exigences des Documents Contractuels.
- Prendre connaissance des exigences relatives à la livraison des produits et prévoir tout retard éventuel. Si des retards dans la livraison des produits sont prévisibles.
- Maintenance et entreposer les produits en évitant de les endommager, de les altérer ou de les salir, et en suivant les instructions du fabricant, le cas échéant. Entreposer et laisser intacts l'emballage, l'étiquette et le sceau du fabricant.

Références et normes

- Pour les produits ou la main-d’œuvre spécifiés par l’association, le commerce ou d’autres normes consensuelles, se conformer aux exigences de la norme, sauf lorsque des exigences plus rigides sont spécifiées ou sont requises par les codes applicables.
- Conforme à la norme de référence par date spécifiée dans les sections de spécifications individuelles (le cas échéant), sauf lorsqu’une date spécifique est établie ou exigée par le code.
- Les renseignements nécessaires concernant les modifications à apporter à d’autres ouvrages ou à d’autres produits en raison de l’utilisation de chacune des solutions de remplacement proposées doivent être fournis.

- Si les documents d’appel d’offres spécifient un produit particulier, les solutions de remplacement seront prises en considération par le Représentant du Ministère jusqu’à trois (3) jours avant la réception des soumissions.
- Si l’on reçoit une demande en vue de la substitution ou du remplacement d’un produit ou d’un système par un autre, le Représentant du Ministère peut autoriser le recours à une solution de remplacement; Il transmettra dans ce cas un addenda aux soumissionnaires connus.
- Les renseignements nécessaires concernant les modifications à apporter à d’autres ouvrages ou à d’autres produits en raison de l’utilisation de chacune des solutions de remplacement proposées doivent être fournis.
- À moins que les solutions de remplacement ne soient présentées de la manière indiquée ci-dessus et ensuite approuvées, fournir les produits et les systèmes prescrits.
- Les solutions de rechange aux produits spécifiés après la clôture des soumissions seront UNIQUEMENT considérées à la discrétion du Représentant du Ministère.

Instructions du fabricant

- Suivre prescription contenue dans le devis, installer ou mettre en place les produits selon les instructions du fabricant. Obtenir directement du fabricant un exemplaire de ses instructions écrites.
- Aviser par écrit le Représentant du Ministère de toute divergence entre les exigences du devis et les instructions du fabricant, de manière qu’il puisse prendre les mesures appropriées.

Qualité de travail

- S'assurer que la qualité du travail est égale ou supérieure à la norme localement acceptable, exécutée par des travailleurs expérimentés et qualifiés dans les fonctions respectives pour lesquelles ils sont employés.
- Les décisions relatives à la qualité ou à la qualité de travail en cas de litige ne sont prises que par le Représentant du Ministère, dont la décision est définitive.
- Effectuer les travaux de remise en état requis pour réparer ou remplacer les pièces ou les parties de travaux jugées défectueuses ou inacceptables. Coordonner les travaux adjacents touchés au besoin.

Exécution des travaux

- Exécuter les travaux de découpage, d’ajustement et de ragréage nécessaires à la réalisation de l’ouvrage. Enlever ou remplacer les éléments défectueux, ou non conformes.
- Ne pas couper dans un composant structural sans l’approbation écrite de l’ingénieur retenu par le Maître de l’ouvrage.
- Recourir à des méthodes qui n’endommageront pas les autres éléments de l’ouvrage et qui permettront d’obtenir des surfaces se prêtant aux travaux de ragréage et de finition.

4) ACHÈVEMENT DES TRAVAUX

Documents / Éléments à Remettre à l’Achèvement des travaux

- Préparer les instructions et les données en utilisant du personnel expérimenté dans la maintenance des produits décrits.
- Deux (2) semaines avant l’achèvement substantiel des travaux, soumettre au représentant du ministère deux (2) exemplaires définitifs des manuels d’exploitation et d’entretien.
- Les matériaux et les matériels de remplacement, les outils spéciaux et les pièces de rechange fournis doivent être neufs, non endommagés et sans défaut.
- Dessins et devis: Fournir un (1) ensemble de documents annotés identifiant les changements ou les modifications aux dessins et devis contractuels originaux, consigner les renseignements au fur et à mesure de l’avancement du projet. Une copie de l’original balisé ou numérisé en format PDF est acceptable.

Garanties

- Obtenir les garanties, signées en double exemplaire par les sous-traitants, les fournisseurs et les fabricants, dans les dix (10) jours suivant l’achèvement du lot de travaux concerné. Désigner le nom sur le document de garantie, au nom du Maître de l’ouvrage.
- Début des périodes de garantie. la date d’achèvement substantiel des travaux sera la date de début de la période de garantie.

Matériaux et produits de finition

- Matériaux de construction, produits de finition et autres produits à appliquer : fournir les fiches techniques et indiquer le numéro de catalogue, les dimensions, la composition ainsi que les désignations des couleurs et des textures des produits et des matériaux.
- Fournir les instructions concernant les agents et les méthodes de nettoyage ainsi que les calendriers recommandés de nettoyage et d’entretien, et indiquer les précautions à prendre contre les méthodes préjudiciables et les produits nocifs.

Maintenance Materials

- Fournir les matériaux et les matériels de remplacement selon les quantités indiquées dans les différentes sections techniques du devis.

5) LISTES ET TABLEAUX

Spécifications et matériel de menuiserie

Menuiserie: Sommaire des travaux

- Fournir des amiroirs et des comptoirs, y compris tout le matériel et les accessoires pour une installation complète. Pour la disposition, s’en remettre aux dessins.

Spécification Menuiserie

- Effectuer les travaux conformément au Manuel des normes de qualité de l’Association des fabricants de boiserie architecturales du Canada (AWMAC), édition actuelle.
- Catégorie: Normes d’AWMAC Custom Grade
- Soumettre des dessins d’atelier et des échantillons:
 - Soumettre des dessins d’atelier conformes aux normes de l’AWMAC (détails de construction, matériaux, épaisseurs, finis et quincaillerie).
 - Soumettre deux échantillons de matériaux et de finis de 300 x 300 mm des couleurs standard offertes par le fabricant, aux fins de sélection par le Représentant du Ministère.
- Deux (2) échantillons de la quincaillerie proposée pour les amiroirs.
- Exigences de conception durable:
 - Les adhésifs et produits d’étanchéité doivent être à base d’eau et à faible teneur en COV.
 - Les contreplaqués et les produits de bois composite ne doivent pas contenir de résines ou d’adhésifs d’urée-formaldéhyde ajoutés, et les adhésifs stratifiés ne doivent pas contenir d’urée-formaldéhyde.

Matériaux pour Plans de Travail:

Acier inoxydable:

- Acier inoxydable pour [C1].
- Tôle d’acier inoxydable : conforme à la norme ASTM A240/A240M , nuance Type 304, surface apparente ayant un fini poli n 4. 1.5mm.

Plans de Travail:

- Plans de travail, dosserets fabriqués selon les indications.
- Les plans de travail et les dosserets doivent être fabriqués avec des éléments aussi longs que possible.
- Les plans de travail doivent être découpés de manière que soient réalisées les ouvertures nécessaires à l’installation de la robinetterie, des accessoires et des appareils.
- Les rives et les angles apparents des parties découpées doivent être arrondis ou chanfreinés.
- Le stratifié doit être collé sur la surface de l’âme, sur le dosseret et sur les rives, par pression et par application de chaleur.

- Les bords des surfaces et des plans de travail en tôle d’acier inoxydable de 1.5mm.
- Les plans de travail en tôle doivent être renforcés avec des profilés de 32mm.
- Les plans de travail renforcés de profilés d’acier doivent être fixés aux amiroirs au moyen de boulons.

- Les revêtements métalliques doivent être collés, à l’aide de colle contact, sur une âme en panneaux hydrofuges de particules ou de contreplaqué.
- Les angles rentrants du revêtement métallique doivent être arrondis à un rayon de 12 mm. Un enduit insonorisant d’au moins 3 mm d’épaisseur doit être appliqué sous la tôle.
- Les rives et les surfaces apparentes doivent être finies de la même manière que celle indiquée pour les plans de travail.
- 12.Un jeu doit être laissé autour des éléments fixes qui pénètrent ou traversent le matériel du plan de travail, afin de permettre leur libre mouvement.
- 13.Joints: étanches, mécaniques ou soudés, assemblés sur place.

Éviers de Laboratoire:

- Sauf indication contraire, les éviers doivent être munis d’un raccord d’évacuation, d’une crépine cucuriforme, d’un bouchon et d’un trop-plein.
- Fournir un trop-plein vertical et le poser de manière qu’après son installation le sommet du tube soit à 25 mm au-dessous du niveau de débordement de l’évier. Fournir et poser une grille de sécurité, dont la partie supérieure doit être à 12 mm au-dessous du niveau de débordement.
- L’emplacement des sorties d’évacuation doit être déterminé selon les indications.
- Éviers en acier inoxydable : conformes aux normes ASTM E51 et ASTM E478, en acier inoxydable de 1.4 mm d’épaisseur, de nuance 304, soudés sans métal d’apport, surface apparente ayant un fini poli n 4.
 - Les éviers doivent être intégrés aux plans de travail si ces derniers sont également en acier inoxydable.
 - Lorsque les plans de travail ne sont pas en acier inoxydable, des éviers en acier inoxydable à bord intégré doivent être installés d’affleurement avec le dessus des plans de travail.
 - Des brides de fixation appropriées à ce type d’évier doivent alors être fournies.
 - Un revêtement insonorisant doit être appliqué sous les éviers et les égouttoirs.
 - Les raccords d’évacuation doivent être en acier inoxydable .

Amiroirs:

- Les amiroirs doivent être constitués de montants et de traverses en bois massif, de panneaux en contreplaqué ou en particules de bois, assemblés en queue d’aronde, à tenon et mortaise exécutés à la machine ou par embranchement dissimulé, collés et visés de bonne façon. Les pièces de charpente doivent se prolonger d’au moins 6 mm dans les panneaux. Les panneaux doivent être fixés aux montants par un assemblage à rainure et languette.
- Les rives apparentes des pièces en contreplaqué ou en particules de bois doivent être recouvertes d’une tringle plate en bois dur de 6 mm, collée et clouée en place.
- Côtes : panneaux de contreplaqué à sept (7) plis ou de particules de bois de 19 mm d’épaisseur, fixés aux montants par un assemblage à rainure et languette.
- Dos : en panneau dur ou panneaux de contreplaqué de 6 mm d’épaisseur, sur toute la largeur de l’amiroir.
- Fond : en panneaux de contreplaqué de 19 mm d’épaisseur fixés aux traverses du devant de l’amiroir, avec un assemblage à rainure et languette.
- Plinthe : en panneaux durs ou contreplaqué de 19 mm d’épaisseur, qui doit être recouvert d’un matériel souple.
- Chaque amiroir doit être munie de quatre (4) glissières réglables, dissimulées.
- Les amiroirs doivent être munies de panneaux de dos amovibles, de panneaux avec espace pour les genoux ou de portes d’accès aux endroits où passent de la tuyauterie et des fils électriques.
- Le mobilier doit comporter les ouvertures nécessaires à l’installation des appareils sanitaires, des pièces encastrées, des appareils électriques, des boîtes de prises de courant et autres accessoires.
- Les éléments doivent être assemblés en usine prêts à être livrés par ensembles faciles à manipuler et de dimensions permettant leur passage par les ouvertures du bâtiment.

Portes:

- Portes à âme en panneau de particules, bordée, sur tout le pourtour, d’une bande en bois dur de 38 mm de largeur.
- Chaque des deux faces de l’âme doit être recouverte de deux (2) plis de placage en bois dur à 45° croisé, et d’un placage de revêtement pour obtenir une porte d’une épaisseur totale de 19 mm en sept (7) plis.
- Rebord de 10 mm x 6 mm des deux côtés des portes et rainure de 12 mm dans le butoir, au point de rencontre des portes doubles.

Tablettes:

- Les tablettes doivent être en contreplaqué de 19 mm d’épaisseur avec rives apparentes recouvertes d’une bande.
- Les tablettes doivent être soutenues par des étriers de fixation réglables insérés dans des montants métalliques encastrés.

Installation:

- Installer le mobilier d’aplomb; l’écart admissible est de 1.5 mm par longueur de 3 m quant au niveau des plans de travail.
- Régler les vis de nivellement des amiroirs au sol afin de mettre ces derniers de niveau.
- Ajuster les bandes de rives et les découper en fonction des irrégularités des surfaces adjacentes.
- Assujettir les amiroirs murales à l’aide de consoles continues en acier galvanisé.
- Boulonner entre elles les amiroirs adjacentes et poser des pastilles en plastique sur les trous de boulons.
- Appliquer un micon cordon de produit d’étanchéité le long du joint entre le plan de travail et le mur.
- Une fois l’installation terminée, ajuster la quincaillerie de manoeuvre.

Peintures

Soumissions

- Fournir deux (2) panneaux échantillons de 200 mm x 300 mm de chaque peinture prescrite de chaque couleur, texture et degré de brillant ou de lustre requis conformément aux exigences du MPI Architectural Painting Specification Manual.

Assurance de la qualité

Conformément au présent contrat, préparer les surfaces intérieures et effectuer les travaux de peinture conformément aux exigences du MPI Architectural Painting Specifications Manual.

Matériaux/Matériels

- Revêtements: Prêt à l’emploi. Traiter les pigments à une consistance de pâte molle, capable d’être appliquée et uniformément dispersés à un revêtement homogène, de bonnes propriétés conformement et de brosseage; capable de sécher ou de sécher sans stries ni affaissements.
- Tous les produits formant le système de peinture choisi doivent provenir du même fabricant.
- Matériaux accessoires: Autres matériaux, non spécifiquement indiqués mais nécessaires pour obtenir les finis spécifiées, de qualité commerciale.
- Matériel de rapiéçage: Matériaux requis pour réparer les surfaces existantes avant l’application des revêtements.

Travaux préparatoires

- Protégez les surfaces adjacentes avant de préparer les surfaces ou les finis.
- Retirer ou masquer les plaques électriques et la quincaillerie au besoin avant de préparer les revêtements existants qui présentent des défauts de surface lèche.
- Corriger les défauts et nettoyer les surfaces qui affectent le travail de cette section. Enlever les revêtements existants qui présentent des défauts de surface lèche.
- Surfaces de plaques de plâtre: Remplir les défauts mineurs avec un composé de remplissage. Repérer les défauts principaux après réparation.

Application

- À moins d’indications contraires, appliquer le produit selon les instructions du fabricant.
- Laisser les surfaces sécher et durci adéquatement après le nettoyage et entre chaque couche successive, en attendant le temps minimum recommandé par le fabricant.
- Appliquer chaque couche de peinture de manière à obtenir un film continu, d’une épaisseur uniforme. Reprendre les surfaces dénudées ou recouvertes d’un film trop mince avant d’appliquer la couche suivante.
- Poncer et dépoussiérer les surfaces entre chaque couche afin d’éliminer les défauts apparents.

Des murs et plafonds:

- Une (1) couche d’apprêt d’apprêt acrylique à 100%. Apprêt approprié au substrat et compatible avec les couches de finition tel que recommandé par le fabricant.
- Deux (2) couches, 100% acryliques: Fini perlé (murs), Fini Mat (plafonds)

Revêtements en plaques de plâtre

Assurance de la qualité

- Effectuer le travail conformément aux normes ASTM C840 et GA-214

Matériaux/Matériels

- Plaques ordinaires : conformes à la norme ASTM C1396/C1396M-14, de type ordinaire, de 12,7 mm d’épaisseur, de 1200 mm de largeur et de la longueur utile maximale, avec rives équilibrées aux extrémités et rives biseautées sur les côtés.
- Profilés de fourrure pour cloisons sèches : en acier galvanisé, à âme de 0.5 mm d’épaisseur, permettant la fixation des plaques de plâtre au moyen de vis.
- Vis percées en acier : conformes à la norme ASTM C1002-14.

- Moules d’affleurement, renforts d’angles, joints de retrait et bordures : conformes à la norme ASTM C1047, en métal, d’une épaisseur à nu de 0.5 mm, à ailes perforées, d’un seul tenon.

Bordure: Type L

- Plâtre à joints : conforme à la norme ASTM C475, sans amiante.

Montage

- Sauf indication contraire, exécuter la pose et la finition des revêtements en plaques de plâtre conformément à la norme ASTM C840.
- Poser les revêtements conformément à la norme ASTM C1280.

Pose

N ne pas poser les plaques de plâtre avant que les bâts d’attente, les ancrages, les cales, les matériaux acoustiques isolants ainsi que les installations électriques et mécaniques aient été approuvés.

- Poser les plaques de plâtre aux fourures ou à la charpente selon la norme ASTM C840.
- Poser les plaques murales à la verticale ou à l’horizontale, selon le sens qui donnera le moins possible de joints de rive ou d’extrémité.
- Appliquer un cordon continu de 12 mm de diamètre d’un produit d’étanchéité acoustique sur le pourtour de chaque paroi de cloison, au point de rencontre des plaques de plâtre et de la charpente. Là où les cloisons abutent les éléments fixes du bâtiment. Sceller parfaitement toutes les découpes pratiquées autour des boîtes électriques et des conduits.
- Poser les plaques de plâtre à la verticale sur les murs afin d’éliminer les joints d’aboutement.
- Placer les joints d’aboutement sur les éléments supports. Décaler les joints verticaux sur différents poteaux de chaque côté du mur.

Installation

- Poser des moules d’affleurement à la jonction des plaques de plâtre et des surfaces sans couvre-joint, ainsi qu’aux divers endroits indiqués. Sceller les joints avec un produit d’étanchéité.
- Enter les couronnements aux angles et aux intersections, et les fixer à chaque élément au moyen de trois (3) vis.
- Finir les joints entre les plaques et dans les angles rentrants au moyen des produits suivants:
 - Plâtre à joint, ruban et enduit pour ruban. Appliquer ces produits selon les recommandations du fabricant et lisser en amincissant le tout de façon à rattraper le fini de la surface des plaques.
 - Finition des plaques de plâtre : Degré 4
 - Noyer le ruban posé sur les joints et les angles intérieurs dans une pâte à joint et appliquer trois couches distinctes de pâte sur les joints, les angles et la tête des dispositifs de fixation et autres accessoires/angles. Les surfaces doivent être lisses et exemptes de marques d’air et de bosses.
 - Recouvrir les moules d’utils, les joints de retrait et, au besoin, les garnitures, de deux couches de pâte à joint et d’une couche d’enduit à ruban lissées et amincies de façon à rattraper le fini de la surface des plaques.
 - Remplir les dépressions laissées par la tête des vis avec de la pâte à joint et de l’enduit à ruban jusqu’à l’obtention d’une surface unie d’affleurement avec les surfaces adjacentes des plaques de plâtre de façon que ces dépressions soient invisibles une fois la finition terminée.
 - Poncer légèrement les extrémités irrégulières et les autres imperfections. Éviter de poncer les surfaces adjacentes.
 - Une fois la pose terminée, l’ouvrage doit être lisse, de niveau ou d’aplomb, exempt d’ondulations et d’autres défauts, et prêt à être livré d’un enduit de finition.

Protection coupe-feu.

Documents et échantillons à soumettre

- Fiches techniques :
 - Soumettre les fiches techniques requises ainsi que les spécifications et la documentation du fabricant. Préciser les caractéristiques des produits, les critères de performance, les dimensions, les contraintes et la finition.
- Soumettre deux (2) exemplaires des fiches signalétiques du Système d’information sur les matières dangereuses utilisées au travail (SIDMUT).

Matériaux/matériels

- Ensembles coupe-feu et pare-fluée : conformes à la norme CAN- ULC-S115.
 - Matériaux et ensembles exempts d’amiante, constituant une barrière efficace contre les flammes, les fumées et les gaz, conformément à la norme CAN-ULC-S115, ayant des dimensions n’excédant pas celles de la traverse ou du point d’accès auquel ils sont destinés.
- Ensembles coupe-feu pour traversées de services d’utilités: éprouvés au moyen d’essais réalisés selon la norme CAN- ULC-S115.
- Composants d’ensembles coupe-feu pour traversées de services d’utilités: certifiés par un laboratoire d’essai selon la norme ULC-S115.
- Le degré de résistance au feu des ensembles coupe-feu installés doit être conforme aux exigences du CNB.
- Ensembles coupe-feu et pare-fluée installés aux points d’accès à des installations dissimulées, des câbles par exemple; joints en élastomère.
- Ensembles coupe-feu et pare

Volets Roulants

Soumissions

1. Données du produit:

1. Soumettre les fiches techniques du fabricant pour chaque type de teinte fourni dans cette section. Inclure les détails de construction, les dimensions de chaque nuance et la description de chaque composant.

2. Dessins d'atelier:

1. Fournir des dessins d'atelier, préparés après la prise de mesures sur le terrain, indiquant l'emplacement et l'étendue des stores à rouleaux d'embrayage à chaîne.

1. Fournir des élévations, des sections et des détails. Afficher les tailles de tube et de support pour chaque condition.

2. Montrer la taille et l'emplacement du blocage et du support requis pour l'installation des stores. Afficher les détails de montage et la méthode de fixation des stores au support.

3. Échantillons:

1. Matériau d'ombre: Pas moins de 75mm x 75mm, avec les traitements spécifiés appliqués. Illustrer la gamme complète de couleurs et de textures disponibles pour la sélection.

2. Cantonnière / fascia: soumettre des échantillons de 75mm de fini spécifié.

4. Instructions d'installation: Soumettre les instructions d'installation complètes du fabricant.

Conditions du site

1. N'installez pas les stores à rouleau tant que la construction et les travaux de finition humides et sales dans les espaces, y compris la peinture, ne sont pas terminés. Le système de climatisation doit fonctionner et la température ambiante doit être comprise entre 15°C et 30 °C. L'humidité relative doit être comprise entre 45% et 65%.

2. Mesures sur le terrain: Vérifier les dimensions de la construction adjacente par des mesures sur le terrain avant la fabrication. Autoriser les dégarèments pour le matériel de fonctionnement des unités vitrées.

Matériaux

Le système d'abat-jour d'embrayage à chaîne doit comprendre un rouleau, des supports pour supporter le rouleau, un tissu flexible supporté par le rouleau, un moyen de fixation du rouleau, une barre inférieure et un opérateur de chaîne pour soulever et abaisser l'abat-jour.

1. Tissu: mélange de polyester et d'acrylique sans PVC.

1. Modèle: Comme choisi parmi la gamme complète du fabricant

2. Style: Comme choisi parmi la gamme complète du fabricant

3. Couleurs: Comme choisi parmi la gamme complète du fabricant

4. Propriétés solaires-optiques matérielles:

a. Facteur d'ouverture matérielle: 3%

b. Matériau UV Blockage: 97%

5. Caractéristiques de réaction au feu: NFPA 701-1999, CANULS S109

2. Mécanisme d'embrayage: Plastique PA-6 résistant à la corrosion avec fibre de verre et mécanisme interne de construction en nylon 6. Prévoir un ressort unique robuste qui crée une relation mécanique positive entre l'unité de tube de store à rouleaux et les supports d'installation universels pour assurer un positionnement stationnaire à l'état statique. Lorsqu'il est activé, le ressort d'enroulement doit se détacher et permettre à l'embrayage de tourner tout en réduisant la friction sur l'embrayage. Les mécanismes d'embrayage à ressorts multiples ne sont pas acceptables.

1. Système de verrouillage de l'embrayage: L'embrayage doit être muni d'un système de verrouillage qui empêche l'ombre de sortir de ses supports si l'abat-jour est mal actionné.

3. Capuchon d'extrémité du ralenti chargé par ressort: L'extrémité libre de l'embrayage doit être à ressort pour assurer un ancrage sécurisé dans le support d'extrémité.

4. Mécanisme de tube: aluminium extrudé T6 avec une épaisseur de paroi d'au moins 1.6mm. Chaque tube doit avoir au moins une fente de fixation de tissu Secure Grip Spine pour augmenter la rigidité du tube et éliminer l'affaissement lorsque l'abat-jour est actionné. L'aluminium T5 n'est pas acceptable.

1. Les dimensions des tubes doivent être telles que proposées par le fabricant pour chaque condition, et tel qu'indiqué sur les documents approuvés.

2. Système de montage de cannelure: Méthode de cannelure de poignée bloquée, consistant en l'extrusion flexible de PVC RF (radiofréquence) ou soudée par impulsion au tissu d'ombre. La cannelure doit être insérée dans une fente sur le tube en aluminium extrudé. La cannelure doit fournir une fixation mécanique positive de la bande d'ombre au tube. La cannelure doit être conçue pour permettre de retirer facilement le tissu et de le réinstaller sur le tube d'embrayage du rouleau sans avoir à retirer le tube du rouleau des supports. Les cannelures qui glissent dans le mécanisme du tube à partir du bord ne sont pas acceptables. Les méthodes de ruban adhésif double-face ou de collage de tissu ne sont pas acceptables.

5. Hembars:

1. Poche soudée à trois côtés (poids inférieur): Extrusion en aluminium d'un pouce de hauteur maintenue à l'intérieur d'une poche inférieure en tissu. La poche inférieure doit être créée en pilant une section de tissu de 32mm derrière le bas de l'abat-jour et en soudant par RF ou par impulsions le tissu sur lui-même. Après que le poids d'aluminium est inséré dans la poche inférieure, les bords doivent être scellés par soudage RF ou par impulsion, les bords du tissu sur lui-même.

6. Supports de montage de tube: Type universel, pouvant être fixé en haut, sur le visage et avec les commandes de la main gauche ou de la main droite. Les supports doivent accepter le système de verrouillage du bouchon. Si elle est sélectionnée sans cantonnière / fascia, la couleur du support doit être blanche ou noire, finition peinte telle que sélectionnée. Les supports galvanisés ou finis ne sont pas acceptables. La taille doit être telle que requise pour chaque condition, et tel qu'indiqué sur les soumissions approuvées.

7. Chaîne: chaîne à billes en acier inoxydable n ° 10 qualifiée.

8. Cantonnière / fascia: Fournir un fascia d'aluminium dans le profil carré pour cacher le mécanisme de tube d'embrayage de rouleau. La planche de bord doit être fixée aux supports de fixation du tube en l'enclenchant sur une agrafe à charnière. La taille doit être telle que requise pour dissimuler le tube à rouleau et le tissu d'abat-jour enroulé. Couleur: à déterminer.

1. Lorsque les extrémités du fascia sont exposées, fournir des embouts.

Exécution

1. Les abat-jours doivent être fabriqués de façon carrée et exempts de bords tranchants, de bavures ou d'autres défauts.

2. Unités d'ombre installées entre jambages: Bord de l'ombre pas plus de 6mm de la face du jambage. Longueur égale à la hauteur de la tête à la dimension seul de l'ouverture dans laquelle chaque abat-jour est installée.

3. Unités d'ombrage installées à l'extérieur des montants: Largeur et longueur indiquées, avec des terminaisons entre les abat-jours des installations de bout en bout aux lignes centrales du meneau ou d'autres séparations verticales définies entre les ouvertures.

Examen

1. Inspecter les substrats et les conditions affectant le travail de cette section. Ne continuez pas tant que les conditions insatisfaisantes n'auront pas été corrigées.

2. Vérifiez que la température ambiante est d'au moins 18°C et que la peinture et les autres opérations de production de poussière sont terminées.

Installation

1. Installez les stores conformément aux procédures d'installation recommandées par le fabricant, sauf indication contraire dans les présentes.

2. Installez les stores avec un dégagement suffisant pour permettre le bon fonctionnement des stores et des opérateurs de châssis. Tenez les stores à rouleau de 6mm de chaque côté de l'ouverture de la fenêtre sur la monture intérieure, sauf si un autre jeu est indiqué.

3. Installez l'appareil de manière à ce que la bande de stores ne soit pas à moins de 50mm de la face intérieure du verre. Laissez les dégagements appropriés pour le matériel d'opération de fenêtre.

(FIN)

MATERIALS & FINISHES SCHEDULE					
ITEM	SUPPLIER	MODEL	MODEL #	MTL/FINISH	COMMENTS
DOOR / DRAWER PULLS	TBD	TBD	TBD	STAINLESS STEEL	128mm c/c 141mm LONG
HINGES	TBD	TBD	TBD	NICKEL PLATED	EUROPEAN STYLE CONCEALED FOR 110 DEG. OPENING. TYPE FLUSH OVERLAY DOORS CW SOFT CLOSE
DOOR AND DRAWER BUMPER	TBD	TBD	TBD	CLEAR PLASTIC	PROVIDE TWO 10mm DIA. BUMPERS AT EACH DOOR

NOTES:

1. REFER TO DRAWINGS FOR ADDITIONAL INFORMATION.

2. PROVIDE PRODUCT INFORMATION FOR REVIEW BY DEPARTMENTAL REPRESENTATIVE

NOMENCLATURE DES MATÉRIAUX ET DES FINIS

ARTICLE	FOURNISSEUR	MODÈLE	NUMÉRO DE MODÈLE	MATÉRIAU / FINI	COMMENTAIRES
POIGNÉES DE PORTE ET (OU) DE TIROIR	À DÉTERMINER	À DÉTERMINER	À DÉTERMINER	ACIER INOXYDABLE	128 mm D'ENTRE AXES; 141 mm DE LONGUEUR
CHARNIÈRES	À DÉTERMINER	À DÉTERMINER	À DÉTERMINER	PLACAGE AU NICKEL	CHARNIÈRE DE STYLE EUROPÉEN ET DE TYPE DISSIMULÉ, POUR OFFRIR UNE OUVERTURE SUR 110 DEGRÉS. PORTES DE RECOUVREMENT DE TYPE AFFLEURÉ, AVEC ENSEMBLE DE FERMETURE À MANŒUVRE DE FERMETURE DOUCE.
COUSSINETS	À DÉTERMINER	À DÉTERMINER	À DÉTERMINER	PLASTIQUE TRANSPARENT	AMÉNAGER CHAQUE PORTE AVEC DEUX PARE-CHOCES DE 10 mm DE DIAMÈTRE CHACUN.

NOTES :

1. SE REPORTER AUX DESSINS AFIN DE RETROUVER DES RENSEIGNEMENTS ADDITIONNELS.

2. PRODURE DES RENSEIGNEMENTS SUR LES PRODUITS ET LES PRÉSENTER À L'EXAMEN DU REPRÉSENTANT DU MINISTÈRE.

ROOM FINISHES SCHEDULE / NOMENCLATURE DES FINIS D'INTÉRIEUR

MARK /MARQUE	FLOORS / PLANCHERS	WALLS / MURS	CEILING / PLAFOND	COMMENTS / COMMENTAIRES
EW-6	FL1	P1	P2	---
EW-14	(EXIST / EXIST)	(EXIST / EXIST)	P2	---
EW-15		P1	P2	---
EW-16	FL1	P1	P2	---

NOTES:

1. SUBMIT SAMPLES TO DEPARTMENTAL REPRESENTATIVE FOR APPROVAL

NOTES :
1. SOUMETTRE LES ÉCHANTILLONS À L'APPROBATION DU REPRÉSENTANT DU MINISTÈRE.

MATERIALS & FINISHES SCHEDULE / NOMENCLATURE DES MATÉRIAUX ET DES FINIS

ITEM / ARTICLE	COLOUR / COULEUR	MODEL NO. / NUMÉRO DE MODÈLE	MANUFACTURER / FABRICANT	COMMENTS / COMMENTAIRES
P1	TBD / À DÉTERMINER	TBD / À DÉTERMINER	TBD / À DÉTERMINER	WALLS / MURS
P2	TBD / À DÉTERMINER	TBD / À DÉTERMINER	TBD / À DÉTERMINER	GYPSUM BOARD CEILING / PLAFOND EN GYPSE
C1	STAINLESS STEEL / ACIER INOX.	TBD / À DÉTERMINER	TBD / À DÉTERMINER	CHEMICAL RESISTANT COUNTERTOPS / COMPTOIR RÉSISTANT AUX PRODUITS CHIMIQUES
FL1	TBD / À DÉTERMINER	TBD / À DÉTERMINER	TBD / À DÉTERMINER	FLOORING AND BASE / PLANCHER ET PLINTHE

NOTES:

1. FINAL COLOUR AND MATERIAL SELECTIONS BY DEPARTMENTAL REPRESENTATIVE.

2. ALL PAINT TO BE FROM ONE MANUFACTURER, COLOUR MATCH AS REQUIRED.

NOTES :

1. LES SÉLECTIONS DÉFINITIVES DE COULEURS ET DE MATÉRIAUX RELÈVERONT DU REPRÉSENTANT DU MINISTÈRE.

2. TOUTES LES PEINTURES SE DEVRONT DE PROVENIR D'UN SEUL ET MÊME FABRICANT; ASSORTIR LES COULEURS ET CE, EN CONFORMITÉ AVEC LES EXIGENCES.

PLUMBING SCHEDULE / NOMENCLATURE DES INSTALLATIONS DE PLOMBERIE

ITEM / ARTICLE	ROOM / LOCAL	DIMENSIONS	MATERIAL / MATÉRIEL	COMMENTS / COMMENTAIRES
DOUBLE SINK / EVIER DOUBLE #S-01	EW-6	BOWL / CUVE : TWO (2) 406mm (16") w x 408mm (16") d x 280mm (11") h DEUX (2) 406mm (16") x 406mm (16") p x 280mm (11") h	STAINLESS STEEL SATIN FINISH / FINITION EN ACIER INOXYDABLE SATINÉ	REFER TO MECHANICAL SE REPORTER À LA MÉCANIQUE.

NOTES:

1. REFER TO DRAWINGS FOR ADDITIONAL INFORMATION.

2. PROVIDE PRODUCT INFORMATION FOR REVIEW BY DEPARTMENTAL REPRESENTATIVE

NOTES :

1. SE REPORTER AUX DESSINS AFIN DE RETROUVER DES RENSEIGNEMENTS ADDITIONNELS.

2. PRODURE DES RENSEIGNEMENTS SUR LES PRODUITS ET LES PRÉSENTER À L'EXAMEN DU REPRÉSENTANT DU MINISTÈRE.

DOOR & HARDWARE SCHEDULE / NOMENCLATURE DES PORTES ET DE LA QUINCAILLERIE

ITEM / ARTICLE	ROOM / LOCAL	NEW/NOUVEAU EXISTING / EXISTANT	FUNCTION / FONCTION	ESLUTCHÉON / PLAQUE DE GARNITURE	LOCK/SERRURE	COMMENTS / COMMENTAIRES
D-01	EW-6	NEW/NOUVEAU	ENTRY SET / ENS. D'ENTRÉE : ANSI F82	-	CYLINDER / CYLINDRE	REPLACE EXISTING DOOR KNOB WITH LEVER-LATCHSET TO SUIT EXISTING DOOR/FRAME CUTOUTS
D-02	EW-14	NEW/NOUVEAU	ENTRY SET / ENS. D'ENTRÉE : ANSI F82	-	CYLINDER / CYLINDRE	REPLACER LA POIGNÉE DE PORTE EXISTANTE PAR UN ENSEMBLE D'ENCLÈNCHEMENT À LEVIER ASSORTI; ICI, IL FAUDRA S'ASSURER D'ASSORTIR LE TOUT À CE QUI CORRESPOND AUX DÉBOUCHURES
D-03	EW-16	NEW/NOUVEAU	CLASSROOM / SALLE DE CLASSE : ANSI F05	MATCH EXISTING RECTANGULAR / À ASSORTIR À L'OUVRAGE EXISTANT, DE FORME RECTANGULAIRE.	MORTISED / À MORTAISE	OU AUX TROUS PRATIQUÉS DANS LA PORTE ET (OU) LE BÂTI EXISTANTS.
D-04	EW-15	EXISTING / EXISTANT	ENTRY SET / ENS. D'ENTRÉE : ANSI F82	-	CYLINDER / CYLINDRE	SHOWN FOR REFERENCE ONLY LA PRÉSENTATION CI-CONTRE EST MONTRÉE À DES FINS DE RENVOI SEULEMENT.

NOTES:

1. REFER TO DRAWINGS FOR ADDITIONAL INFORMATION.

Locks and latches:

1. Bored and preassembled locks and latches: to ANSI/BHMA A156.2, series 4000, grade 1, designed for function and keyed as stated in Hardware Schedule.

2. Mortise locks and latches: to ANSI/BHMA A156.13, series 1000 mortise lock, grade 1, designed for function and keyed as stated in Hardware Schedule.

3. Lever handles: match Door D-04 lever style.

4. Rosette / Escutcheon: as stated in Hardware schedule.

5. Normal strikes: box type, lip projection not beyond jamb.

6. Cylinders: key into keying system as directed by Departmental Representative.

7. Finished to Satin Chrome (#26).

NOTES :

1. SE REPORTER AUX DESSINS AFIN DE RETROUVER DES RENSEIGNEMENTS ADDITIONNELS.

Loquets et clenches :

1. Loquets et clenches alésés et assemblés à l'avance; de la série 4000 de la norme ANSI/BHMA A156.2 et de catégorie 1; ici, il doit s'agir d'ensembles conçus en tenant compte de la fonction et des clés stipulées dans la Nomenclature des pièces de quincaillerie.

2. Clenches et loquets à mortaise, de la série 1000 et selon la norme ANSI/BHMA A156.13; il s'agit ici d'un loquet à mortaise de catégorie 1 et conçu en tenant compte de la fonction et des clés stipulées dans la Nomenclature des pièces de quincaillerie.

3. Poignées à levier :- À assortir au style de levier de la porte D-04.

4. Rosette et (ou) plaque de garniture, selon les stipulations comprises dans la nomenclature des pièces de quincaillerie.

5. Clenches normales, en forme de boîte et à levier ne ressortant pas au delà du jambage.

6. Cylindres ou barillets :- À claveter au système de clés établi et ce, selon les directives du Représentant du Ministère.

7. À fini au chrome satiné (#26).

SEAL / SCEAU

CONSULTANTS / EXPERTS-CONSEILS

KEY PLAN / PLAN CLÉ

ISSUE / REVISION DATE

01 ISSUED FOR CLIENT REVIEW OCT 7, 2019

01 A FAIRE RÉVISER PAR LE CLIENT 7 OCT 2019

PROJECT NAME

CENTRAL EXPERIMENTAL FARM

**Building 50
Labs/Genomics
RENOVATIONS**
OTTAWA, ON

NOM DU PROJET

FERME EXPÉRIMENTALE CENTRALE

**Édifce 50
Laboratoires/
Génomique
RÉNOVATIONS**
OTTAWA, ONTARIO

SHEET TITLE / TITRE DE LA FEUILLE

**SPECIFICATIONS &
SCHEDULES /
DEVIS & TABLEAUX**

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PROJECT / PROJET #:

DRAWN BY / DESSINÉ PARKT

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SHEET / FEUILLE

A-004

Designated Substances

Asbestos

The following materials were confirmed to contain asbestos:
9’x9” Vinyl Floor Tiles- Room EW6, EW15 and EW 16 in Building 50;
Transite Panels in the Fume Hood in Room EW 6 of Building 50; and
Pipe Straight, Fitting and Elbow Insulation- Building 50.

The disturbance of any of the aforementioned building materials is subject to Part II of the Canada Labour Code – Occupational Health and Safety, Ontario Regulation 278/05 “Regulation Respecting Asbestos on Construction Projects and in Building and Repair Operations” (O.Reg. 278/05) and Public Services and Procurement Canada Asbestos Management Standard (PSPCAMS).

The disturbance of these materials may only be performed by competent hazardous materials abatement contractors in accordance with the following:

General Requirements

- No persons may enter the work areas without proper protective equipment (PPE);
- Half face P-100 air purifying respirators are to be worn, as well as, dust impervious disposable protective coveralls and boot covers;
- Eating, drinking and smoking are not permitted in the work areas;
- Install barriers around the work area to segregate it from non-authorized personnel;
- A sufficient number of signs shall be posted at the work area to warn of the asbestos dust hazard and to restrict access to properly equipped and trained personnel;
- Disable or seal the ventilation within the work area;
- Before leaving the work area, a worker must decontaminate their clothing by HEPA vacuuming or damp wiping before removing and disposing of their coveralls;
- Washing facilities consisting of a wash basin, water, soap and towels must be provided and workers shall use these washing facilities before leaving the work area; and
- Waste containers shall be dust, tight, impervious to asbestos, and labelled as containing asbestos; All waste is to be disposed of in accordance with O.Reg. 278/05 and O.Reg. 347.

Type 1 Asbestos Abatement Operations

- The following work is to be conducted as a Type 1 Operations
- Remove approximately 400 of asbestos containing floor tiles and associated mastic in rooms EW6, EW15 and EW16 of Building 50
- Remove the transite panels within the fume hood in room EW6 of Building 50.
- Before beginning work, visible dust shall be removed with a damp cloth or a vacuum equipped with a HEPA filter from any surface in the work area, including the thing to be worked on, if the dust on that surface is likely to be disturbed.
- Where applicable place a drop sheet below the work area.
- Thoroughly wet the ACM with amended water prior to and during the removal operations.
- Frequently and at regular intervals during the work and immediately on completion of the work clean up by damp wiping and HEPA vacuuming.
- Place waste and drop sheets in bags for disposal.

Type 2 Asbestos Abatement Operations

- The following work is to be conducted as a Type 2 Operations
- Remove all asbestos containing pipe straight and fitting insulation on piping to be demolished as part of the project using the glove bag method.
- Consultant must be notified prior to commencement of any Type 2 Operation to allow for air monitoring as required by PSPCAMS.
- Surfaces below the work area shall be covered with drop sheets of polyethylene or other suitable material that is impervious to asbestos.
- The glove bag must meet the minimum requirements outlined and be used in accordance with O.Reg.278/05.

Type 3 Asbestos Abatement Operations

- The following work is to be conducted as a Type 3 Operations
- Consultant must be notified prior to commencement of any Type 3 Operation to allow for air monitoring as required by PSPCAMS.
- The room is to be fully enclosed using rip proof polyethylene sheeting.
- Install a chamber decontamination at the entrance to the work area.
- Install and maintain a negative pressure of 0.02 inches of water within the enclosure.
- Install a device for continuous monitoring of the negative pressure.
- Install a shower with hot and cold running water within the clean side of the enclosure.
- Disconnect power and install temporary electrical power distribution systems for tools and equipment involved in wet removal operations shall be equipped with ground fault circuit interrupters.
- Final air clearance sampling to be completed prior to dismantling the enclosure.

Lead

Low to moderate levels of lead were detected in the various paints sampled in the work areas. In addition, lead is expected to be present bin the solder on the copper piping throughout the work area.

Measures must be implemented to control the lead dust hazard during any construction or demolition activity that would result in the disturbance of any painted surface or suspect solder. The measures implemented must be in accordance with the “Guideline – Lead on Construction Projects” (Ministry of Labour, September 2004).

Mercury

If removed from service the mercury containing fluorescent light bulbs must be carefully removed and containerized for disposal in accordance with Ontario Regulation 347/09 (as amended) if they are to be disturbed as part of the renovation.

Ozone-Depleting Substances (ODS)

If any ozone-depleting refrigerant containing equipment is to be disturbed the refrigerant must be removed by an individual, licensed to perform such work in accordance with the Federal Halocarbon Regulation, 2003 SOR/2003-289 under the Canadian Environmental Protection Act, prior to the removal and disposal of any ozone-depleting substance containing equipment.

Silica

Silica is present in the concrete, plaster, vinyl floor tiles, drywall, drywall joint compound, and acoustic ceiling tiles present at the site.

Measures prescribed in the Ministry of Labour’s Guideline titled “Silica on Construction Projects”, should be followed during the disturbance of any silica containing material.

Laboratory Decommissioning

The following section has been prepared to ensure that the fume hoods, lab benches, cup sinks, sinks, cabinets, chemical drain lines, chemical storage cabinets and exhausts, and air extraction exhaust arms, are decontaminated to prevent potential chemical exposure during demolition activities.

These procedures are to be used in Labs EW6, EW15, and EW16 in Building 50.

The decontamination work is to be conducted by a firm with a minimum of three years of experience in conducted similar decontamination projects.

All work is to be conducted in accordance with ANSI/AIHA Z9.11-2008, Laboratory Decommissioning.

Personal Protective Equipment

Respirator: Air purifying half-mask respirator with combination acid gas/organic vapour and P-100 particulate filter, personally issued to worker and marked as to efficiency and acceptable to Provincial Authority having jurisdiction. The respirator to be fitted so that there is an effective seal between the respirator and the worker’s face, unless the respirator is equipped with a hood or helmet. The respirator to be cleaned, disinfected and inspected after use on each shift, or more often if necessary, when issued for the exclusive use of one worker, or after each use when used by more than one worker. The respirator to have damaged or deteriorated parts replaced prior to being used by a worker; and, when not in use, to be stored in a convenient, clean and sanitary location. The employer to establish written procedures regarding the selection, use and care of respirators, and a copy of the procedures to be provided to and reviewed with each worker who is required to wear a respirator. A worker not to be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.

Clothing: Full body chemical resistant disposable type coveralls. Elbow length chemical/acid resistant gloves, and safety glasses are also required.

Procedures

Fume Hoods, Lab Benches, Cabinets, Mill Work, Chemical Storage Cabinets, Cup Sinks, Sinks.

- Prepare washing solution (one-part liquid dish washing detergent to 100 parts water) and disinfectant solution (two parts chlorine bleach to 100 parts water).
- HEPA vacuum all surfaces to remove and residual dust and debris.
- Disassemble any parts including the baffles within the fume hoods to ensure complete decontamination.
- Thoroughly clean surfaces by wiping with the washing solution followed by wiping with the disinfectant solution and then a final wipe down with clean tap water. Use suitable tools to ensure that all surfaces including those that are difficult to access are fully cleaned.

Drains

- Before dismantling drains, flush thoroughly with washing solution to wash acid or other potential chemicals from the from the P-traps.
- Prepare pails or drums of washing and disinfectant solutions constructed of plastic. Prepare drying rack with tray to dry disinfected pipes vertically.
- Place a tray below pipes to be cut and at all P-traps and fittings to capture any sludge or residual water. Please note that mercury may have accumulated in the P-traps as well as in low areas and bows in lengths of piping.
- Remove all drain plugs from running traps and sinks and collect solid waste discovered in traps for separate disposal.
- Remove drain lines at all wyes and traps and wash as separate components from pipe straights.
- Cut pipes into convenient lengths suitable for immersion in pails of washing and disinfectant solutions.
- Wash drain lines in washing solution and scrub with cylindrical brushes. Wash traps and wyes using this procedure.
- Immerse washed components in disinfectant solution for at least 30 minute then remove and allow to dry.

Duct Work

- Rinse the duct work from the highest point of access (could potentially be the exhaust stack above the roofline) back to the start of the duct work (where it exited the chemical storage cabinet)
- Collect the rinse water for disposal.
- Carefully cut the duct work into manageable sections (four to six feet).
- Wipe the interior of the duct work with washing solution, disinfectant solution and clean tap water.
- Rinse thoroughly with clean tap water and then move to drying rack and allow to air dry.
- Collect rags used in the cleaning for testing and appropriate disposal.

Waste Management:

Label and store potentially contaminated rinse waters, solids and rags at designated secure location for testing by Consultant. Once the waste has been classified the contractor must arrange for offsite disposal.

Substances Désignées

Amiante

Les matériels suivants ont été confirmé de contenir de l’amiante:
9’x9” Tuiles de Plancher en Vinyle – Salle EW6, EW15, et EW16 dans l’édifice 50;
Panneaux en Transite dans les Hottes dans la salle EW6 dans l’édifice 50; et
Isolants de tuyauterie sur les longueurs droits, les coudes, et les raccords - dans l’édifice 50.

Le dérangement d’un des matériels mentionné ci-dessus est sujet au Code du Travail Canadien Partie II – Règlement de l’Ontario 278/05 : Substance Désignée - Amiante dans les Chantiers de Construction, les Édifices et les Travaux de Réparation (Règl. de l’Ont. 278/05) et la Norme sur la gestion de l’amiante de Services publics et Approvisionnement Canada.

Le dérangement de ces matériels ne peut être effectué que par des entrepreneurs d’enlèvement de matériels dangereux compétant en accord avec les suivants :

Exigences Générales

- Aucune personne ne peut entrer dans les zones de travail sans équipement de protection individuelle adéquate;
- Respirateurs purifiants à demi-visage avec filtres P-100 doivent être porté ainsi que des combinaisons et des recouvre-bottes jetable imperméables à la poussière;
- Manger, boire, et fumer ne sont pas permis dans les zones de travail;
- Ériger des barrières autour la zone de travail pour la séparer des personnes non-autorisés;
- Un nombre adéquat d’affichage seront affiché autour de la zone de travail pour prévenir des dangers de la poussière d’amiante et pour limiter l’accès au personnes équipés et entraînés adéquatement;
- Désactiver ou sceller les systèmes de ventilation dans la zone de travail;
- Avant de quitter la zone de travail, les ouvriers doivent décontaminer leurs vêtements avec un aspirateur HEPA ou par essuyage humide avant de jeter leurs combinaisons.
- Retirer les panneaux de transite de la hotte dans la salle EW6 dans l’édifice 50.
- Les contenant pour déchets doivent être imperméable à l’amiante, scellant la poussière et marqué indiquant la présence d’amiante; Toutes déchets doivent être jeter en accord avec Règl. de l’Ont. 278/05 et Règl. de l’Ont. 347.

Opérations d’enlèvement d’amiante de Type 1

- Les travaux suivants devront être conduit tel une opération de Type 1
- Retirer environ 400 pieds carré de tuiles de plancher et mastic contenant de l’amiante dans les salles EW6, EW15, EW16 dans l’édifice 50; et
- Retirer les panneaux de transite de la hotte dans la salle EW6 dans l’édifice 50.
- Avant de commencer les travaux, la poussière visible devra être enlevée avec un chiffon humide ou avec un aspirateur HEPA de toute surfaces dans la zone de travail, incluant l’item sujet des travaux, si ces surfaces seront probablement dérangées.
- Placer une feuille de dépose sous la zone de travail.
- Mouiller de travers le matériel contenant de l’amiante avec de l’eau en priori et durant les opérations d’enlèvement.
- Par essuyage humide ou par aspirateur HEPA, nettoyer fréquemment et à intervalles réguliers durant le travail, et immédiatement après la complétion des travaux.
- Placer les déchets et feuilles de dépose dans les sacs de déchets approprié.

Opérations d’enlèvement d’amiante de Type 2

- Les travaux suivants devront être conduit tel une opération de Type 2
- L’enlèvement de tout isolant sur les tuyaux droits, les raccords, et sur les coudes sur la tuyauterie dans la zone de travail sujet à la démolition en utilisant la méthode sac-à-gant.
- Le consultant doit être avisé en priori du commencement des travaux de n’importe quelle opération de Type 2 pour permettre un échantillonnage de l’aire au préalable, tel que requis par la Norme sur la gestion de l’amiante de Services publics et Approvisionnement Canada.
- Les surfaces en-dessous la zone de travail sera recouverte avec des feuilles de dépose en polyéthylène ou autre matériel acceptable qui est imperméable à l’amiante.
- Le sac-à-gant doit rencontrer ou dépasser les exigences minimums soulignées et utiliser en accord avec Règl. de l’Ont. 278/05.

Opérations d’enlèvement d’amiante de Type 3

- Les travaux suivants devront être conduit tel une opération de Type 3
- Le consultant doit être avisé en priori du commencement des travaux de n’importe quelle opération de Type 2 pour permettre un échantillonnage de l’aire au préalable, tel que requis par la Norme sur la gestion de l’amiante de Services publics et Approvisionnement Canada.
- La salle doit être complètement enfermé utilisant des feuilles polyéthylène anti-déchirure.
- Installer une série de trois chambres, servant à la décontamination, à l’entrée de l’enclos.
- Installer et maintenir une pression de 0.02 pouces d’eau dans l’enclos.
- Installer un instrument pour surveillance constante de la pression négative.
- Installer une douche fonctionnelle avec de l’eau chaude et froide dans la deuxième chambre de décontamination.
- Déconnecter l’électricité et installer un système temporaire de distribution d’électricité et les outils et l’équipement utilisés pour l’enlèvement à méthode trempé doivent être équipés avec des disjoncteurs de fuite à la terra.
- Échantillonnage d’air finale doit être complété avant de démonter l’enclos.

Plomb

Des niveaux minimaux à modérés de plomb ont été détecté dans les peintures échantillonnés dans les zones de travail. De plus, le plomb est soupçonné être présent dans la soudure sur la tuyauterie en cuivre dans la zone de travail.

Des mesures doivent être en place pour contrôler le danger posé par la poussière de plomb durant toute activité de construction ou de démolition qui dérangerait une surface peinturée ou de la soudure suspect. Les mesures utilisées doivent être en accord avec le guide « L’exposition au plomb sur les chantiers de construction » (Ministère du Travail, Septembre 2004).

Mercury

Si retirer de service, les ampoules fluorescentes contenant du mercure doivent être retirer délicatement et contenueisé pour dépôt en accord avec le Règlement de l’Ontario 347/09 (tel que modifié) s’ils seront dérangés par les rénovations.

Substances Appauvrissant l’Ozone (SAO)

Si de l’équipement contenant un réfrigérant appauvrissant l’ozone sera dérangé, le réfrigérant doit être enlevé par un individuel autorisé de performer tel travaux en accord avec le Règlement Fédéral sur les Halocarbures, 2003 (DORS/2002-289) sous la Loi canadienne sur la protection de l’environnement, en priori d’enlever et de jeter toute équipement contenant un réfrigérant appauvrissant l’ozone.

Silice

La silice est présente dans le béton, le plâtre, les tuiles de plancher en vinyle, la cloison sèche, le composé de jointure de cloison sèche, et les tuiles acoustiques du plafond présent sur le site.

Les mesures décrites par le ministère de Travail dans leur guide intitulé « Directives concernant l’exposition à la silice sur les chantiers de construction » doivent être suivi durant le dérangement de matériels contenant de la silice.

Décommissionnement du laboratoire

La section suivante a été préparé pour assurer que les hottes, banc de laboratoire, éviers à coupe, éviers, cabinets, lignes à drain chimique, cabinets d’entreposage et d’échappement, et les bras d’échappement pour l’extraction de l’air sont décontaminé pour prévenir le potentiel d’exposition au produits chimiques durant les activités de démolition.

Ces procédures doivent être utilisé dans les laboratoires EW6, EW15, et EW16 dans l’édifice 50.

Les travaux de décontamination doivent être effectués par une firme avec au moins trois ans d’expérience effectuant des projets de décontamination similaires.

Tous travaux doivent être effectué en accord avec ANSI/AIHA Z9.11-2008, Laboratory Decommissioning.

Équipement de Protection Individuelle

Respirateur : Appareil respiratoire à adduction d’air filtré à demi-masque avec une combinaison de filtre à gaze acide/vapeur organique et de filtre à particules P-100, remis en propre à l’employé et portant une marque indiquant son efficacité et son usage et acceptable aux autorités provinciales compétentes. L’appareil respiratoire doit assurer un contact étanche sur le visage de la personne, sauf s’il est équipé d’une cagoule ou d’un casque. L’appareil respiratoire doit être nettoyé, désinfecté et inspecté après chaque poste de travail ou plus fréquemment au besoin, lorsqu’il est remis pour l’usage d’un seul ouvrier, ou après chaque usage. Toute pièce de l’appareil respiratoire qui est endommagée ou détériorée doit être remplacée avant que l’appareil soit utilisé par un ouvrier. Lorsque l’appareil respiratoire n’est pas utilisé, il doit être rangé dans un endroit pratique, propre et sanitaire. L’employeur doit établir des procédures concernant le choix, l’utilisation et l’entretien des appareils respiratoires; un exemplaire de ces procédures doit être remis et expliqué à chaque ouvrier tenu de porter un appareil respiratoire. Aucun ouvrier ne doit être affecté à une tâche nécessitant le port d’un appareil respiratoire s’il n’a pas la capacité physique d’exécuter la tâche en en portant un.

Vêtement : Combinaisons résistante au produits chimique à corps pleins, gants à longueur de coude résistant au produits chimiques et acides, ainsi que des lunettes de sécurité sont requis.

Procédures

Hotte, Ventilateur d’Échappement, Bancs de Laboratoires, Cabinets, Menuiserie, Cabinets d’Entreposage de Produits Chimiques, Éviers à coupes, Éviers.

- Préparer la solution de lavage (une partie détergeant à vaisselle par cent parties d’eau) et la solution désinfectante (deux parties eau de javel par cent parties d’eau).
- Avec l’aspirateur HEPA, aspirer toute surfaces pour y enlever toute poussière et débris résiduels.
- Démontet toute parties incluant les baffles dans les hottes pour s’assurer d’une décontamination complète.
- Nettoyer minutieusement les surfaces en essuyant avec la solution de lavage suivit par essuyant avec la solution désinfectante et finalement, essuyer avec de l’eau du robinet propre. Utiliser les outils appropriés pour s’assurer que toute les surfaces, incluant ceux qui sont accédé difficilement, sont nettoyés complètement.

Drains

- Avant de démonter les drains, rincer minutieusement avec la solution de lavage pour y enlever les acides et produits chimiques potentiels des pièges P.
- Préparer des seaux ou des tambours, construits de plastique, de solutions de lavage et de désinfectants. Préparer une grille avec plateau pour sécher verticalement les tuyaux désinfectés.
- Placer un plateau sous les tuyaux qui seront coupés et à chaque piège P et raccord pour capturer toute boue/dépôts et eau résiduelle. Notez que du mercure pourrait être accumuler dans les pièges P ainsi que dans des sections basses et dans des arcs dans les tuyauteries.
- Enlever tous bouchons des drains des pièges et éviers en fonctionnement et recueillir tout dépôts solide retrouvés dans les pièges pour dépôt séparé.
- Enlever toutes les lignes des drains à toute les pièges et tuyaux en Y comme composants séparés des tuyaux droits.
- Couper les tuyaux en longueurs convenable pour immersion dans les seaux de solutions de lavage et désinfectante.
- Laver les lignes de drains dans la solution de lavage et frotter avec des brosses cylindriques. Laver les pièges et les tuyaux en Y en utilisant la même procédure.
- Immerger les composants lavés dans la solution désinfectante pour au moins 30 minutes et ensuite les retirer et les permettre de sécher.

Canal d’Échappement des Hottes

- Rincer le system de canal du point d’accès le plus élever (pourrais être la cheminée d’échappement au-dessus du toit) jusqu’au début du système de canal (ou ce dernier quitte le cabinet d’entreposage de produits chimiques).
- Recueillir l’eau de rinçage pour dépôt.
- Couper prudemment le system de canal en sections maniable (quatre à six pieds).
- Essuyer l’intérieur du système de canal avec la solution de lavage, désinfectante et avec l’eau propre du robinet.
- Rincer minutieusement avec l’eau de robinet et ensuite permettre de sécher à l’air.
- Recueillir les chiffons utilisés dans le lavage pour analyse et dépôt approprié.

Gestion des Déchets:

Labeller et entreposer l’eau de rinçage, les solides, et les chiffons qui sont potentiellement contaminé dans un endroit sécuritaire pour analyse par un le consultant. Une fois les déchets ont été classé, le contracteur doit s’arranger pour le dépôt hors-site.

SEAL / SCEAU

CONSULTANTS / EXPERTS-CONSEILS

KEY PLAN / PLAN CLÉ

PROJECT NAME

CENTRAL EXPERIMENTAL FARM

Building 50

Labs/Genomics

RENOVATIONS

OTTAWA, ON

NOM DU PROJET

FERME EXPÉRIMENTALE CENTRALE

Édfice 50

Laboratoires/

Génomique

RÉNOVATIONS

OTTAWA, ONTARIO

SHEET TITLE / TITRE DE LA FEUILLE

DÉSIGNED

SUBSTANCES /

SUBSTANCES

DÉSIGNÉES

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PROJECT / PROJET #:

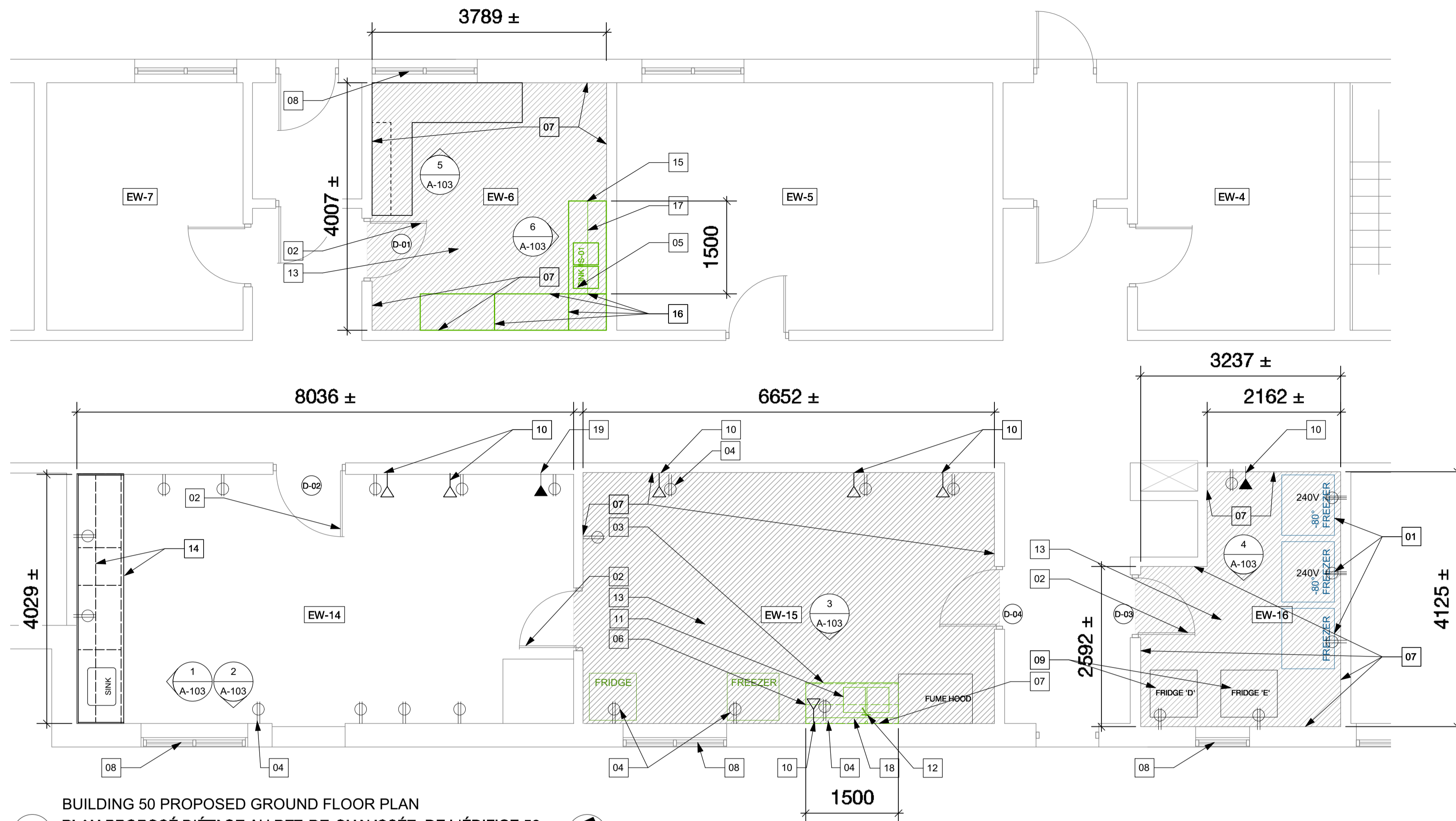
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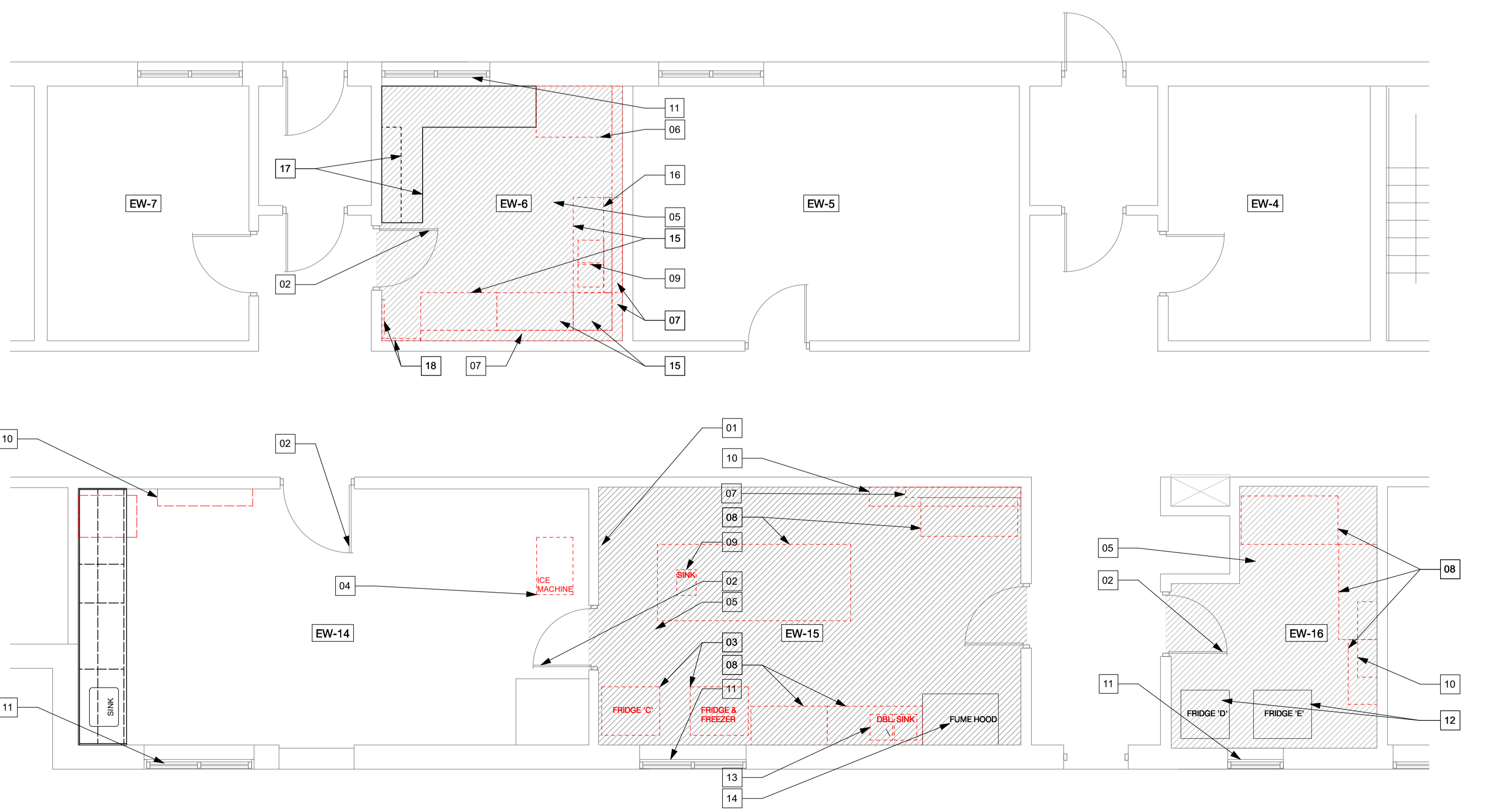
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- Proposed Floorplan Notes / Notes - Plan d'étage proposé**
- INSTALL NEW -80° C FREEZER LOCATION. SUPPLIED BY OWNER.
INSTALLER UN NOUVEAU CONGÉLATEUR DE -80 DEGRÉS CELSIUS À CET ENDROIT, LEQUEL CONGÉLATEUR SE DEVANT D'ÊTRE FOURNI PAR LE PROPRIÉTAIRE.
 - INSTALL NEW DOOR HANDLE (LEVER SET).
 - INSTALL NEW MILLWORK. RE-INSTALL EXISTING STAINLESS STEEL COUNTERTOP AND SINK.
MONTER DE NOUVEAUX TRAVAUX D'ÉBÉNISTERIE. REMONTER L'ÉVIER ET LE DESSUS DE COMPTOIR EXISTANTS ET EN ACIER INOXYDABLE.
 - INSTALL NEW POWER OUTLETS (REFER TO ELECTRICAL).
INSTALLER DE NOUVELLES SORTIES DE COURANT; SE REPORTER À L'ÉLECTRICITÉ.
 - INSTALL NEW SINK & STAINLESS STEEL COUNTERTOP.
MONTER UN ÉVIER ET UN DESSUS DE COMPTOIR NEUFS ET EN ACIER INOXYDABLE.
 - INSTALL NEW UPPER CABINETS.
INSTALLER DE NOUVELLES ARMOIRES SUPÉRIEURES.
 - PATCH EXISTING GYPSUM BOARD (TYP) AND RE-PAINT ALL WALLS (P1).
RAPIÉCER LE GYPSE EXISTANT (DÉTAIL TYPIQUE) ET REPEINDRE TOUS LES MURS (P1).
 - INSTALL NEW ROLLER BLINDS.
INSTALLER DE NOUVEAUX STORES À ENROULEMENT.
 - REINSTALL EXISTING REFRIGERATORS.
REINSTALLER LES RÉFRIGÉRATEURS EXISTANTS.
 - INSTALL NEW ETHERNET OUTLET.
MONTER UNE NOUVELLE SORTIE « ETHERNET ».
 - REINSTALL EXISTING COUNTERTOP AND SINK.
REMONTER L'ÉVIER ET LE DESSUS DE COMPTOIR EXISTANTS.
 - INSTALL NEW EMERGENCY EYEWASH AND FAUCET. REFER TO MECHANICAL DRAWINGS.
MONTER UN NOUVEAU POSTE DE LAVAGE OCULAIRE EN CAS D'URGENCE ET UN NOUVEAU ROBINET ASSORTI. SE REPORTER AUX DESSINS DE MÉCANIQUE.
 - INSTALL NEW RESILIENT FLOORING AND 102mm HIGH WALL BASE (TYP).
MONTER UN NOUVEAU REVÊTEMENT DE SOL SOUPLE ET UNE NOUVELLE PLINTE MURALE ET ASSORTIE ET DE 102 mm DE HAUTEUR. DÉTAIL TYPIQUE.
 - REFURBISH / PAINT EXISTING UPPER AND LOWER CABINETS. REFER TO SHEET A-103.
REMETTRE À NEUF ET (OU) PEINDRE LES ARMOIRES EXISTANTES ET SUPÉRIEURES ET INFÉRIEURES. SE REPORTER À LA FEUILLE A-103.
 - INSTALL NEW COUNTERTOP (C1).
MONTER UN NOUVEAU DESSUS DE COMPTOIR (C1).
 - RELOCATE EXISTING CABINETRY & MILLWORK.
DÉPLACER LES ARMOIRES ET LES TRAVAUX D'ÉBÉNISTERIE EXISTANTS.
 - RE-INSTALL EXISTING SHELVING.
REMONTER LES ÉTAGÈRES EXISTANTES.
 - FURR OUT KNEE WALL- SEE 6/A-103.
MUR NAIN, À AMÉNAGER AVEC DES PROFILÉS DE FOURRURE RESSORTANT. VOIR LE DÉTAIL 6/A-103.
 - NEW TELEPHONE OUTLET.
NOUVELLE SORTIE DE COMMUNICATION PHONIQUE.

BUILDING 50 PROPOSED GROUND FLOOR PLAN
PLAN PROPOSÉ D'ÉTAGE AU REZ-DE-CHAUSSÉE, DE L'ÉDIFICE 50
 Scale: 1:50 Echelle: 1:50



- Demolition Plan Notes / Notes - Plan des ouvrages de démolition**
- REMOVE EXISTING COAT HOOKS.
ENLEVER LES CROCHETS À MANTEAUX EXISTANTS.
 - REMOVE EXISTING DOOR KNOB (SEE DOOR AND HARDWARE SCHEDULE).
ENLEVER LA POIGNÉE DE PORTE EXISTANTE; VOIR LA NOMENCLATURE DES PIÈCES DE QUINCAILLERIE.
 - REMOVE EXISTING EQUIPMENT (NIC).
ENLEVER L'APPAREILLAGE EXISTANT (NON INCLUS AU PRÉSENT CONTRAT).
 - REMOVE EXISTING EQUIPMENT AND RELOCATE PER OWNER'S INSTRUCTIONS.
ENLEVER L'APPAREILLAGE EXISTANT ET LE DÉPLACER EN CONFORMITÉ AVEC LES INSTRUCTIONS DU PROPRIÉTAIRE.
 - REMOVE EXISTING FLOORING AND WALL BASE.
ENLEVER LA PLINTE MURALE ET LE REVÊTEMENT DE SOL EXISTANTS.
 - REMOVE EXISTING FUME HOOD.
ENLEVER LA HOTTE DE FUMÉE EXISTANTE.
 - REMOVE EXISTING FURRED OUT WALL / LEDGE.
ENLEVER LE MUR ET (OU) L'OUVRAGE DE BORDURE EXISTANTS, LESQUELS ÉTANT AMÉNAGÉS AVEC DES PROFILÉS DE FOURRURE.
 - REMOVE EXISTING MILLWORK.
ENLEVER L'OUVRAGE D'ÉBÉNISTERIE EXISTANT.
 - REMOVE EXISTING STAINLESS STEEL COUNTERTOP & SINK.
ENLEVER L'ÉVIER ET LE DESSUS DE COMPTOIR EXISTANTS, EN ACIER INOXYDABLE.
 - REMOVE EXISTING UPPER CABINETS / SHELVES.
ENLEVER LES ARMOIRES SUPÉRIEURES EXISTANTES ET CE, COMPTE TENU DE LEURS ÉTAGÈRES.
 - REMOVE EXISTING WINDOW BLINDS.
ENLEVER LES STORES DE FENÊTRES EXISTANTS.
 - TEMPORARILY RELOCATE REFRIGERATORS TO PERMIT FLOORING REMOVAL (NIC).
DÉPLACER TEMPORAIREMENT LES RÉFRIGÉRATEURS ET CE, AFIN DE PERMETTRE L'ENLÈVEMENT DU REVÊTEMENT DE SOL, LEQUEL ENLÈVEMENT NE RELEVANT PAS DU PRÉSENT CONTRAT.
 - REMOVE EXISTING SINK. REINSTALL ON NEW MILLWORK.
ENLEVER L'ÉVIER EXISTANT. À REMONTER SUR DE NOUVEAUX TRAVAUX D'ÉBÉNISTERIE.
 - EXISTING FUMEHOOD TO REMAIN.
CONSERVER LA HOTTE DE FUMÉE EXISTANTE.
 - RELOCATE EXISTING MILLWORK.
DÉPLACER LES TRAVAUX EXISTANTS D'ÉBÉNISTERIE.
 - RELOCATE EXISTING SHELVING.
DÉPLACER LES ÉTAGÈRES EXISTANTES.
 - EXISTING MILLWORK AND SHELVING TO REMAIN.
CONSERVER LES ÉTAGÈRES ET TRAVAUX D'ÉBÉNISTERIE EXISTANTS.
 - REMOVE EXISTING UNI-STRUT BARS (TYP)
ENLEVER LES BARRES EXISTANTES À ÉTRÉSILLONS (DÉTAIL TYPIQUE).

BUILDING 50 DEMOLITION GROUND FLOOR PLAN
PLAN DES OUVRAGES DE DÉMOLITION AU REZ-DE-CHAUSSÉE, DE L'ÉDIFICE 50
 Scale: 1:50 Echelle: 1:50

SEAL / SCEAU

CONSULTANTS / EXPERTS-CONSEILS

KEY PLAN / PLAN CLÉ

#	ISSUE / REVISION	DATE
01	ISSUED FOR CLIENT REVIEW	OCT 7, 2019
01	À FAIRE RÉVISER PAR LE CLIENT	7 OCT 2019

PROJECT NAME

CENTRAL EXPERIMENTAL FARM
Building 50
Labs/Genomics
RENOVATIONS
 OTTAWA, ON

NOM DU PROJET
FERME EXPÉRIMENTALE CENTRALE

Édifice 50
Laboratoires/
Génomique
RÉNOVATIONS
 OTTAWA, ONTARIO

SHEET TITLE / TITRE DE LA FEUILLE

BUILDING 50
PLANS
ÉDIFICE 50
PLANS

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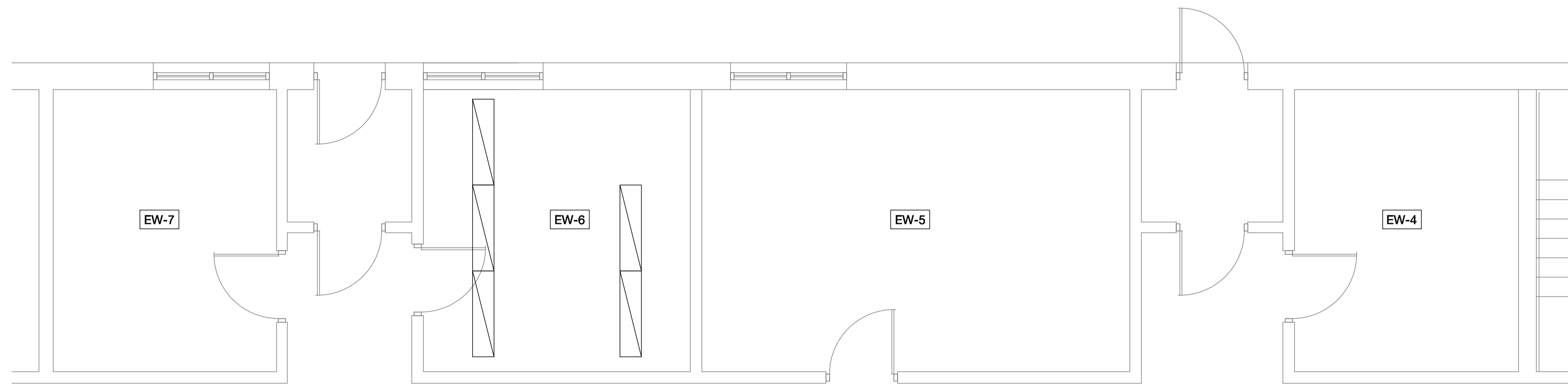
PROJECT / PROJET #:

DRAWN BY / Dessiné par: KT

CHECKED BY / Vérifié par: KT

SHEET / FEUILLE

A-101



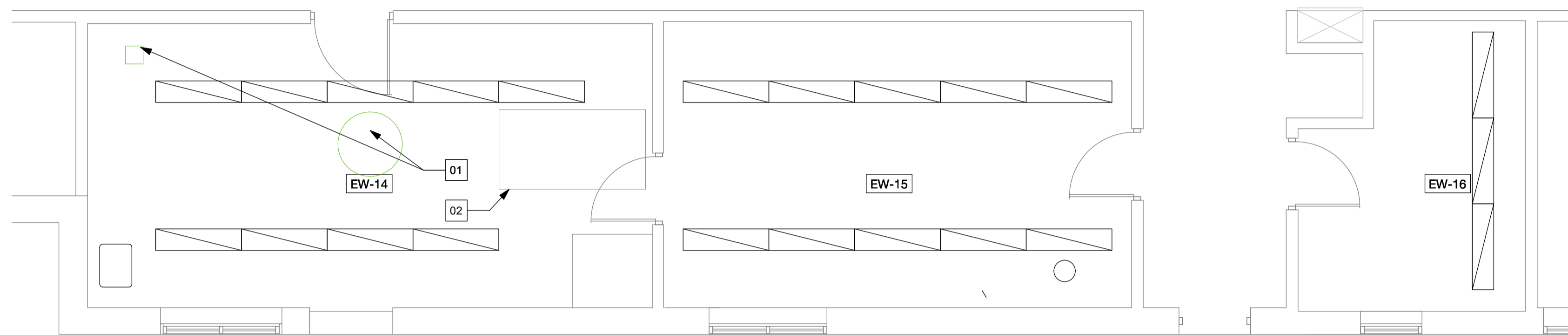
Ceiling Plan Notes/ Notes- Plan du plafond

01. MAKE GOOD CEILING WHERE EXISTING CAP REMOVED.
 NEW GYPSUM BOARD CEILING. PAINT (P2).
 REMETTRE LE PLAFOND À NEUF ET CE, AUX ENDOITS À PARTIR DESQUELS AURONT ÉTÉ ENLEVÉS DES CAPUCHONS. NOUVEAU PLAFOND EN GYPSE, À PEINDRE SELON LA FORMULE P2.

02. MAKE GOOD CEILING UPON COMPLETION OF ROOF STRUCTURE RE-INFORCEMENT AND REVIEW BY STRUCTURAL CONSULTANT. PAINT (P2).
 UNE FOIS TERMINÉ LES TRAVAUX DE RENFORT DE STRUCTURE DE TOIT ET UNE FOIS LE TOIT PASSÉ EN REVUE PAR L'EXPERT-CONSEIL, REMETTRE LE PLAFOND À NEUF. ICI, IL S'AGIT DE LA FORMULE DE PEINTURE P2.

SEAL / SCEAU

CONSULTANTS / EXPERTS-CONSEILS

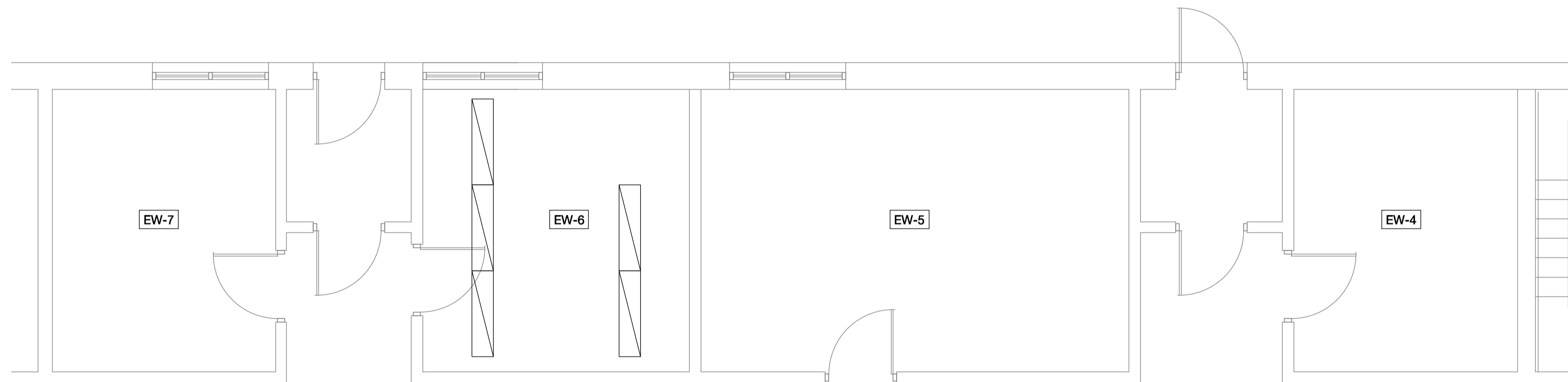


KEY PLAN / PLAN CLÉ

#	ISSUE / REVISION	DATE
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01	À FAIRE RÉVISER PAR LE CLIENT	7 OCT 2019

BUILDING 50 PROPOSED GROUND FLOOR REFLECTED CEILING PLAN
ÉDIFICE 50 - PLAN PROPOSÉ DE PLAFOND RÉFLÉCHI, AU REZ-DE-CHAUSSÉE
 Scale: 1:50 Echelle: 1:50

2
A-102



Ceiling Demolition Plan Notes/ Notes - Plan des ouvrages de démolition du plafond

01. REMOVE EXISTING VENTILATION CAP. REFER TO MECHANICAL DRAWINGS.
 ENLEVER LE CAPUCHON EXISTANT DE VENTILATION. SE REPORTER AUX DESSINS DE MÉCANIQUE.

02. NEW ROOFTOP UNIT (RTU) ABOVE. REFER TO STRUCTURAL FOR ROOF STRUCTURE REINFORCEMENT. REFER TO MECHANICAL FOR RTU INFORMATION. NOUVEL ÉLÉMENT DE MONTAGE EN DESSUS DE TOITURE, AU-DESSUS. SE REPORTER À LA CHARPENTE AFIN DE RETROUVER LES DÉTAILS DE RENFORT DE LA STRUCTURE DU TOIT. SE REPORTER À LA MÉCANIQUE AFIN DE RETROUVER DE PLUS AMPLES RENSEIGNEMENTS SUR L'ÉLÉMENT DE MONTAGE EN DESSUS DE TOITURE.

PROJECT NAME

CENTRAL EXPERIMENTAL FARM
Building 50
Labs/Genomics
RENOVATIONS
 OTTAWA, ON

NOM DU PROJET
FERME EXPÉRIMENTALE CENTRALE

Édifice 50
Laboratoires/
Génomique
RÉNOVATIONS
 OTTAWA, ONTARIO

SHEET TITLE / TITRE DE LA FEUILLE

BUILDING 50
REFLECTED CEILING PLANS
ÉDIFICE 50
PLANS DU PLAFOND RÉFLÉCHI

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PROJECT / PROJET #:

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SHEET / FEUILLE

A-102

BUILDING 50 DEMOLITION GROUND FLOOR REFLECTED CEILING PLAN
OUVRAGES DE DÉMOLITION - ÉDIFICE 50 - PLAN DE PLAFOND RÉFLÉCHI, AU REZ-DE-CHAUSSÉE
 Scale: 1:50 Echelle: 1:50

1
A-102

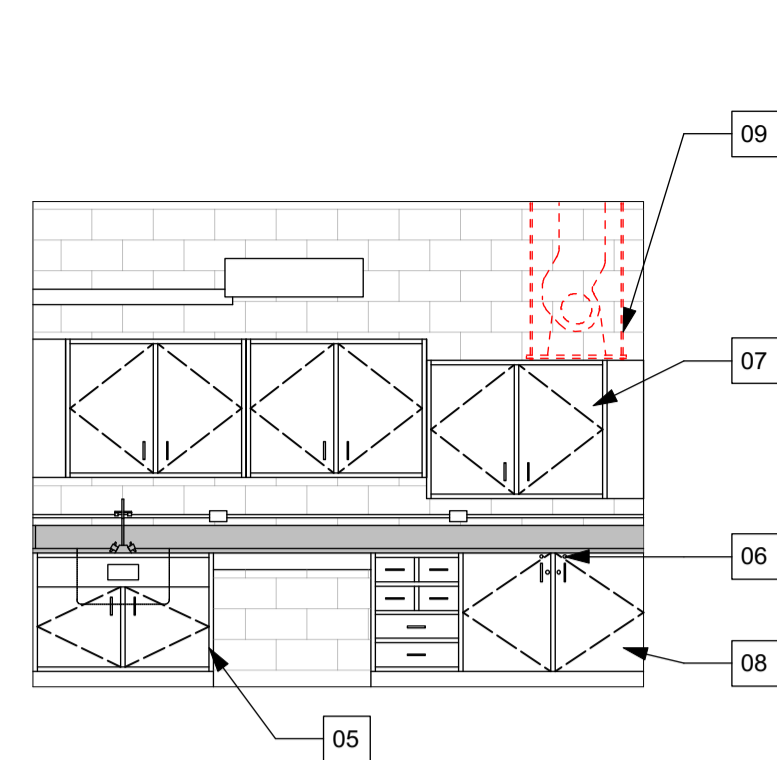


ROOM EW-14 CABINET REFURBISHMENT NOTES
NOTES DE RÉFECTON D'ARMOIRES; LOCAL EW-14.

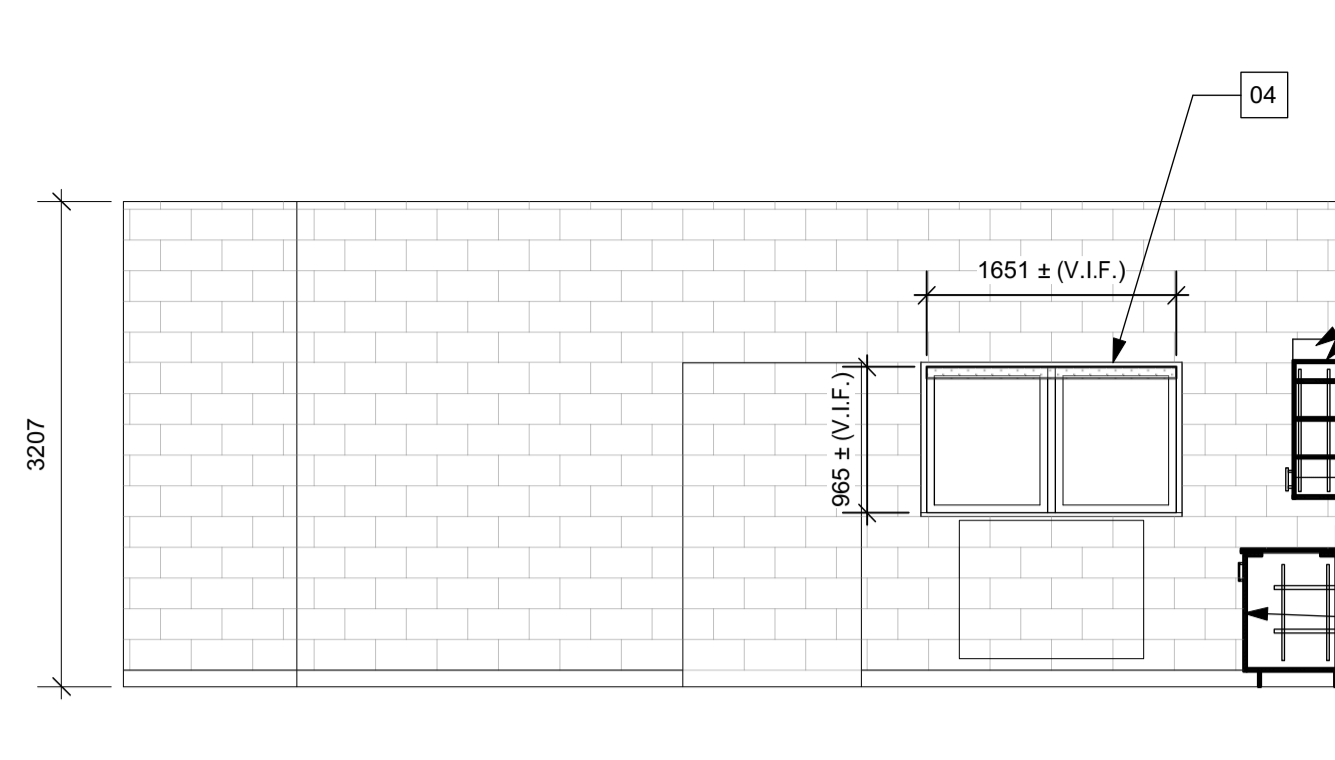
- 1) PLUG & INFILL EXISTING DAMAGED WOOD SURFACES. BOUCHER ET REMPLIR LES SURFACES EXISTANTES ET ENDOMMAGÉES EN BOIS.
- 2) PRIME ALL EXPOSED WOOD SURFACES. APPRÊTER TOUTES LES SURFACES APPARENTES EN BOIS.
- 3) PAINT ALL EXPOSED WOOD SURFACES. PEINDRE TOUTES LES SURFACES APPARENTES EN BOIS.

Interior elevation notes / Notes - Élévation d'intérieur

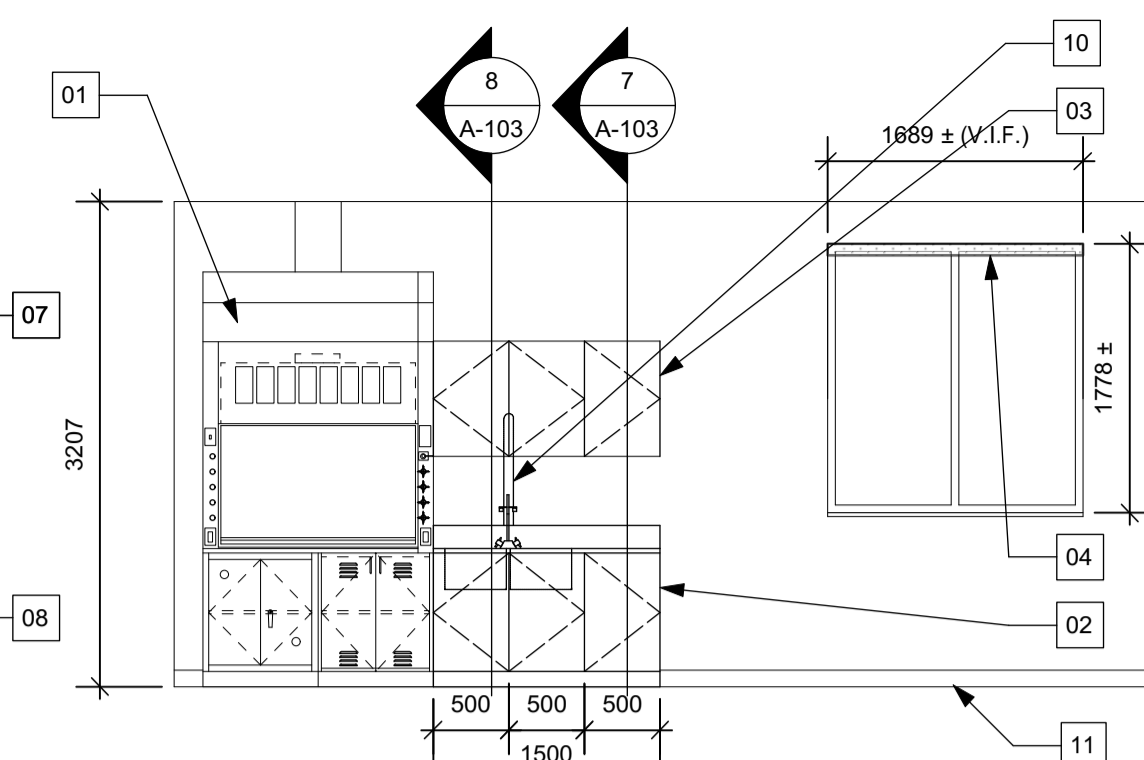
01. EXISTING FUME HOOD TO REMAIN. CONSERVER LA HOTTE DE FUMÉE EXISTANTE.
02. SUPPLY AND INSTALL NEW LOWER CABINETS W/ STAINLESS STEEL COUNTERTOP. FOURNIR ET INSTALLER DE NOUVELLES ARMOIRES INFÉRIEURES; À AMÉNAGER AVEC UN DESSUS DE COMPTOIR EN ACIER INOXYDABLE.
03. SUPPLY AND INSTALL NEW UPPER CABINETS. FOURNIR ET INSTALLER DE NOUVELLES ARMOIRES SUPÉRIEURES.
04. SUPPLY AND INSTALL NEW ROLLER BLINDS. FOURNIR ET INSTALLER DE NOUVEAUX STORES À ENROULEMENT.
05. REPAIR DAMAGED END GABLE. RE-INSTALL CABINET DOOR AND HINGES. RÉPARER LE GABLE D'EXTRÉMITÉ ENDOMMAGÉ. REMONTER LA PORTE D'ARMOIRE ET LES CHARNIÈRES.
06. INFILL EXISTING CUTOOUT FOR CABINET DOOR LOCK. REMPLIR LA DÉBOUCHURE EXISTANTE, POUR AINSI POUVOIR TENIR COMPTE DU MONTAGE DU LOQUET DE PORTE D'ARMOIRE.
07. RE-FURBISH EXISTING UPPER CABINETS. REMETTRE À NEUF LES ARMOIRES SUPÉRIEURES EXISTANTES.
08. RE-FURBISH EXISTING LOWER CABINETS. REMETTRE À NEUF LES ARMOIRES INFÉRIEURES EXISTANTES.
09. REMOVE EXISTING SUSPENDED PLATFORM AND SUPPORTS. ENLEVER LA PLATE-FORME SUSPENDUE ET LES SUPPORTS EXISTANTS.
10. EXISTING VENT PIPE TO REMAIN. CONSERVER LE TUYAU D'ÉVENT EXISTANT.
11. INSTALL NEW WALL BASE (TYP) MONTER UNE NOUVELLE PLINTHE MURALE. DÉTAIL TYPIQUE.
12. LINE OF FUME HOOD TO BE REMOVED. ENLEVER LA LIGNE DE LA HOTTE DE FUMÉE.
13. LINE OF SERVICE WALL TO BE REMOVED. ENLEVER LA LIGNE DU MUR DE SERVICE.
14. EXISTING SHELIVING TO BE RE-INSTALLED. REMONTER LES ÉTAGÈRES EXISTANTES.
15. EXISTING CABINETS/MILLWORK TO BE RE-INSTALLED. ARMOIRES ET (OU) TRAVAUX D'ÉBÉNISTERIE EXISTANTS, À REMONTER.
16. INSTALL NEW COUNTERTOP/SINK/EMERGENCY EYEWASH. RE-INSTALL EXISTING FAUCET. INSTALLER CE QUI SUIT : NOUVEAUX DESSUS DE COMPTOIR, ÉVIER ET POSTE DE LAVAGE OCULAIRE EN CAS D'URGENCE. REMONTER LE ROBINET EXISTANT.
17. EXISTING MILLWORK TO REMAIN. CONSERVER LES TRAVAUX EXISTANTS D'ÉBÉNISTERIE.



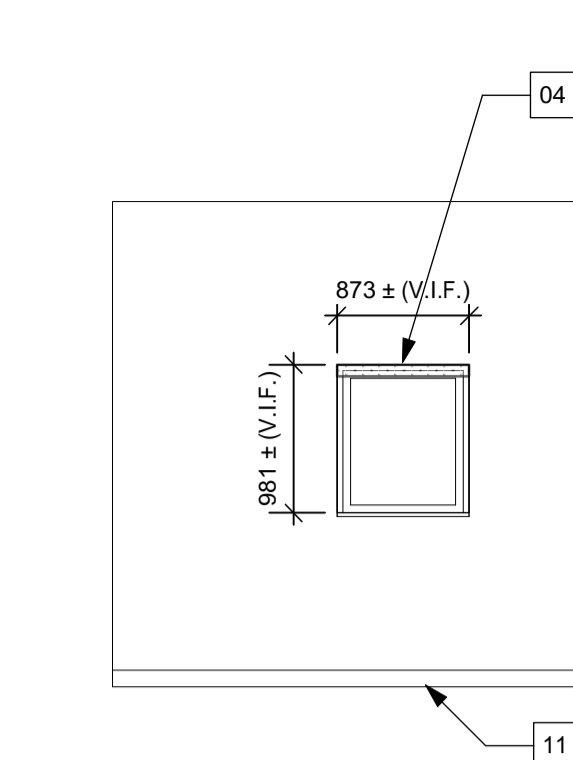
ROOM EW-14 INTERIOR ELEVATION
LOCAL EW-14 ÉLÉVATION D'INTÉRIEURE
 Scale: 1:50 Echelle: 1:50



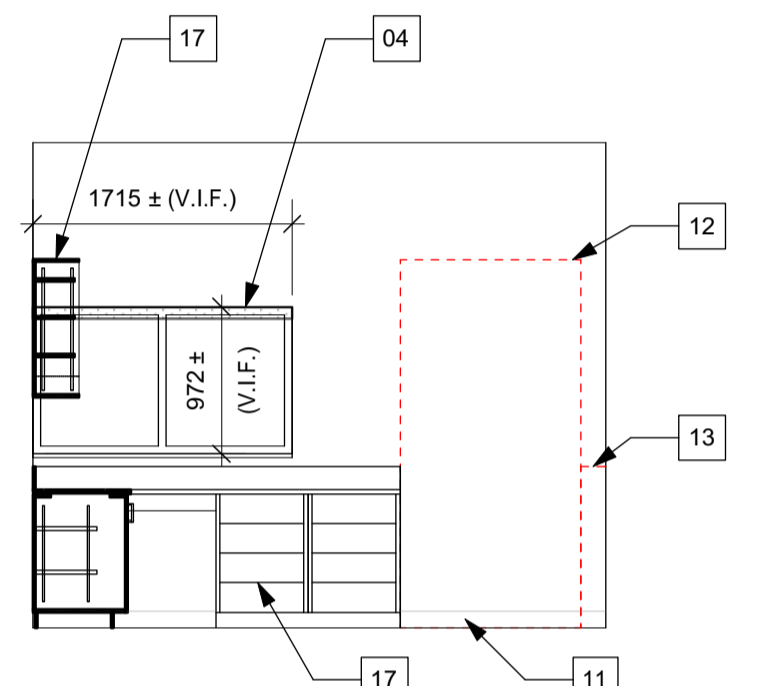
ROOM EW-14 INTERIOR ELEVATION
LOCAL EW-14 ÉLÉVATION D'INTÉRIEURE
 Scale: 1:50 Echelle: 1:50



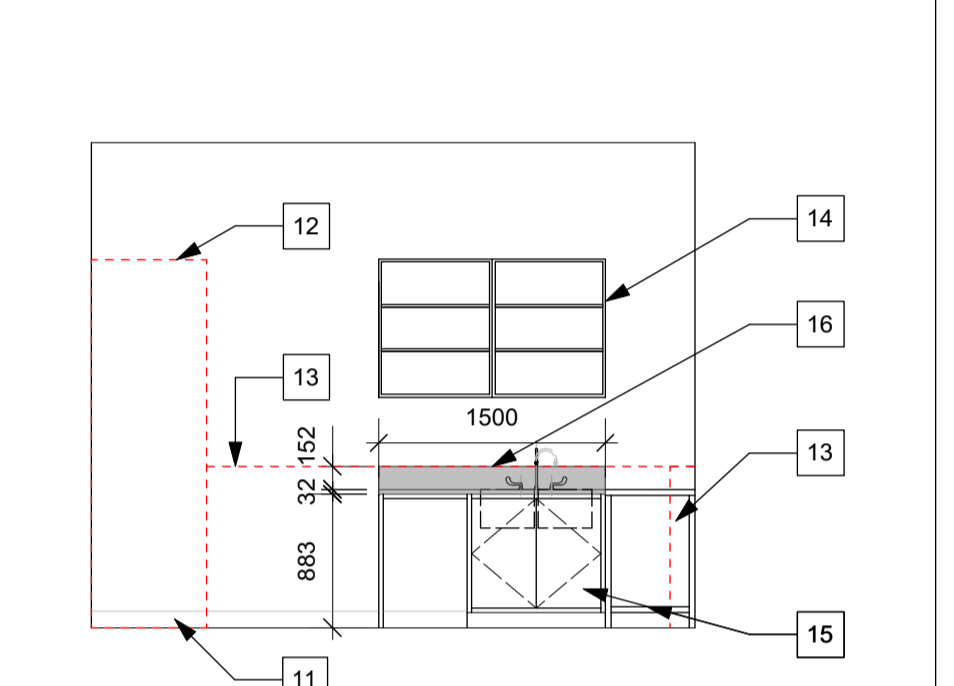
ROOM EW-15 INTERIOR ELEVATION
LOCAL EW-15 ÉLÉVATION D'INTÉRIEURE
 Scale: 1:50 Echelle: 1:50



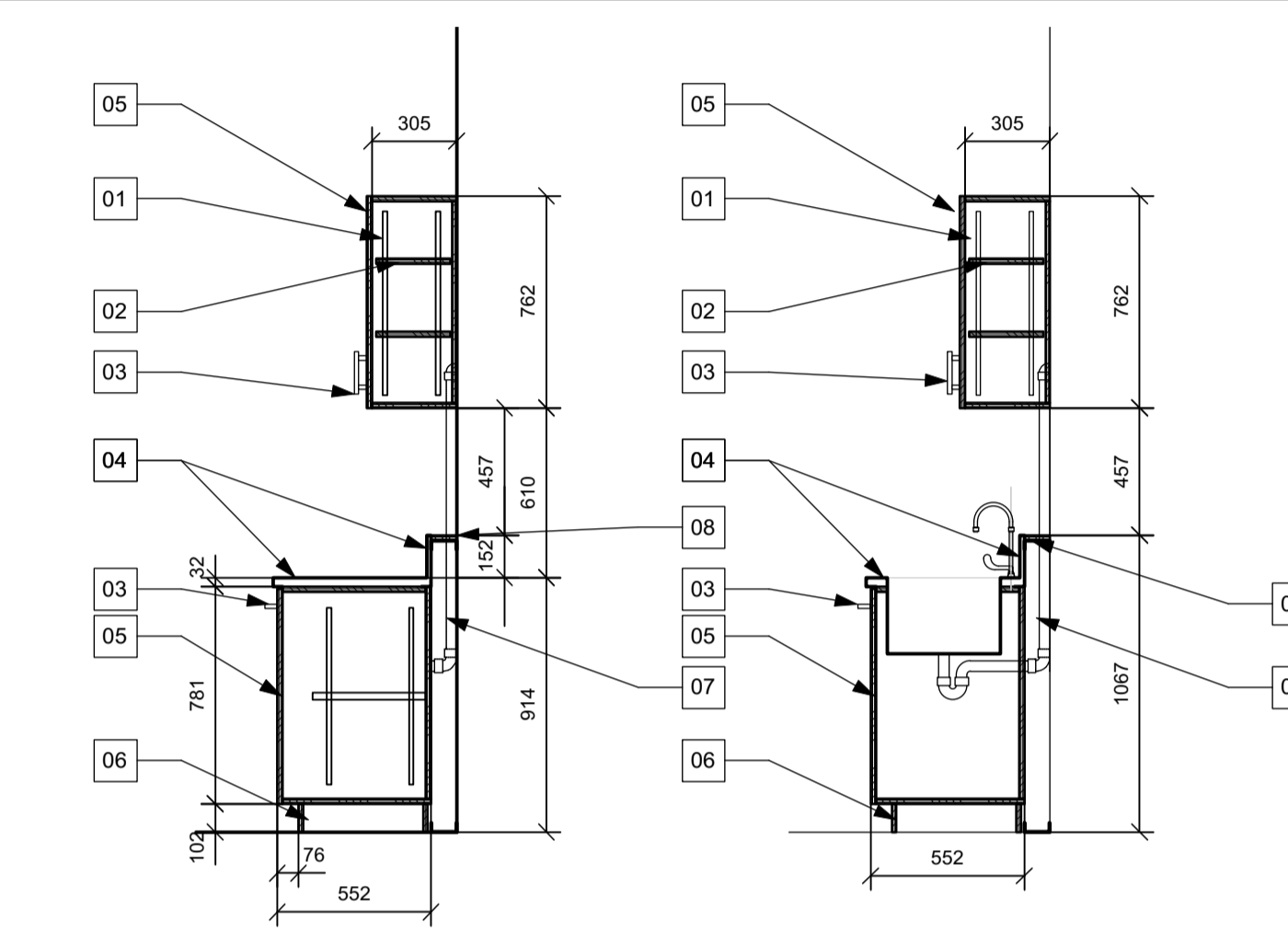
ROOM EW-16 INTERIOR ELEVATION
LOCAL EW-16 ÉLÉVATION D'INTÉRIEURE
 Scale: 1:50 Echelle: 1:50



ROOM EW-6 INTERIOR ELEVATION
LOCAL EW-6 ÉLÉVATION D'INTÉRIEURE
 Scale: 1:50 Echelle: 1:50



ROOM EW-6 INTERIOR ELEVATION
LOCAL EW-6 ÉLÉVATION D'INTÉRIEURE
 Scale: 1:50 Echelle: 1:50



MILLWORK TRAVAUX D'ÉBÉNISTERIE
 Scale: 1:25 Echelle: 1:25

- Millwork notes / Notes - Travaux d'ébénisterie**
01. ADJUSTABLE FLUSH-MOUNTED METAL SHELF STANDARDS C/W SHELF CLIPS (TYP) POTEAUX D'ÉTAGÈRE EN MÉTAL, DE TYPE RÉGLABLE ET DE MONTAGE AFFLEURÉ, AVEC AGRAFES À ÉTAGÈRES (DÉTAIL TYPIQUE)
 02. ADJUSTABLE SHELF W/ WOOD VENEER FINISH (TYP) ÉTAGÈRE RÉGLABLE ET À FINI AU PLACAGE DE BOIS (DÉTAIL TYPIQUE)
 03. METAL DOOR PULL (TYP) POIGNÉE TYPIQUE DE TIRAGE DE PORTE EN MÉTAL
 04. RE-INSTALLED STAINLESS STEEL COUNTERTOP, SINK AND BACKSPASH. DESSUS DE COMPTOIR, ÉVIER ET DOSSERET D'ANTI-ÉCLABOUSSURES, À L'ÉTAT REMONTÉ.
 05. WOOD VENEER FINISH (TYP) PLACAGE EN BOIS DUR (DÉTAIL TYPIQUE)
 06. CABINET BASE / TOE KICK (TYP) OUVRAGE D'ASSISE D'ARMOIRE ET (OU) OUVRAGE DE BUTÉE (DÉTAIL TYPIQUE)
 07. EXISTING VENT PIPING TO REMAIN. CONSERVER LA TUYAUTERIE EXISTANTE D'ÉVENT.
 08. FURR OUT KNEE WALL TO ACCOMODATE EXISTING PIPING WITH 92mm METAL STUDS @ 400mm o/c. CAP ALL EXPOSED TOP AND SIDE ENDS WITH 19mm PARTICLE BOARD c/w WOOD VENEER FINISH TO MATCH NEW MILLWORK DOORS.

MUR NAIN, À AMÉNAGER AVEC DES PROFILÉS DE FOURRURE, POUR AINSI POUVOIR TENIR COMPTE DE LA TUYAUTERIE EXISTANTE; POUR CE FAIRE, UTILISER DES MONTANTS EN MÉTAL DE 92 mm, À 400 mm D'ENTRE AXES. CAPUCHONNER TOUTES LES EXTRÉMITÉS SUPÉRIEURES ET LATÉRALES APPARENTES ET CE, EN SE SERVANT DE PANNEAUX DE PARTICULES DE 19 mm; À AMÉNAGER AVEC UN FINI DE PLACAGE EN BOIS, POUR AINSI ASSORTIR LE TOUT AUX NOUVELLES PORTES D'ÉBÉNISTERIE.

Roof plan notes / Notes - Plan du toit

01. NEW ROOF TOP UNIT - REFER TO MECHANICAL AND STRUCTURAL DRAWINGS. NOUVEL ÉLÉMENT DE MONTAGE EN DESSUS DE TOITURE. SE REPORTER AUX DESSINS DE MÉCANIQUE ET DE CHARPENTE.
02. NEW CONDENSER UNIT - REFER TO MECHANICAL DRAWINGS. NOUVEL ÉLÉMENT CONDENSATEUR. SE REPORTER AUX DESSINS DE MÉCANIQUE.

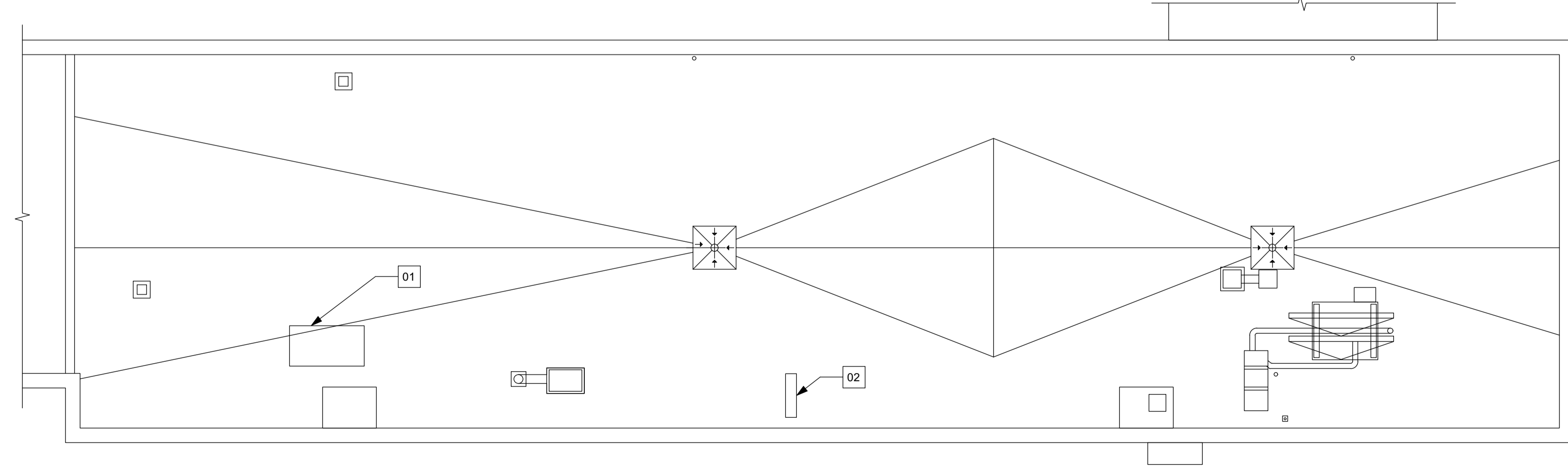
ROOF PLAN GENERAL NOTES:
NOTES GÉNÉRALES - PLAN DU TOIT :

- 1) PROVIDE SEISMIC CURB AND SNOW STAND PER MECHANICAL SPECIFICATIONS. PRÉVOIR UNE BORDURE DE PROTECTION CONTRE LES SECOUSES SISMQUES ET UN SUPPORT À NEIGE ET CE, EN CONFORMITÉ AVEC LES SPÉCIFICATIONS DE LA MÉCANIQUE.
- 2) INSTALL ROOF STRUCTURE RE-INFORCEMENT AT NEW ROOFTOP UNIT PER STRUCTURAL DRAWINGS AND SPECIFICATIONS. INSTALLER DES OUVRAGES DE RENFORT DE TOITURE DE TYPE STRUCTUREL ET CE, À L'EMPLACEMENT DU NOUVEL ÉLÉMENT DE MONTAGE EN DESSUS DE TOITURE. ICI, LE TOUT DEVRA ÊTRE CONFORME AUX SPÉCIFICATIONS ET AUX INDICATIONS PERTINENTES DES DESSINS DE CHARPENTE.
- 3) REPAIR ROOFING AFFECTED BY CONSTRUCTION TO MATCH EXISTING ROOF ASSEMBLY.

EXISTING ROOF ASSEMBLY (BASED ON RECORD DRAWINGS) IS COMPRISED OF:
 - 250 GR. GRANULATED MODIFIED MEMBRANE CAP SHEET
 - 95 PS MODIFIED MEMBRANE BASE PLY IN FULL MOPPING OF ASPHALT
 - 3mm THICK ASPHALT PROTECTION BOARD, 2% ISOCYANURATE INSULATION SLOPE AND 64 mm THICK ISOCYANURATE THERMAL INSULATION IN FULL MOPPING OF ASPHALT
 - TWO (2) PLYS NO. 15 ASPHALT FELT VAPOUR RETARDER IN FULL MOPPING OF ASPHALT
 - EXISTING CONCRETE DECK

RÉPARER LES TRAVAUX DE TOITURE AFFECTÉS PAR LA CONSTRUCTION ET CE, EN S'ASSURANT DE LES ASSORTIR À L'ASSEMBLAGE DE TOITURE EXISTANT.

- SI L'ON SE FONDE SUR LES DESSINS D'APRÈS-EXÉCUTION, L'ASSEMBLAGE DE TOITURE EXISTANT COMPREND LES ÉLÉMENTS SUIVANTS :
- FEUILLE DE COURONNEMENT À MEMBRANE MODIFIÉE ET À GRANULOMÉTRIE DE 250 GR.
 - ÉPAISSEUR DE BASE À MEMBRANE MODIFIÉE COMME SUIT : 95 PS; À POSER DANS UN PLEIN LIT D'ASPHALTE APPLIQUÉ À LA VADROUILLE.
 - PANNEAU PROTÉCTEUR EN ASPHALTE ET DE 3 mm D'ÉPAISSEUR, ISOLANT À L'ISOCYANURATE ET PRÉSENTANT UNE INCLINAISON DE 2 P. 100 ET ENFIN, ISOLANT THERMIQUE À L'ISOCYANURATE ET DE 64 mm D'ÉPAISSEUR, À POSER DANS UN PLEIN LIT D'ASPHALTE APPLIQUÉ À LA VADROUILLE.
 - ENSEMBLE COUPE-VAPEUR AU FEUTRE D'ASPHALTE DU NUMÉRO 15 ET À DEUX (2) ÉPAISSEURS, À POSER DANS UN PLEIN LIT D'ASPHALTE APPLIQUÉ À LA VADROUILLE.
 - TABLIER EXISTANT EN BÉTON



PARTIAL ROOF PLAN
PLAN PARTIEL DU TOIT
 Scale: 1:100 Echelle: 1:100

SEAL / SCEAU

CONSULTANTS / EXPERTS-CONSEILS

KEY PLAN / PLAN CLÉ

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Génomique
RÉNOVATIONS
 OTTAWA, ONTARIO

SHEET TITLE / TITRE DE LA FEUILLE

BUILDING 50
INTERIOR ELEVATIONS
ÉDIFICE 50
ÉLÉVATIONS INTÉRIEURE

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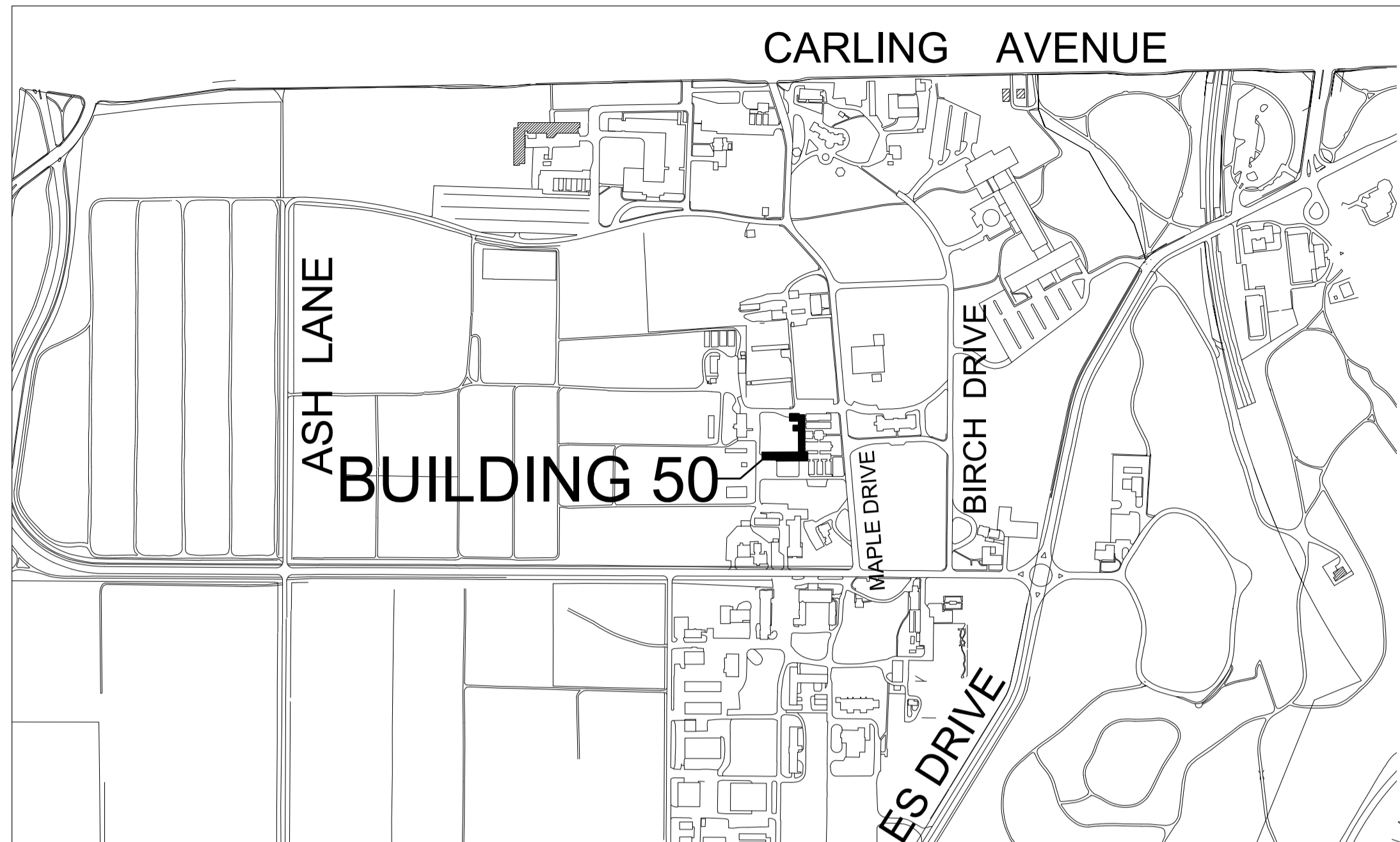
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SHEET / FEUILLE

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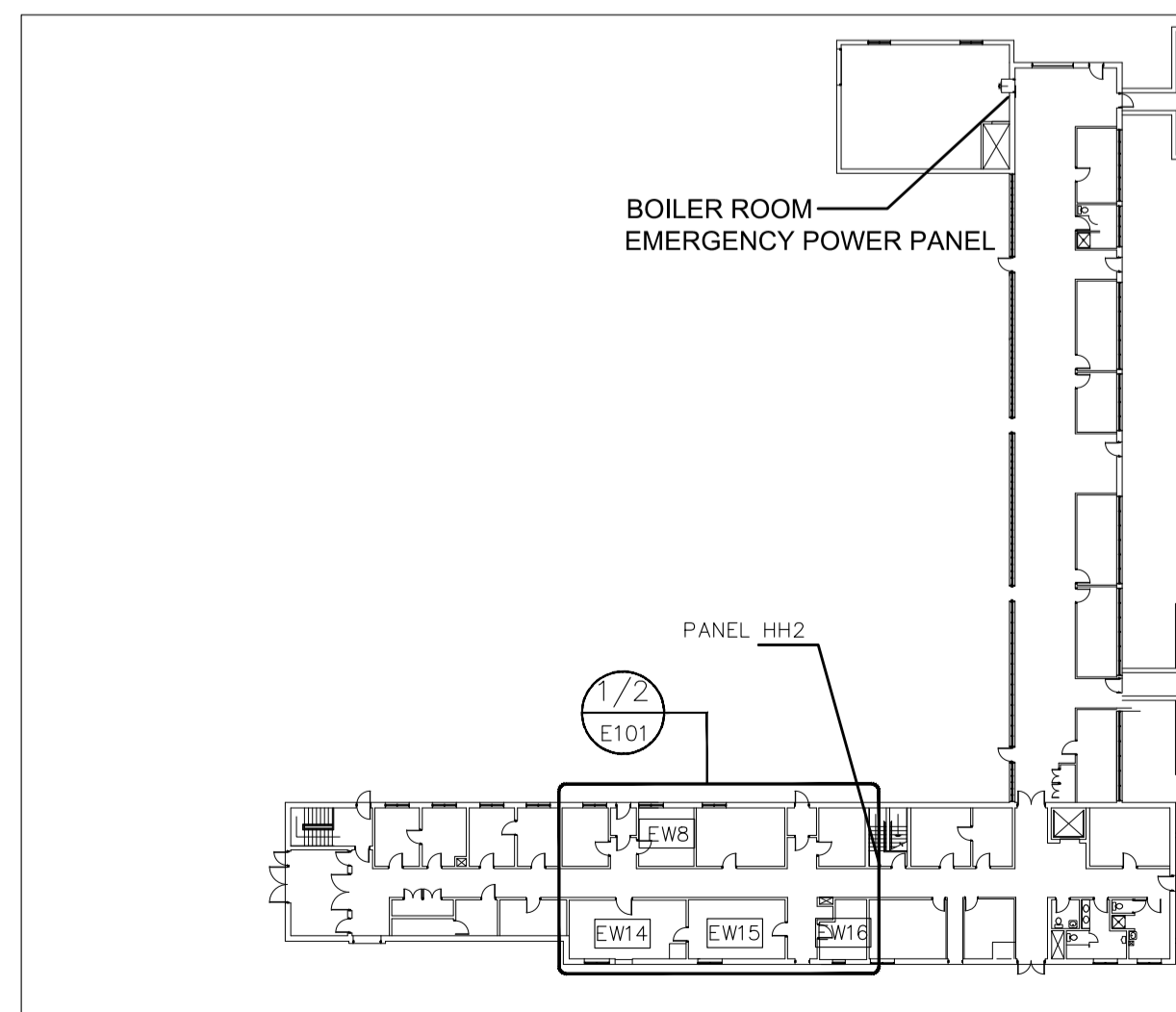


1 SITEPLAN
E001 Scale: NTS



ELECTRICAL SPECIFICATIONS

- GENERAL CONDITIONS
 - OBTAIN AND PAY FOR PERMITS REQUIRED BY ELECTRICAL SAFETY AUTHORITY AND LOCAL INSPECTION AUTHORITIES FOR THIS WORK. PRESENT FINAL CERTIFICATES TO OWNER.
 - CARRY OUT ALL WORK IN ACCORDANCE WITH CEC (CANADIAN ELECTRICAL CODE) REGULATIONS AND ESA REQUIREMENTS.
 - ALL EQUIPMENT SHALL BE NEW AND CSA APPROVED UNLESS OTHERWISE NOTED.
- SCOPE OF WORK
 - COMPLY WITH ALL CONDITIONS OF TENDER DOCUMENTS ISSUED FOR THIS PROJECT.
 - THE REMOVAL OR RELOCATION OF EXISTING, AND THE SUPPLY AND INSTALLATION OF NEW EQUIPMENT AS SHOWN ON THE DRAWINGS AND AS NOTED. THE MATERIALS REMOVED AND NOT REUSED, SHALL BECOME OWNERS PROPERTY AND SHALL BE REMOVED FROM THE SITE PRIOR TO COMPLETION OF WORK AS DIRECTED BY OWNER.
 - GENERAL
 - COMPLY WITH GENERAL CONDITIONS.
 - SUBMIT ONE (1) DIGITAL COPY OF SHOP DRAWINGS FOR LIGHTING FIXTURES, EXIT LIGHTS, EMERGENCY LIGHTS, AND BATTERY UNITS; DISCONNECT SWITCHES, STARTERS, NEW PANELS, ETC TO OWNER FOR REVIEW.
 - SUBMIT MAINTENANCE AND INSTRUCTION MANUALS. THIS PROJECT ALLOWS FOR 2 REVISIONS, PRELIMINARY SET AND THEN A FINAL SET.
 - ON COMPLETION OF PROJECT AND BEFORE FINAL PAYMENT, SUBMIT TWO (2) DWG, PDF'S AND HARDCOPY OF AS-BUILT DRAWINGS WITH ALL CHANGES AND BURIED SERVICES EXACT LOCATIONS NOTED THEREON.
 - GUARANTEE ALL MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER. PROVIDE WRITTEN GUARANTEE.
 - PROVIDE LAMACOID LABELS (3-PLY) WHITE LETTERED ON BLACK BACKGROUND- 1/4" HIGH LETTERING ON ALL ELECTRICAL EQUIPMENT SUPPLIED, MOUNTED AND/OR CONNECTED BY THIS CONTRACTOR.
 - THOROUGHLY CLEAN ALL ELECTRICAL EQUIPMENT DURING CONSTRUCTION AND ON COMPLETION OF CONTRACT.
 - CONFER WITH ALL TRADES AND ARRANGE EQUIPMENT IN PROPER RELATION WITH OTHERS AND WITH BUILDING CONSTRUCTION AND ARCHITECTURAL FINISHES.
 - REFER TO ARCHITECTURAL SPECIFICATIONS AND DRAWINGS WHICH ARE PART OF THIS WORK.
 - OWNER RESERVES RIGHT TO TRIAL AND/OR TEMPORARY USAGE PRIOR TO ACCEPTING INSTALLATION.
 - PROVIDE ALL MATERIALS, EQUIPMENT, ACCESSORIES, CONSUMABLES, LABOR, SUPERVISION, TOOLS, SERVICES, ETC. AS DESCRIBED IN THE CONTRACT DOCUMENTS.
 - PRIOR TO TENDERING, EXAMINE THE SITE, ALL DRAWINGS AND SPECIFICATIONS AND REPORT ALL/ANY CONFLICTS, DISCREPANCIES TO THE OWNER FOR CLARIFICATION AND/OR CORRECTION.
 - COORDINATE AND SCHEDULE WORK WITH OWNER AND OTHER TRADES TO MINIMIZE CONFLICTS, DELAYS, AND DISRUPTION OF EXISTING SERVICES AND OPERATIONS.
- DEFINITIONS: FOLLOWING ARE DEFINITIONS OF WORDS FOUND IN THIS SPECIFICATION AND ON ASSOCIATED DRAWINGS.
 - "CONCEALED" - HIDDEN FROM NORMAL SIGHT IN FURRED - SPACES, SHAFTS, CEILING SPACES, WALLS, UNDERFLOOR, AND PARTITIONS
 - "EXPOSED" - ALL ELECTRICAL WORK VISIBLE TO BUILDING OCCUPANTS.
 - "PROVIDE" - (AND ALL TENSES OF "PROVIDE") SUPPLY AND INSTALL, WIRE AND CONNECT COMPLETE.
 - "INSTALL" - (AND ALL TENSES OF "INSTALL")-INSTALL, WIRE AND CONNECT COMPLETE, PRODUCTS AND SERVICES SPECIFIED.
 - "SUPPLY" - SUPPLY ONLY.
 - "OR APPROVED EQUAL" - MATERIAL OR EQUIPMENT PROPOSED BY CONTRACTOR, IN LIEU OF THAT SPECIFIED, AS APPROVED BY OWNER.
 - "AS INDICATED" - AS SHOWN ON DRAWINGS AND/OR NOTED IN SPECIFICATIONS.
 - "OWNER" - BUILDING OWNER AS DEFINED IN THE CONTRACT OR THE DEPARTMENTAL REPRESENTATIVE.
 - "SOFT COPY" - PDF FORMAT
 - "AUTOCAD" - DWG FORMAT
- LIABILITY
 - THIS CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR LAYING OUT HIS/HER WORK AND ANY DAMAGE OR EXTRA COSTS CAUSED TO THE OWNER OR OTHER CONTRACTORS BY IMPROPER LOCATION OR CARRYING OUT HIS WORK. CARRY ALL NECESSARY INSURANCE COVERAGE.
- CERTIFICATES, FEES, ETC.
 - GIVE ALL NOTICES, OBTAIN ALL PERMITS AND PAY ALL FEES SO



2 BUILDING 50 - AREA OF WORK
E001 Scale: 1:500



ELECTRICAL SPECIFICATIONS

- THAT THE WORK SPECIFIED HEREIN MAY BE CARRIED OUT, AT THE OWNER'S REQUEST, FURNISH ANY CERTIFICATES AS EVIDENCE
- CEILING TILE REMOVAL / REPLACEMENT
 - EACH RESPECTIVE SUB-TRADE OR PRIME ELECTRICAL CONTRACTOR AS THE CASE MAY BE SHALL BE RESPONSIBLE FOR THE REMOVAL AND REINSTALLATION OF ANY CEILING TILES TO SUIT WORK WITHIN THE CEILING SPACE. ANY DAMAGED TILES SHALL BE REPLACED AT THE COST TO THE RESPECTIVE SUB-TRADE OR PRIME ELECTRICAL CONTRACTOR AND SHALL BE HELD BACK ON THE PROGRESS DRAW.
 - HOURS OF WORK
 - ANY AUDIBLE TESTING, CORE DRILLING OR ANY OTHER NOISY WORK MUST BE PERFORMED "AFTER HOURS". MAKE ARRANGEMENTS WITH BUILDING PERSONNEL TO CONFIRM TIMES FOR SUCH WORK.
 - REFER TO GENERAL CONDITIONS, ARCHITECTURAL SPECIFICATIONS, AND MECHANICAL PHASING PLANS FOR PHASING AND SCHEDULING OF WORK.
 - SERVICE PENETRATIONS
 - FIRE STOP AND SMOKE SEALS: MATERIALS SHALL BE ULC LISTED COMPONENTS SUITABLE FOR FIRE RESISTANCE RATINGS.
 - ALL OPENINGS IN FIRE SEPARATIONS FOR SERVICE PENETRATIONS SHALL BE PROTECTED WITH ULC LISTED "SERVICE PENETRATIONS FIRESTOP SYSTEMS"
 - ACCESS DOORS
 - MINIMUM 1/2 GA. PRIME COAT PAINTED, HEAVY DUTY FULLY CONCEALED FRAME AND HINGES, POSITIVE LOCKING DEVICE.
 - ACCESS DOORS SHALL BE AS RECOMMENDED BY MANUFACTURER FOR PARTICULAR INSTALLATION.
 - SUPPLY ACCESS DOORS FOR ACCESS TO EQUIPMENT REQUIRING SERVICE, LUBRICATION OR ADJUSTMENT AND ALL CONCEALED VALVES, CLEANOUTS, TRAP PRIMERS, FIRE DAMPERS, CONTROL AND VOLUME DAMPERS, AND OTHER SUCH EQUIPMENT.
 - TURN OVER ACCESS DOORS TO THE APPROPRIATE GENERAL TRADE FOR INSTALLATION.
 - INCLUDE COST FOR GENERAL TRADES TO SUPPLY AND INSTALL ACCESS PANELS IN GYPSUM CEILING OR WALLS.
 - GROUNDING
 - INSTALL COMPLETE PERMANENT, CONTINUOUS, BONDING SYSTEM AND CIRCUIT GROUNDING SYSTEM CONFORMING TO REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION AND OESC.
 - WIRES AND CABLES
 - ALL WIRING SHALL BE IDENTIFIED WITH BRADY OR EQUIVALENT SELF-STICKING PERMACODE WIRE MARKERS. ALL JUNCTION BOXES IN CEILING SPACES SHALL BE LABELLED WITH PERMANENT MARKER AS TO CIRCUITS CONTAINED THEREIN.
 - ALL SURFACE MOUNTED OR SUSPENDED CABLES TO BE SECURELY SUPPORTED BY STAPLES, STRAPS, HANGERS OR APPROVED DEVICES ATTACHED TO BUILDING STRUCTURE AT INTERVALS NOT EXCEEDING OESC REQUIREMENTS.
 - GENERAL WIRING INSIDE BUILDING: CSA APPROVED, SOFT COPPER, 600VOLT, 190 (90°C) FOR #10 AWG AND SMALLER; 600VOLT R90XL (90°C) OR 190 (90°C) FOR #8 AWG AND LARGER. RACEWAY SIZE SHALL BE BASED ON USE OF TWH/RW90XL INSULATION.
 - MINIMUM GAUGE: #12 AWG, UNLESS SPECIFICALLY NOTED OTHERWISE. CONDUCTORS #10 AWG AND SMALLER TO BE SOLID AND/OR STRANDED CONDUCTORS #8 AWG AND LARGER TO BE STRANDED. WHERE DISTANCE FROM PANEL TO FIRST OUTLET ON 15AMP RATED CIRCUIT EXCEEDS 70 FEET (21 METERS) USE #10 AWG TO FEED FIRST OUTLET.
 - ALL WIRING AND CABLES TO BE COLOUR CODED FOR PHASE AND NEUTRAL IDENTIFICATION AND IN ACCORDANCE WITH OESC.
 - SUPPLY, INSTALL, WIRE AND CONNECT ALL EQUIPMENT SHOWN, SPECIFIED OR MENTIONED.
 - WIRE AND CONNECT MOTORS, SUPPLIED BY OTHERS, AS INDICATED.
 - CONTRACTOR TO CONFIRM CABLE AND CORD LENGTHS.
 - EMT SHALL BE USED FOR WIRING AND CONCEALED WHEREVER POSSIBLE. EMT COUPLINGS AND CONNECTORS SHALL BE STEEL SETSCREW CONCRETE TIGHT OR STEEL COMPRESSION RAIN TIGHT.
 - ALL CONDUCTORS: COPPER WITH TWH OR R-90 INSULATION, MINIMUM #12AWG, UNLESS OTHERWISE NOTED.
 - WIRING SHALL BE CONCEALED IN WALLS OR ABOVE CEILING UNLESS OTHERWISE APPROVED.
 - WIRING DEVICES
 - SWITCHES: PUSH-IN CONNECTIONS ARE NOT ACCEPTABLE. SCREW TERMINALS SHALL BE USED, CSA APPROVED, WHITE SPECIFICATION GRADE, 120VOLT AC, TO MATCH EXISTING.
 - RECEPTACLES OF ONE MANUFACTURER THROUGHOUT PROJECT.
 - RECEPTACLES: PUSH-IN CONNECTIONS ARE NOT ACCEPTABLE. SCREW TERMINALS SHALL BE USED, CSA APPROVED, WHITE SPECIFICATION GRADE, 125VOLT AC, 3-WIRE, GROUNDING, STRAIGHT BLADE, DUPLEX AS FOLLOWS: 15AMP HUBBELL: HBL5252
 - RECEPTACLES FED FROM STANDBY POWER SHALL HAVE RED COLOURED FACE.
 - ALL COVERPLATES OR WIRING DEVICES AND ALL OTHER ITEMS ARE TO BE MOUNTED STRAIGHT (I.E. WITH EDGES VERTICAL AND HORIZONTAL).
 - COVERPLATES: STAINLESS STEEL.
 - MOUNT ALL DEVICES AT HEIGHTS SHOWN ON DRAWINGS. COMPLY WITH NBC (NATIONAL BUILDING CODE), BARRIER FREE DESIGN.
 - IF ASBESTOS MATERIAL IS ENCOUNTERED, STOP WORK IN THE AFFECTED AREA IMMEDIATELY AND NOTIFY THE OWNER.
 - PROVIDE ALL CUTTING AND PATCHING REQUIRED TO CARRY OUT WORK UNDER THIS CONTRACT.
 - JUNCTION BOXES & PULL BOXES
 - JUNCTION AND PULL BOXES: STEEL METAL ENCLOSURE, WELDED CORNERS AND FORMED HINGED COVER SUITABLE FOR LOCKING IN CLOSED POSITION.
 - COVERS WITH 1" (25mm) MINIMUM EXTENSION ALL AROUND, FOR FLUSH-MOUNTED PULL AND JUNCTION BOXES.
 - FIXTURE BOXES: ELECTRO-GALVANIZED STEEL 100mm (4") OCTAGON COMPLETE WITH 10mm (3/8") FIXTURE STUD WHERE NECESSARY.
 - SWITCHES AND RECEPTACLE BOXES SHALL BE 1104 TYPE FOR RECESSED MOUNTING.
 - OUTLET BOXES
 - BOXES FOR INDOOR USE: CODE GAUGE ELECTRO-GALVANIZED STEEL FOR CONCEAL MOUNTING AND GALVANIZED CAST FERALLOY OR CAST BRUSHED ALUMINUM FOR EXPOSED USE, UNLESS OTHERWISE NOTED.
 - FIXTURE BOXES: ELECTRO-GALVANIZED STEEL 100mm (4") OCTAGON COMPLETE WITH 10mm (3/8") FIXTURE STUD WHERE NECESSARY.
 - PANELBOARDS AND BREAKERS
 - USE EXISTING PANELBOARD(S) TO CONNECT NEW CIRCUITS. PROVIDE NEW BREAKERS AS REQUIRED. COORDINATE WITH OWNER.
 - BRANCH BREAKERS: MINIMUM 22,000A RMS SYMMETRICAL INTERRUPTING @ 240VAC, UNLESS OTHERWISE NOTED. WHEN BREAKER IS TRIPED AUTOMATICALLY, HANDLE TO ASSUME POSITION BETWEEN ON AND OFF. MINIMUM INTERRUPTING RATING SHALL NOT BE LESS THAN SWITCHBOARD OR PANEL RATING WHEREIN BREAKERS ARE INSTALLED.

ELECTRICAL DRAWING LIST

E001	ELECTRICAL DRAWING LIST, LEGEND, NOTES, SPECIFICATIONS & KEYPLANS
E101	BUILDING 50 GROUND FLOOR DEMOLITION AND NEW POWER AND SYSTEMS PLANS
E102	BUILDING 50 ROOF AND BASEMENT POWER PLAN

LEGEND

SYMBOL	DESCRIPTION	MTG HT @
□	LIGHT FIXTURE	AS NOTED
\$	15A, 125V SINGLE POLE SWITCH, 1/2 (TWO POLE), 3/4 (3-WAY), 1 (4-WAY), 1 1/2 (KEY OPERATED), 2 (DIMMER), 3 (C/W PILOT LIGHT), 4 (LOW VOLTAGE), 5 (TIMER), 6 (OCCUPANCY SENSOR SWITCH) (SINGLE GANG), 7 (DOUBLE GANG), 8 (TRIPLE GANG), 9 (FOUR GANG), 10 (FIVE GANG), 11 (SIX GANG)	1100 (43")
■	ELECTRICAL PANEL	1981 (78") TO TOP
⊕	15AMP (20AMP WHERE NOTED) 125VOLT U-GROUND DUPLEX REC.	457 (18")
⊕	15AMP (20AMP WHERE NOTED) 125VOLT U-GROUND DUPLEX RECEPTACLE ON EMERGENCY POWER	457 (18")
⊕	15AMP (20AMP WHERE NOTED) 125VOLT U-GROUND SPLIT RECEPTACLE	457 (18")
⊕	15AMP (20AMP WHERE NOTED) 125VOLT U-GROUND DOUBLE DUPLEX RECEPTACLE	457 (18")
---	SURFACE RACEWAY	
▽	SPECIAL RECEPTACLE (REFER TO DRAWINGS)	457 (18")
▽	DATA OUTLET C/W 1" (27mm) CONDUIT TO ACCESSIBLE CEILING SPACE	457 (18")
▽	VOICE OUTLET C/W 1" (27mm) CONDUIT TO ACCESSIBLE CEILING SPACE	457 (18")
▽	VOICE/DATA OUTLET C/W 1" (27mm) CONDUIT TO ACCESSIBLE CEILING SPACE	457 (18")
OC	OVER COUNTER	
GFI	GROUND FAULT INTERRUPTER	
□	DISCONNECT SWITCH	
●	DIRECT CONNECTION	

GENERAL NOTES

- DO NOT SCALE DRAWINGS FOR INSTALLATION PURPOSES. OBTAIN ALL DIMENSIONS FROM ARCHITECTURAL PLANS, MANUFACTURER'S SHOP DRAWINGS, AND ON SITE INSPECTIONS.
- PRIOR TO INSTALLATION OF BOXES IN WALLS, VERIFY THAT NO INTERFERENCES EXIST. CHECK ARCHITECTURAL PLANS AND ELEVATIONS.
- MECHANICAL AND ELECTRICAL TRADES SHALL WORK IN CONJUNCTION WITH ONE ANOTHER SO AS TO AVOID INTERFERENCES BETWEEN PIPING, DUCTWORK, CONDUIT, LIGHTING FIXTURES, ETC.
- WORK IN CONJUNCTION WITH ARCHITECTURAL REFLECTED CEILING PLAN WHEN LOCATING LIGHT FIXTURES.
- ALL EXISTING DEAD WIRING AND CONDUIT IN RENOVATED AREAS SHALL BE REMOVED IN ITS ENTIRETY WHERE ACCESSIBLE. WHERE NOT ACCESSIBLE, WIRING ONLY SHALL BE REMOVED AND CONDUIT SHALL REMAIN.
- REWORK ALL EXISTING WIRING, CONDUIT, ETC. REMAINING IN USE AND FALLING WITHIN EXISTING WALLS WHICH ARE BEING REMOVED, TO NEAREST EXISTING WALLS REMAINING. ALL REWORKED WIRING SHALL BE CONCEALED.
- DISCONNECT AND REMOVE ANY ELECTRICAL EQUIPMENT IN CEILING SPACE OR WALLS THAT CAUSES INTERFERENCES DURING RENOVATION WORK. ALL EQUIPMENT SHALL BE REPLACED AND RECONNECTED UPON COMPLETION OF RENOVATION WORK.
- ELECTRICAL EQUIPMENT BEING REMOVED AND NOT BEING REUSED WILL BE STORED ON SITE AND REMAIN THE PROPERTY OF THE OWNER. ANY SUCH EQUIPMENT THE OWNER DOES NOT WISH TO RETAIN WILL BE REMOVED FROM SITE AND DISPOSED OF BY THIS TRADE.
- REVIEW ARCHITECTURAL, MECHANICAL, AND STRUCTURAL DRAWINGS AND PROVIDE ON SITE INSPECTIONS TO DETERMINE FULL EXTENT OF PROJECT PRIOR TO SUBMITTING BID.

DEMOLITON NOTES

- ELECTRICAL SYSTEMS SHOWN ON DEMOLITION PLANS ARE BASED ON INFORMATION OBTAINED FROM ORIGINAL CONSTRUCTION CONTRACT/TENDER DOCUMENTS. THESE DRAWINGS ARE NOT BASED ON "AS-BUILT RECORDS" OR ON EXHAUSTIVE FIELD MEASUREMENT AND ARE PROVIDED TO ASSIST THE CONTRACTOR IN DETERMINING THE EXTENT OF WORK REQUIRED. THE CONTRACTOR SHALL MAKE ALLOWANCE IN THEIR TENDER PRICE FOR THE REMOVAL OF ADDITIONAL 10% OF REDUNDANT SERVICES AND THE PROTECTION OF EXISTING SERVICES THAT MUST REMAIN. RECORD THE LOCATION OF ALL EXISTING SERVICES THAT REMAIN ON AS-BUILT RECORD DRAWINGS.

SEAL

CONSULTANTS

KEY PLAN

#	ISSUE / REVISION	DATE
01	66% REVIEW	05/09/2018
02	99% REVIEW	05/28/2018
03	TRANSLATION	06/08/2018
04	TENDER	07/04/2018
05	RE-ISSUED FOR TENDER	08/15/2018
06	RE-ISSUED FOR TENDER	11/05/2019

PROJECT NAME

CENTRAL EXPERIMENTAL FARM
Building 50
Labs/Genomics
RENOVATIONS
OTTAWA, ON

NOM DU PROJET
FERME EXPERIMENTALE CENTRALE

Édifices 50
Laboratoires/
Genomique
RENOVATIONS
OTTAWA, ON

SHEET TITLE / TITRE DE LA FEUILLE

ELECTRICAL DRAWING LIST, LEGEND, NOTES, SPECIFICATIONS & KEY PLANS

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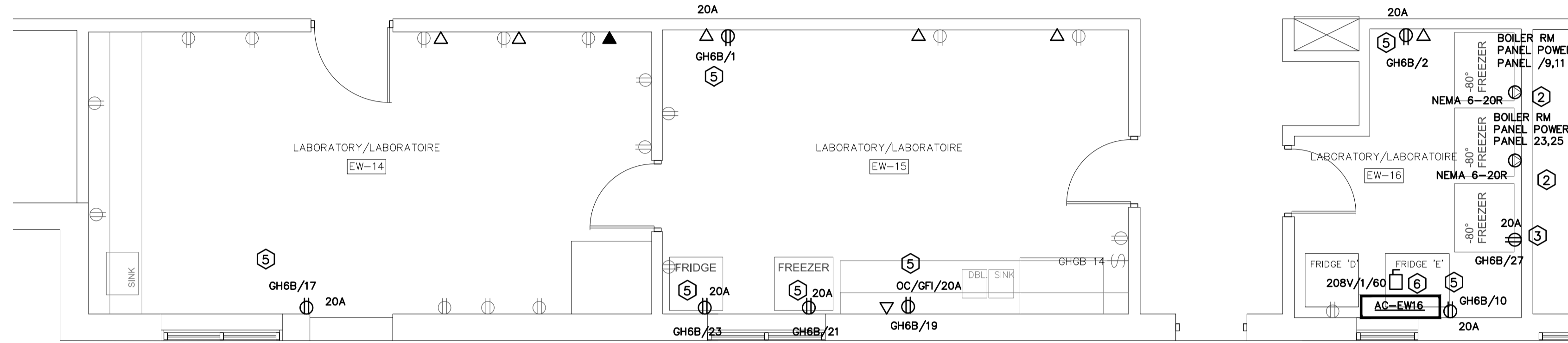
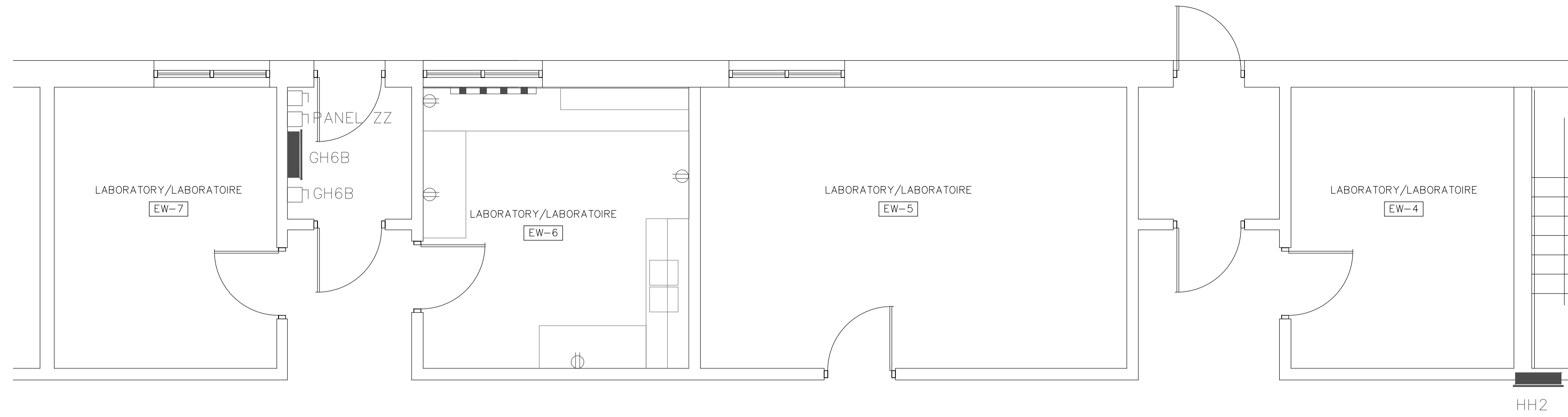
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CHECKED BY / VERIFIÉ SB
PAR

SHEET / FEUILLE

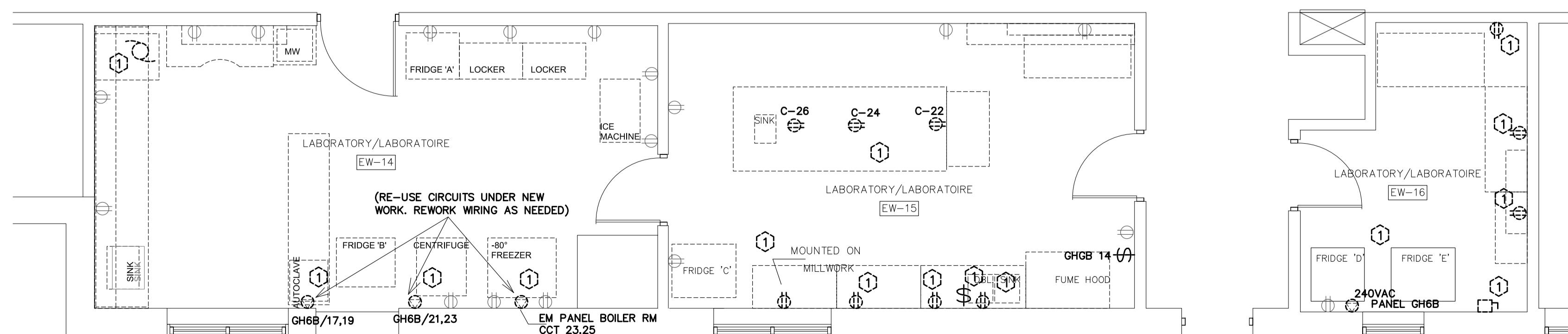
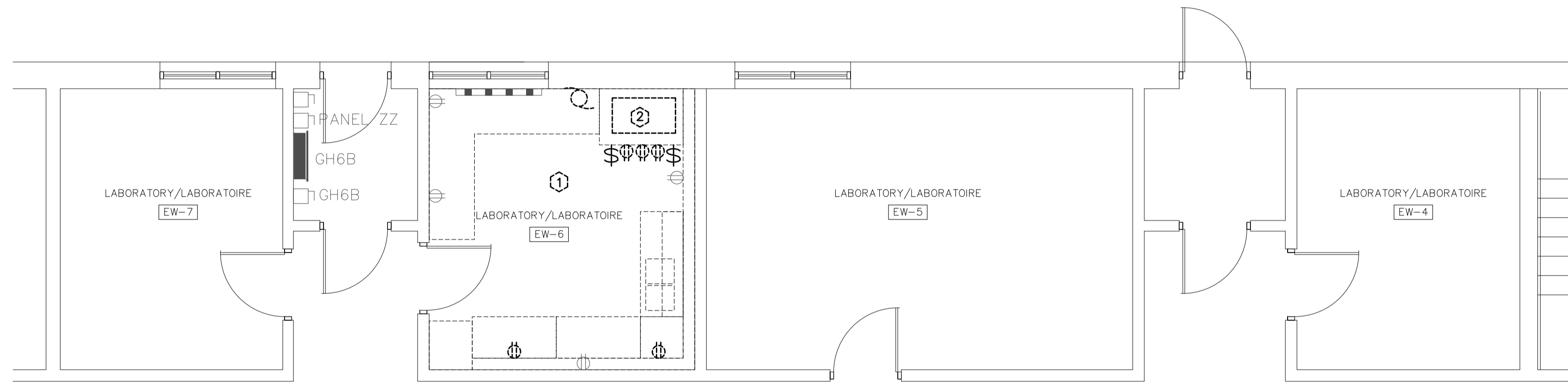
E-001

- PROPOSED POWER AND SYSTEMS NOTES:**
- 1 PROVIDE NEW DEVICES SHOWN IN BOLD. CONNECT TO EXISTING CIRCUITS. REWORK WIRING AS NEEDED.
 - 2 PROVIDE NEW DEVICE AND CONNECT AS INDICATED. PROVIDE NEW 20A 2P 208V CIRCUIT BREAKER IN EMERGENCY PANEL IN BOILER ROOM.
 - 3 PROVIDE NEW DEVICE. PROVIDE NEW 15A 1P CIRCUIT BREAKER AND CONNECT.
 - 4 PROVIDE NEW DEVICE AND CONNECT AS INDICATED. PROVIDE NEW 20A 1P 208V BREAKER. SPACE TO BE FREED UP IN PANEL BY REMOVING EXISTING CIRCUIT BREAKERS #3,5,7, AND 9 ON. PROVIDE NEW 1P TANDEM BREAKERS TO MATCH EXISTING CIRCUIT RATINGS FOR CIRCUITS #3,5,7 AND 9. RECONNECT CIRCUITS TO NEW TANDEM BREAKERS.
 - 5 PROVIDE NEW DEVICE AND CONNECT AS INDICATED. PROVIDE 20A 1P 120V BREAKERS.
 - 6 CONNECT NEW INDOOR AC UNIT TO OUTDOOR CONDENSING UNIT.



2 BUILDING 50 PROPOSED GROUND FLOOR PLAN
 Scale: 1:50

- DEMOLITION POWER AND SYSTEMS NOTES:**
- 1 DISCONNECT AND REMOVE EXISTING DEVICES SHOWN IN BOLD DASHED LINES. REMOVE ALL REDUNDANT WIRING, CONDUITS, BOXES, ETC. REUSE CIRCUITS IN NEW WORK WHERE INDICATED.
 - 2 DISCONNECT EXHAUST FAN ABOVE FUME HOOD. REMOVE ALL REDUNDANT WIRING, CONDUITS, BOXES BACK TO SOURCE.



1 BUILDING 50 DEMOLITION GROUND FLOOR PLAN
 Scale: 1:50

SEAL

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 Labs/Genomics
 RENOVATIONS
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NOM DU PROJET
 FERME EXPERIMENTALE CENTRALE
 Édifices 50
 Laboratoires/
 Genomique
 RENOVATIONS
 OTTAWA, ON

SHEET TITLE / TITRE DE LA
 FEUILLE
 BUILDING 50 GROUND
 FLOOR DEMOLITION AND
 NEW POWER & SYSTEMS
 PLANS

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SHEET TITLE / TITRE DE LA
 FEUILLE
 BUILDING 50 ROOF AND
 BASEMENT POWER PLANS

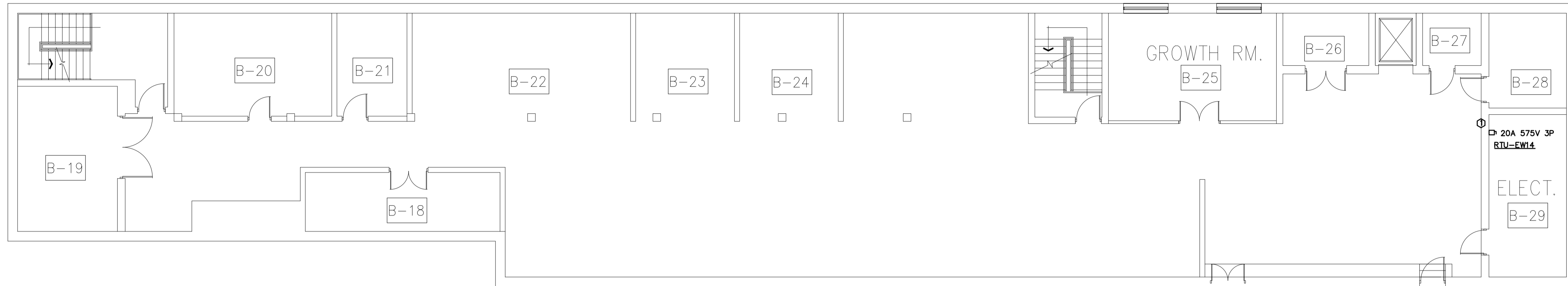
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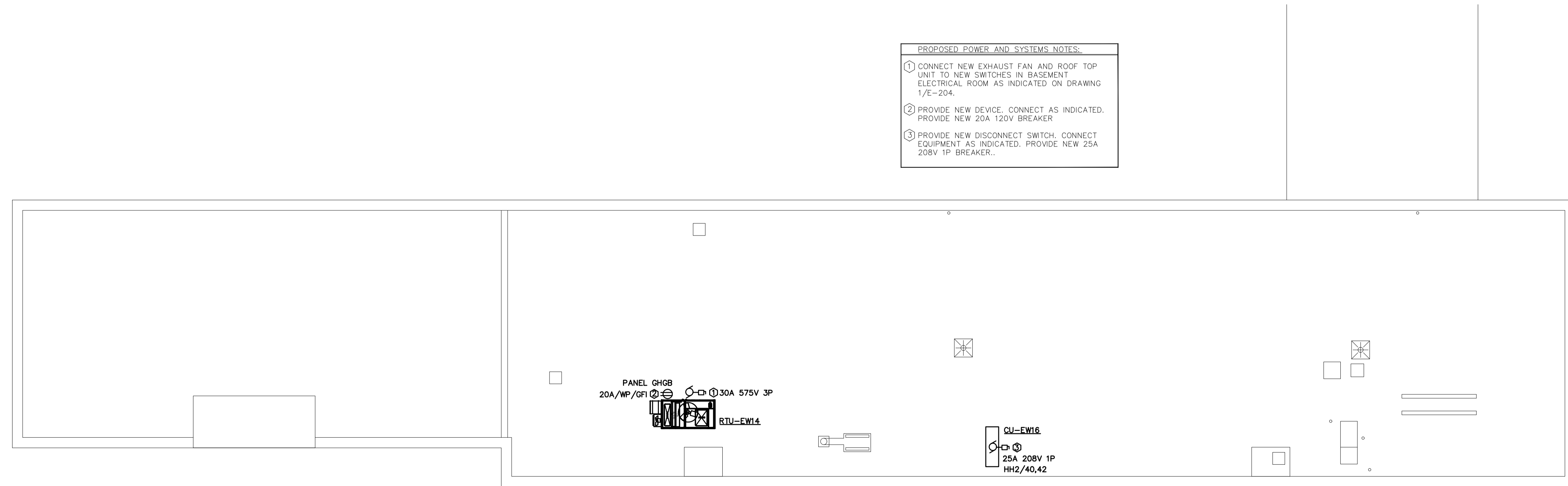
E-102

PROPOSED POWER AND SYSTEMS NOTES:
 ① PROVIDE NEW FUSED DISCONNECT SWITCH AND CONNECT TO 600V 3P POWER SOURCE.



1 BUILDING 50 BASEMENT POWER PLAN
 E102 Scale: 1:100

PROPOSED POWER AND SYSTEMS NOTES:
 ① CONNECT NEW EXHAUST FAN AND ROOF TOP UNIT TO NEW SWITCHES IN BASEMENT ELECTRICAL ROOM AS INDICATED ON DRAWING 1/E-204.
 ② PROVIDE NEW DEVICE. CONNECT AS INDICATED. PROVIDE NEW 20A 120V BREAKER
 ③ PROVIDE NEW DISCONNECT SWITCH. CONNECT EQUIPMENT AS INDICATED. PROVIDE NEW 25A 208V 1P BREAKER.



2 BUILDING 50 ROOF POWER PLAN
 E102 Scale: 1:100

AIR DISTRIBUTION NOTES

- CONTRACTOR TO TAKE ALL MEASUREMENTS NECESSARY TO DETERMINE CURRENT SYSTEMS PERFORMANCE IN AREAS THAT WILL CONTINUE TO BE SERVED BY EXISTING AIR HANDLING EQUIPMENT AND SHALL REPORT TO DEPARTMENTAL REPRESENTATIVE. ALL MEASUREMENTS MADE PRIOR TO START OF DEMOLITION.
- ON COMPLETION OF DUCT AND/OR HEAT PIPING ALTERATIONS, CONTRACTOR SHALL RE-BALANCE ALL EXISTING SYSTEMS TO DELIVER PRE-CONSTRUCTION FLOWS.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR CO-ORDINATION OF GRILLES, DIFFUSERS AND OTHER ELEMENTS.
- CONTRACTORS SHALL COORDINATE ALL CEILING FINISHES WITH ARCHITECTURAL DRAWINGS. CONTRACTOR SHALL REVIEW MECHANICAL DRAWINGS, ARCHITECTURAL REFLECTED CEILING PLANS AND ARCHITECTURAL ROOM FINISH SCHEDULES AS SOON AS CONTRACT DOCUMENTS ARE SIGNED. ADVISE DEPARTMENTAL REPRESENTATIVE OF ANY CONFLICTS BETWEEN CEILING TYPE AND DIFFUSER/GRILLE TYPE.
- CONTRACTOR AND DIFFUSER/GRILLE SUPPLIER ARE RESPONSIBLE TO PROVIDE ALL PLASTER AND FINISHING FRAMES, MOUNTING HARDWARE, AND ACCESSORIES TO SUIT ARCHITECTURAL CEILING TYPES. MECHANICAL CONTRACTOR SHALL CO-ORDINATE AND PROVIDE DETAILS OF MOUNTING REQUIREMENTS OF DIFFUSERS AND GRILLES IN DRYWALL CEILINGS TO DRYWALL TRADE AND ENSURE EDGES OF OPENINGS ARE FRAMED BY DRYWALL TRADE TO SUPPORT DIFFUSERS AND GRILLES PROPERLY. DIFFUSERS AND GRILLES MUST NOT BE SUPPORTED SOLELY BY HANGER WIRES.
- ALL DUCTWORK FITTINGS SHALL BE RIGID GALVANIZED IRON AND AS PER MECHANICAL SPECIFICATIONS.
- FOR USE OF FLEXIBLE DUCTWORK REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS.
- CONTRACTOR TO CARRY FOR ADDITIONAL DUCTS AND DUCT FITTING REQUIRED TO CLEAR THE INTERFERENCES IN THE CEILING SPACE.
- CONTRACTOR IS TO RECONNECT ALL TAKE-OFFS / BRANCH LINES FROM MAINS BEING REMOVED TO NEW MAINS INSTALLED UNDER THIS CONTRACT. EXACT SIZE, LOCATION AND NUMBER OF TAKE-OFFS TO BE VERIFIED ON SITE.
- WHERE EQUIPMENT IS SHOWN TO BE DEMOLISHED, ALL SERVICES TO EQUIPMENT SHALL CAPPED BACK AT MAIN DUCTS.
- LOCATION OF THERMOSTATS TO BE COORDINATED WITH FINAL LOCATION OF FURNITURE AND EQUIPMENT. TYPICAL FOR ALL INDICATED.

PLUMBING NOTES

- CONTRACTOR IS TO CLEAR EXISTING DUCTWORK WHEN INSTALLING NEW PIPING.
- CLEARANCES TO BE VERIFIED ON SITE. ALL PLUMBING PIPING SYSTEMS AND FIXTURES SHALL BE INSTALLED AS PER CURRENT NATIONAL BUILDING CODE.
- PROVIDE A CLEANOUT AT THE BOTTOM OF EVERY SOIL AND WASTE STACK THAT CONNECTS TO A HORIZONTAL DRAINAGE PIPE.
- PROVIDE A CLEANOUT FROM EACH PLUMBING FIXTURE WHERE REQUIRED BY NATIONAL BUILDING CODE, PART 7 - PLUMBING.
- CHECK AND VERIFY LOCATION OF ALL PIPES, DUCTS AND EQUIPMENT WITH ALL OTHER TRADES TO PREVENT INTERFERENCE. REMOVAL OR RELOCATION OF ANY SUCH WORK INTERFERING WITH WORK OF OTHER TRADES IS THE RESPONSIBILITY OF THE MECHANICAL TRADE CONCERNED UNLESS OTHERWISE APPROVED IN WRITING.
- ALL PLUMBING FIXTURES INCLUDING FLOOR DRAINS (HUB, FUNNEL FLOOR DRAINS) TO BE TRAPPED AND VENTED AS REQUIRED BY NATIONAL BUILDING CODE, PART 7 - PLUMBING.
- FOR MOUNTING HEIGHT OF ALL PLUMBING FIXTURES REFER TO ARCHITECTURAL DRAWINGS.
- PROVIDE ACCESS DOOR FOR ALL VALVES AND CLEANOUTS LOCATED ABOVE DRY WALL CEILING.
- IN ALL INSTANCES THE NEED FOR ACCESS DOOR IN GWB CEILINGS SHOULD BE AVOIDED IF POSSIBLE. WHERE INSTALLATION OF COMPONENTS WHICH REQUIRE ACCESS CANNOT BE AVOIDED, SUBMIT (DIMENSIONED) LAYOUT ON ARCHITECTURAL REFLECTED CEILING PLANS TO DEPARTMENTAL REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION OF COMPONENT.
- PROVIDE SIGN IDENTIFYING LOCATION OF ALL VALVES INSTALLED IN CEILING SPACE.
- WHENEVER COLD AND HOT WATER DISTRIBUTION TO LAVATORIES IS TO RUN UNDER COUNTER, PIPING DISTRIBUTION IS TO BE INSTALLED AS TIGHT TO UNDER SIDE OF THE COUNTER AS POSSIBLE.
- ALL WATER, SANITARY, SEWER AND VENT COPPER PIPING WITH SOLDER JOINTS SHALL BE LEAD FREE. DO NOT INSTALL WATER LINES IN OUTSIDE WALL WHERE THEY MAY FREEZE, UNLESS BOTH THE WALL AND THE PIPES ARE PROPERLY INSULATED.
- INSTALL SHUT-OFF VALVES AT EACH PLUMBING FIXTURE.
- DEMOLITION AND REMOVAL OF PLUMBING AND DRAINAGE PIPING SHALL BE TAKEN BACK TO THE NEAREST WORKING MAIN AND BE CAPPED AS CLOSE TO THE WORKING MAIN AS POSSIBLE TO AVOID DEAD LEG LENGTHS OF PIPING.

GENERAL NOTES

- CONTRACTOR IS TO VERIFY ALL CONNECTION POINTS TO EXISTING MECHANICAL SERVICES ON SITE.
- CONTRACTOR IS TO ENSURE THAT ALL EXISTING PIPING SERVING EXISTING AREAS REMAIN IN SERVICE UNTIL THESE AREAS ARE RECONNECTED TO NEW SERVICES. ONLY THEN OBSOLETE PIPING IS TO BE REMOVED AS SHOWN.
- ALL DISTURBED SURFACES AFTER PIPE REMOVAL OR REROUTING TO BE FILLED-IN WITH APPROPRIATE MATERIAL TO MAINTAIN FIRE SEPARATION AND PATCHED TO MATCH EXISTING OR NEW.
- CONTRACTOR IS TO ENSURE THAT ALL EXISTING REMOVED FIXTURES AND EQUIPMENT REMAIN THE PROPERTY OF THE OWNER.
- ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH CODES, BULLETINS ETC. AND REQUIREMENTS OF ALL INSPECTION AUTHORITIES FOR THE CITY OF OTTAWA.
- ALL DRAWINGS ARE INTEGRATED WITH THE SPECIFICATIONS WHICH ACCOMPANY THEM. NEITHER IS TO BE USED ALONE. ANY ITEM OR SUBJECT OMITTED FROM ONE BUT IMPLIED IN THE OTHER IS FULLY AND PROPERLY REQUIRED. WHEREVER DIFFERENCE OCCURS, THE MOST ONEROUS CONDITION GOVERNS.
- PENETRATIONS OF EITHER FIRE OR SMOKE BARRIER RESISTANT WALLS SHALL BE SLEEVED & SEALED AGAINST THE PASSAGE OF FLAME OR SMOKE W/SUITABLE NON-COMBUSTIBLE MATERIALS EQUAL TO THE CONSTRUCTION TO BE PENETRATED.
- DO NOT SCALE DRAWINGS FOR INSTALLATION PURPOSES. OBTAIN ALL DIMENSIONS FROM ARCHITECTURAL PLANS, MANUFACTURER'S SHOP DRAWINGS, AND ON SITE INSPECTIONS.
- MECHANICAL, DIV. 2-14 AND ELECTRICAL TRADES SHALL WORK IN CONJUNCTION WITH ONE ANOTHER SO AS TO AVOID INTERFERENCES BETWEEN PIPING, DUCTWORK, CONDUIT, LIGHTING FIXTURES, ETC.
- WORK SHALL BE CO-ORDINATED THROUGH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION OF ANY EQUIPMENT, DUCTWORK AND CONTROLS. CO-ORDINATE WITH ARCHITECTURAL ELEVATIONS FOR ARCHITECTURAL, MECHANICAL, AND ELECTRICAL SPACE ALLOCATIONS.
- REFER TO ARCHITECTURAL FOR OWNER SUPPLIED EQUIPMENT. CONFIRM ALL MECHANICAL REQUIREMENTS AND PROVIDE TO SUIT.
- REVIEW ARCHITECTURAL AND ELECTRICAL DRAWINGS AND PROVIDE ON SITE INSPECTIONS TO DETERMINE FULL EXTENT OF PROJECT PRIOR TO SUBMITTING BID.
- PENETRATIONS OF CONCRETE SHALL BE SAW-CUT OR CORE BORED - IMPACT HAMMERS ARE NOT ALLOWED, SEAL ALL DUCTWORK & SLEEVES TO PREVENT LEAKAGE THRU FLOOR.
- PROPERLY SUPPORT CEILING MOUNTED EQUIPMENT AND ANY OTHER EQUIPMENT INDEPENDENT OF CEILING SUPPORT SYSTEM.
- AVOID ANY DIRECT CONTACT BETWEEN ANY PIPING, DUCTING AND ELECTRICAL CONDUIT SYSTEMS TO PREVENT SOUND TRANSMISSION.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL MECHANICAL SERVICES TO THE OCCUPIED AREA THROUGHOUT CONSTRUCTION. PROVIDE CONSTRUCTION VALVES, TEMPORARY DUCTWORK AND PIPING AS REQUIRED TO LIMIT THE SHUT DOWN OF SERVICES.
- IF ANY AREAS ARE AFFECTED BY THE NEW SCOPE OF WORK, CONTRACTOR TO CARRY COSTS FOR THE REMOVAL AND INSTALLATION OF THE EXISTING CEILING TILES. REFER TO ARCHITECTURAL NEW REFLECTED CEILING PLAN FOR SCOPE OF NEW CEILING.
- INSTALLATION SHALL BE COMPLETE AND FULLY FUNCTIONAL. PROVIDE ALL LABOR, MATERIALS, TOOLS, SERVICES, EQUIPMENT, ETC. AS REQUIRED.
- PROVIDE ACCESS FOR SERVICING EQUIPMENT AS INDICATED, AS REQUIRED BY CODE AND AS RECOMMENDED BY THE MANUFACTURER.
- PROVIDE ACCESS DOORS AS NECESSARY FOR ACCESS TO VALVES, DAMPERS, AND OTHER COMPONENTS REQUIRING MONITORING, INSPECTION, AND MAINTENANCE.
- INSTALL EQUIPMENT, DUCTS, AND PIPES PARALLEL TO OR PERPENDICULAR TO BUILDING LINES. PROVIDE SPACE, UNIONS AND FLANGES FOR DISASSEMBLY, SERVICING AND REMOVAL OF EQUIPMENT.
- WHEN A CONFLICT OCCURS BETWEEN INSTALLATION DETAILS, DIAGRAMS, ETC. INDICATED IN THE CONTRACT DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS, THE MANUFACTURER'S INSTRUCTIONS SHALL GOVERN AND SHALL BE FOLLOWED.

GENERAL DEMOLITION NOTES

- DISCONNECT AND MAKE SAFE ALL MECHANICAL AND ELECTRICAL SERVICES REQUIRED TO BE REMOVED.
- CONFORM TO ALL CODES AND OWNER'S PROCEDURES FOR DEMOLITION WORK. DUST CONTROL, PRODUCTS REQUIRING DISCONNECTION AND RECONNECTION.
- PROTECT FIRE ALARM AND LIFE SAFETY SYSTEMS DURING CONSTRUCTION.
- ARRANGE EXECUTION OF WORK TO MAINTAIN PRESENT BUILDING OPERATIONS, AND TO MINIMIZE THE EFFECT OF WORK UNDER THIS DIVISION ON EXISTING OPERATIONS.
- ALL DEMOLITION AND NEW INSTALLATION WORK SHALL CONFORM TO OCCUPATIONAL HEALTH AND SAFETY AND ENVIRONMENTAL REGULATIONS. ENSURE THAT ALL PARTIES ARE FAMILIAR WITH REQUIREMENTS AND EXPERIENCED IN THE WORK TO BE UNDERTAKEN.
- MAKE GOOD ALL SURFACES AND FINISHES IN AREAS FROM WHICH ITEMS HAVE BEEN REMOVED AND IN WHICH ITEMS ARE RELOCATED. CAP ALL EXISTING SERVICES REQUIRED TO BE SEVERED TO EFFECT ALTERATIONS AND DO ALL OTHER WORK NECESSARY TO MAKE GOOD SUCH AREAS TO SATISFACTION OF DEPARTMENTAL REPRESENTATIVE.
- ALL EXISTING AIR INTAKE AND EXHAUST OPENINGS THAT MAY BE AFFECTED BY DUST AND/OR DEBRIS FROM THE CONSTRUCTION WORK SHALL BE FITTED WITH APPROPRIATE FILTER MEDIA TO PROTECT AGAINST ENTRY OF DUST AND/OR DEBRIS INTO THE BUILDING AND ITS AIR DISTRIBUTION SYSTEMS. FILTERS SHALL BE CLOSELY MONITORED AND REPLACED WHEN NECESSARY. THE CONTRACTOR SHALL REPLACE EXISTING FILTERS THAT BECOME CONTAMINATED WITH DUST AND/OR DEBRIS FROM CONSTRUCTION WORK WITH NEW FILTERS.
- PROTECT EXISTING EQUIPMENT AND SERVICES TO REMAIN FROM DEBRIS AND UNWANTED MATERIALS. CLEAN AS NECESSARY TO MAINTAIN SERVICE DURING DEMOLITION PERIOD AND ON COMPLETION OF THE WORK.
- MECHANICAL EQUIPMENT BEING REMOVED AND NOT BEING REUSED WILL BE STORED ON SITE AND REMAIN THE PROPERTY OF THE OWNER. ANY SUCH EQUIPMENT THE OWNER DOES NOT WISH TO RETAIN WILL BE REMOVED FROM SITE AND DISPOSED OF BY THIS TRADE.

MECHANICAL DRAWING LIST

M-001	MECHANICAL DRAWING LIST, LEGENDS AND NOTES
M-002	MECHANICAL SPECIFICATIONS
M-003	MECHANICAL SCHEDULES AND KEY PLANS
M-101	BUILDING 50 DEMOLITION AND NEW PLUMBING PLANS
M-201	BUILDING 50 DEMOLITION AND NEW HVAC PLANS
M-301	BUILDING 50 DEMOLITION AND NEW ROOF PLAN AND DETAILS
M-401	MECHANICAL DETAILS

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	POSITIVE PRESSURE (SUPPLY) DUCT UP
	POSITIVE PRESSURE (SUPPLY) DUCT UP
	NEGATIVE PRESSURE (RETURN) DUCT UP
	POSITIVE PRESSURE (SUPPLY) DUCT DOWN
	POSITIVE PRESSURE (SUPPLY) DUCT DOWN
	NEGATIVE PRESSURE (RETURN) DUCT DOWN
	EXISTING DUCTWORK TO BE REMOVED
	EXISTING DUCTWORK TO REMAIN
	NEW DUCTWORK
	FULL RADIUS DUCT CONNECTION
	TAP-IN DUCT CONNECTION
	ROUND DUCT CONNECTION
	TURNING VANES
	SUPPLY AIR DIFFUSER (SQUARE)
	RETURN/EXHAUST GRILLE
	THERMOSTAT
FD	FIRE DAMPER
BD	BALANCING DAMPER
CTE	CONNECT TO EXISTING
NOTE: ALL NEW DEVICES SHOWN IN BOLD	

PLUMBING LEGEND

SYMBOL	DESCRIPTION
	EXISTING PIPING
	NATURAL GAS PIPING
	COMPRESSED AIR PIPING
	VACUUM PIPING
	PIPING TO BE REMOVED
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	SANITARY PIPING (BELOW GRADE/ON FLOOR BELOW)
	CONNECTION OF NEW AND EXISTING PIPING
	PIPE DOWN
	FLOOR DRAIN / EXISTING FLOOR DRAIN
CTE	CONNECT TO EXISTING
NOTE: ALL NEW DEVICES SHOWN IN BOLD	

SEAL

CONSULTANTS

KEY PLAN

#	ISSUE / REVISION	DATE
01	66% REVIEW	05/09/2018
02	99% REVIEW	05/28/2018
03	TRANSLATION	06/08/2018
04	TENDER	07/04/2018
05	RE-ISSUED FOR TENDER	08/15/2018
06	RE-ISSUED FOR TENDER	11/05/2019

PROJECT NAME

CENTRAL EXPERIMENTAL FARM
Building 50
Labs/Genomics
RENOVATIONS
OTTAWA, ON

NOM DU PROJET
FERME EXPERIMENTALE CENTRALE
Édifices 50
Laboratoires/
Genomique
RENOVATIONS
OTTAWA, ON

SHEET TITLE / TITRE DE LA
FEUILLE
MECHANICAL DRAWING
LIST, LEGEND AND NOTES

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FEUILLE

M-001

SEAL

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MECHANICAL
SPECIFICATIONS

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FEUILLE

M-002

MECHANICAL SPECIFICATIONS

- GENERAL CONDITIONS
 - CONFORM TO NATIONAL BUILDING CODE INCLUDING PART 7 – PLUMBING AND AMENDING REGULATIONS.
 - CONFORM TO NATIONAL FIRE CODE.
 - CONFORM TO LOCAL AND DISTRICT BYLAWS, REGULATIONS AND PUBLISHED ENGINEERING STANDARDS.
 - CONFORM TO CSA STANDARDS.
- SCOPE OF WORK
 - COMPLY WITH ALL CONDITIONS OF TENDER DOCUMENTS ISSUED FOR THIS PROJECT.
 - THE REMOVAL OR RELOCATION OF EXISTING, AND THE SUPPLY AND INSTALLATION OF NEW EQUIPMENT, DUCTWORK AND PIPING AS SHOWN ON THE DRAWINGS AND AS NOTED.
 - GENERAL
 - COMPLY WITH GENERAL CONDITIONS.
 - PROVIDE ONE (1) DIGITAL COPY OF SHOP DRAWINGS OF ALL MAJOR EQUIPMENT FOR APPROVAL. THIS PROJECT ALLOWS FOR 1 REVISION.
 - BALANCE ALL AIR SYSTEMS AND SUBMIT BALANCING REPORT ON COMPLETION.
 - SUBMIT MAINTENANCE AND INSTRUCTION MANUALS. THIS PROJECT ALLOWS FOR TWO (2) REVISIONS. PRELIMINARY SET AND THEN A FINAL SET.
 - ON COMPLETION OF PROJECT AND BEFORE FINAL PAYMENT, SUBMIT TWO (2) SETS OF AUTOCAD .DWG, PDF AND HARDCOPY AS-BUILT DRAWINGS SHOWING ALL CHANGES AND CONCEALED SERVICES DIMENSIONED WITH EXACT LOCATIONS NOTED THEREON. THIS PROJECT ALLOWS FOR 1 REVISION.
 - THOROUGHLY CLEAN ALL MECHANICAL EQUIPMENT DURING CONSTRUCTION AND ON COMPLETION OF CONTRACT.
 - PROVIDE WRITTEN GUARANTEE FOR ALL NEW EQUIPMENT AND WORKMANSHIP FOR ONE YEAR FROM DATE OF ACCEPTANCE. FIVE (5) YEARS FOR COMPRESSOR AND HEAT EXCHANGER. DEFECTIVE PARTS REPAIRED OR REPLACED WITHOUT CHARGE.
 - IF ASBESTOS MATERIAL IS ENCOUNTERED, STOP WORK IN THE AFFECTED AREA AND IMMEDIATELY NOTIFY THE DEPARTMENTAL REPRESENTATIVE AND THE OWNER.
 - CONFER WITH ALL TRADES AND ARRANGE EQUIPMENT IN PROPER RELATION WITH OTHERS AND WITH BUILDING CONSTRUCTION AND ARCHITECTURAL FINISHES.
 - REFER TO ARCHITECTURAL SPECIFICATIONS AND DRAWINGS WHICH ARE PART OF THIS WORK.
 - OWNER RESERVES RIGHT TO TRIAL AND/OR TEMPORARY USAGE PRIOR TO ACCEPTING INSTALLATION.
 - PROVIDE ALL MATERIALS, EQUIPMENT, ACCESSORIES, CONSUMABLES, LABOR, SUPERVISION, TOOLS, SERVICES, ETC. AS REQUIRED FOR COMPLETE AND FULLY FUNCTIONAL SYSTEMS AS DESCRIBED IN THE CONTRACT DOCUMENTS.
 - PRIOR TO TENDERING, EXAMINE THE SITE, ALL DRAWINGS AND SPECIFICATIONS AND REPORT ALL/ANY CONFLICTS, DISCREPANCIES TO THE DEPARTMENTAL REPRESENTATIVE FOR CLARIFICATION AND/OR CORRECTION.
 - COORDINATE AND SCHEDULE WORK WITH OWNER AND OTHER TRADES TO MINIMIZE CONFLICTS, DELAYS, AND DISRUPTION OF EXISTING SERVICES AND OPERATIONS.
 - DEFINITIONS: FOLLOWING ARE DEFINITIONS OF WORDS FOUND IN THIS SPECIFICATION AND ON ASSOCIATED DRAWINGS.
 - "CONCEALED" – HIDDEN FROM NORMAL SIGHT IN FURRED – SPACES, SHAFTS, CEILING SPACES, WALLS, UNDERFLOOR, AND PARTITIONS.
 - "EXPOSED" – ALL MECHANICAL WORK VISIBLE TO BUILDING OCCUPANTS.
 - "PROVIDE" – (AND ALL TENSES OF "PROVIDE") SUPPLY AND INSTALL.
 - "INSTALL" – (AND ALL TENSES OF "INSTALL")–INSTALL, WIRE AND CONNECT COMPLETE, PRODUCTS AND SERVICES SPECIFIED.
 - "SUPPLY" – SUPPLY ONLY.
 - "OR APPROVED EQUAL" – MATERIAL OR EQUIPMENT PROPOSED BY CONTRACTOR, IN LIEU OF THAT SPECIFIED, AS APPROVED BY DEPARTMENTAL REPRESENTATIVE.
 - "AS INDICATED" – AS SHOWN ON DRAWINGS AND/OR NOTED IN SPECIFICATIONS.
 - "OWNER" – BUILDING OWNER AS DEFINED IN THE CONTRACT OR THE OWNER'S DESIGNED REPRESENTATIVE.
 - "SOFT COPY" – PDF FORMAT
 - "AUTOCAD" – DWG FORMAT
- LIABILITY
 - THIS CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR LAYING OUT HIS WORK AND ANY DAMAGE OR EXTRA COSTS CAUSED TO THE OWNER OR OTHER CONTRACTORS BY IMPROPER LOCATION OR CARRYING OUT HIS WORK. CARRY ALL NECESSARY INSURANCE COVERAGE.
- CERTIFICATES, FEES, ETC.
 - GIVE ALL NOTICES, OBTAIN ALL PERMITS AND PAY ALL FEES SO THAT THE WORK SPECIFIED HEREIN MAY BE CARRIED OUT. AT THE DEPARTMENTAL REPRESENTATIVE'S REQUEST, FURNISH ANY CERTIFICATES AS EVIDENCE THAT THE WORK INSTALLED CONFORMS TO THE LAWS AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION.
- CEILING TILE REMOVAL / REPLACEMENT
 - EACH RESPECTIVE SUB-TRADE OR PRIME MECHANICAL CONTRACTOR AS THE CASE MAY BE SHALL BE RESPONSIBLE FOR THE REMOVAL AND REINSTALLATION OF ANY CEILING TILES TO SUIT WORK WITHIN THE CEILING SPACE. ANY DAMAGED TILES SHALL BE REPLACED AT THE COST TO THE RESPECTIVE SUB-TRADE OR PRIME MECHANICAL CONTRACTOR AND SHALL BE HELD BACK ON THE PROGRESS DRAW.
- HOURS OF WORK
 - ANY AUDIBLE TESTING, CORE DRILLING OR ANY OTHER NOISY WORK MUST BE PERFORMED "AFTER HOURS". MAKE ARRANGEMENTS WITH BUILDING PERSONNEL TO CONFIRM TIMES FOR SUCH WORK.
- PHASING AND SCHEDULING
 - REFER TO GENERAL CONDITIONS, ARCHITECTURAL SPECIFICATIONS, AND MECHANICAL PHASING PLANS FOR PHASING AND SCHEDULING OF WORK.
 - COORDINATE ALL WORK WITH OTHER TRADES AND ASSIST IN THE IMPLEMENTATION OF THE PHASING STRATEGY.
- SERVICE PENETRATIONS
 - FIRE STOP AND SMOKE SEALS: MATERIALS SHALL BE ULC LISTED COMPONENTS SUITABLE FOR FIRE RESISTANCE RATINGS.
 - ALL OPENINGS IN FIRE SEPARATIONS FOR SERVICE PENETRATIONS SHALL BE PROTECTED WITH ULC LISTED "SERVICE PENETRATIONS FIRESTOP SYSTEMS"
- TESTING AND BALANCING
 - BALANCE ALL SYSTEMS WHERE AIRFLOW IS GIVEN FOR RATED AIR FLOW, ROOM TEMPERATURE CONTROL AND CHECK CURRENT DRAW AFTER INSTALLATION IS COMPLETE AND IN FULL WORKING ORDER. ADJUST CONTROLS DAMPERS AND DIFFUSERS FOR PROPER AIR CIRCULATION AND MINIMUM ENERGY CONSUMPTION. ADJUST FAN SPEEDS AS REQUIRED TO OBTAIN SPECIFIC PERFORMANCE. BALANCE VAV BOXES TO THEIR MAXIMUM AND MINIMUM POSITIONS.
 - MECHANICAL SYSTEMS SHALL NOT BE CONSIDERED READY FOR FINAL INSPECTION UNTIL BALANCING RESULTS ACCEPTABLE TO THE DEPARTMENTAL REPRESENTATIVE ARE OBTAINED. IF IT IS FOUND THAT THE SPECIFIED AIR FLOWS CANNOT BE ACHIEVED ON PORTIONS OF THE SYSTEM, THE ACTUAL CONDITIONS SHALL BE REPORTED TO THE DEPARTMENTAL REPRESENTATIVE FOR CONSIDERATION OF CORRECTIVE ACTION BEFORE CONTINUING THE BALANCING PROCEDURE. PROVIDE INSTRUMENTS AND MANPOWER TO VERIFY RESULTS OF UP TO 30% OF ALL REPORTED MEASUREMENTS. IF MEASURED FLOW AT FINAL INSPECTION SHOWS A DEVIATION OF 10% OR MORE OF SELECTED AREAS, THE REPORT SHALL BE REJECTED. IF REPORT IS REJECTED, SYSTEMS SHALL BE RE-BALANCED AND NEW CERTIFIED REPORT SUBMITTED AT NO EXTRA COST, FOLLOWING WHICH THE DEPARTMENTAL REPRESENTATIVE RESERVES THE RIGHT TO REQUEST ADDITIONAL VERIFICATION.
 - SUBMIT WRITTEN BALANCING REPORT CONFIRMING TO AABC AND ASHRAE STANDARDS FOR DEPARTMENTAL REPRESENTATIVE'S APPROVAL ONCE REVIEWED AND DEEMED SATISFACTORY BY THE OWNER. THE BALANCING CONTRACTOR SHALL SUBMIT 3 COPIES OF THE BALANCING REPORT FOR SUBMISSION TO THE OWNER.
- CONTROLS

MECHANICAL SPECIFICATIONS (CONT'D)

- LOCATE THERMOSTATS AS SHOWN ON THE DRAWINGS, AND VERIFY CONNECTION TO CORRECT TERMINAL UNITS AS SHOWN ON THE DRAWINGS. VERIFY PROPER CALIBRATION AND OPERATION OF ALL NEW AND EXISTING CONTROLS IS FAULTY. ADVISE DEPARTMENTAL REPRESENTATIVE OF PROBLEM AND OBTAIN DIRECTIONS FOR REMEDIAL WORK.
 - PROVIDE ALL REQUIRED CONTROL HARDWARE LOW VOLTAGE WIRING, AND OTHER DEVICES FOR PROPER CONTROL. INCLUDE ALL ASSOCIATED COSTS.
10. DUCTWORK
- ALL DUCTWORK TO BE FABRICATED FROM GALVANIZED STEEL TO CLEAR INSIDE DIMENSIONS AS NOTED ON THE DRAWINGS WITH ALL FLAT SURFACES CROSS BROKEN. ALL DUCTWORK TO BE FREE FROM LEAKS, IN ACCORDANCE WITH RECOMMENDATIONS OF ASHRAE AND SMACNA. ALL DUCTWORK IS TO BE FABRICATED COMPLETE WITH FLEXIBLE CONNECTIONS, TURNING VANES, VOLUME EXTRACTORS, APPROPRIATE MANUAL DAMPERS, TEST PORTS AND ACCESS PANELS AS REQUIRED AND AS INDICATED ON DRAWINGS.
 - STAINLESS STEEL DUCTWORK
 - DUCTS: TYPE 304 STAINLESS STEEL TO ASTM A480/A480M-87. GAUGE OF DUCTS TO BE IN ACCORDANCE WITH RECOMMENDATIONS OF ASHRAE AND NOT LESS THAN 18 GAUGE (1.3 MM).
 - FABRICATION: DUCTS AND FITTINGS CONFIGURATION IN ACCORDANCE WITH RECOMMENDATIONS OF SMACNA AND ASHRAE.
 - JOINTS: TO BE CONTINUOUS INERT GAS WELDED.
 - DUCT CLEANING
 - CLEAN INTERIOR SURFACES OF ALL NEW DUCTWORK AND ACCESSORIES INSTALLED AS PART OF THIS PROJECT. ALL EXISTING DUCTWORK AND DUCT OPENINGS WITHIN THE CONSTRUCTION AREA SHALL BE COVERED AND PROTECTED FROM CONSTRUCTION DEBRIS AND DUST ACCORDING TO SMACNA STANDARDS FOR INDOOR AIR QUALITY OF OCCUPIED BUILDINGS UNDER CONSTRUCTION.
 - DUCT INSULATION
 - RIGID DUCT INSULATION SHALL BE FIBROUS GLASS WOOL VAPOUR-SEAL DUCT INSULATION WITH FSK FACING.
 - FLEXIBLE DUCT INSULATION SHALL BE FIBROUS GLASS WOOL WITH FSK FACING.
 - APPLY INSULATION, WRAPPING, VAPOUR BARRIER, ADHESIVE AND COATINGS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS ONLY AFTER ALL REQUIRED TESTING IS COMPLETED AND APPROVALS ARE RECEIVED.
 - WORK SHALL BE PERFORMED BY INSULATION JOURNEYMEN IN A WORKMAN LIKE MANNER TO PRESENT A NEAT APPEARANCE.
 - DO NOT APPLY INSULATION OR FINISHING WHEN THE AMBIENT TEMPERATURE IN THE SPACE IS BELOW 50F.
 - SERVICE

SERVICE	TYPE	THICKNESS
AIR SUPPLY RECTANGULAR	RIGID	1" (25 MM)
AIR SUPPLY ROUND	FLEXIBLE	1" (25 MM)
RETURN/EXHAUST (6 FT. (2M) FROM OUTSIDE) RECTANGULAR	RIGID	3" (75 MM)
EXHAUST (6 FT. (2M) FROM OUTSIDE) ROUND	FLEXIBLE	3" (75 MM)
FRESH AIR INTAKE RECTANGULAR	RIGID	2" (50 MM)
11. PACKAGED ROOFTOP UNIT
- "DOUBLE WALL WITH R-13 INSULATED FOAM CONSTRUCTION WITH LESS THAN 1% LEAKAGE, HINGED ACCESS PANELS WITH PLAIN HINGE AND LOCKABLE METAL HANDLES, SUPPLY FAN, DIRECT DRIVE WITH VFD INCLUDING SHAFT GROUNDING FOR MOTOR PROTECTION, EXHAUST FAN WITH ECM MOTOR, FULLY MODULATING COOLING VIA DIGITAL SCROLL COMPRESSORS, MODULATING HOT GAS RE-HEAT DEHUMIDIFICATION CONTROL, FULL MODULATING GAS HEAT, MINIMUM 11.6:1 TURNDOWN, STAINLESS STEEL GAS HEAT EXCHANGER WITH 25 YEAR NON-PORATED WARRANTY, LOW LEAKAGE DAMPERS, MEETS CALIFORNIA TITLE 24 REQUIREMENTS, MODULATING CONDENSER FANS VIA REFRIGERATION HEAD PRESSURE CONTROL, DUAL STAGE FILTRATION WITH 2" MERV 8 PRE-FILTER, 4" MERV 13 FINAL FILTER, 120V GF OUTLET (FIELD WIRED BY ELECTRICIAN), NON FUSED DISCONNECT SWITCH, PHASE AND BROWNOUT PROTECTION. PROVIDE SEISMIC ROOF CURB.
12. PIPE AND PIPE FITTINGS
- SANITARY DRAINAGE
 - UNBURIED SECTIONS: 2" (50 MM) AND SMALLER DIA., HARD TEMPER COPPER TUBING TYPE DWV, SOLDERED WITH WROUGHT COPPER OR CAST BRASS DRAINAGE FITTINGS. 3" (75 MM) AND LARGER DIA., CAST IRON SOIL PIPE, 4000# (18 KN) CRUSH STRENGTH, NO HUB MECHANICAL JOINT WITH CAST IRON DRAINAGE FITTINGS OR XFR PLASTIC PIPE AND FITTINGS, CSA APPROVED.
 - BURIED SECTIONS (INSIDE BUILDING): 2" (50 MM) AND SMALLER DIAMETER, HARD TEMPER COPPER PIPE, TYPE L, WITH WROUGHT COPPER OR COPPER ALLOY SOLDER JOINT CAST BRASS SOLDER JOINT, CSA APPROVED. 3" (75 MM) AND LARGER DIAMETER, CAST IRON SOIL PIPE, 4000# (18 KN) CRUSH STRENGTH, NO-HUB MECHANICAL JOINT WITH NEOPRENE GASKETS AND STAINLESS STEEL PIPE CLAMPS WITH CAST IRON DRAINAGE FITTINGS OR PVC PLASTIC PIPE AND PLASTIC FITTINGS, CSA APPROVED OR PVC GRAVITY SEWER PIPE CAN/CSA APPROVED WITH DR OF 35 MAXIMUM. INCLUDE RUBBER RING GASKETS, SOLVENT CEMENT.
 - VENT
 - UNBURIED SECTIONS: 2" (50 MM) AND SMALLER DIA., TEMPER COPPER TUBE TYPE DWV, SOLDERED WITH WROUGHT COPPER OR CAST BRASS DRAINAGE FITTINGS. 3" (75 MM) AND LARGER DIA., CAST IRON SOIL PIPE, 4000# (18 KN) CRUSH STRENGTH, NO HUB – MECHANICAL JOINT WITH CAST IRON DRAINAGE FITTINGS OR XFR PLASTIC PIPE AND FITTINGS, CSA APPROVED.
 - BURIED SECTIONS: 2" (50 MM) AND SMALLER DIA., HARD TEMPER COPPER TUBE TYPE L, SOLDERED WITH WROUGHT COPPER OR CAST BRASS DRAINAGE FITTINGS. 3" (75 MM) AND LARGER DIA., CAST IRON SOIL PIPE, 4000# (18 KN) CRUSH STRENGTH, NO HUB MECHANICAL JOINT WITH CAST IRON DRAINAGE FITTINGS OR PVC PLASTIC PIPE AND FITTINGS, CSA APPROVED.
 - CONDENSATE DRAIN LINES: 3/4" (20 MM) AND 1" (25 MM) TYPE M COPPER, 1 1/4" (40 MM) AND LARGER HARD TEMPER COPPER TUBING, TYPE DWV, SOLDERED, WITH WROUGHT COPPER OR COPPER ALLOY DRAINAGE FITTINGS OR CAST BRASS DRAINAGE FITTINGS, CSA APPROVED.
 - DOMESTIC WATER DISTRIBUTION: HARD TEMPER COPPER TUBING, TYPE L, SOLDERED, WITH WROUGHT COPPER OR CAST BRASS PRESSURE FITTINGS.
 - LAB WASTE DRAINAGE: PVDF CORROSIIVE WASTE DRAINAGE SYSTEM.
 - THE CORROSIIVE WASTE DRAINAGE SYSTEM, CONFORMING TO ASTM F1673, SHALL BE PVDF (POLYVINYLIDENE FLUORIDE) PIPE AND FITTINGS. THE PIPE AND FITTINGS SHALL BE JOINED USING NO-HUB/PLAIN END COUPLING. THE PIPE SHALL BE SUPPLIED IN FACTORY GROUED 10-FT. LENGTHS. FITTINGS ARE TO MEET OR EXCEED SCHEDULE 40 DIMENSIONS. EACH COUPLING SHALL HAVE 300 SERIES STAINLESS STEEL OUTER BAND AND 5/16" BOLTS, NUTS AND WASHERS PLATED TO MEET A 100-HOUR SALT SPRAY TEST PER ASTM B117. THE PVDF MATERIAL SHALL CONFORM TO ASTM D3222. PIPE SHALL BE MARKED WITH ULC TO INDICATE COMPLIANCE WITH UL723 (ASTM E84)
13. PIPING SPECIALTIES
- VALVES, COCKS AND FAUCETS
 - ISOLATION VALVES – DOMESTIC WATER: 2" (50 MM) AND SMALLER: FORGED BRONZE, 800 PSI (4 MPA) WOG BALL VALVE, SOLDER ENDS, AND TEFLOON SEATS.
14. PIPE INSULATION
- MINIMUM PIPE INSULATION SHALL CONFORM TO CURRENT ASHRAE 90.1 AND SHALL BE MONITED MINERAL FIBRE INSULATION WITH VAPOUR BARRIER JACKET.
 - INSULATE NEW [OR ALTERED] PIPING WITH RIGID PIPE INSULATION AS FOLLOW:

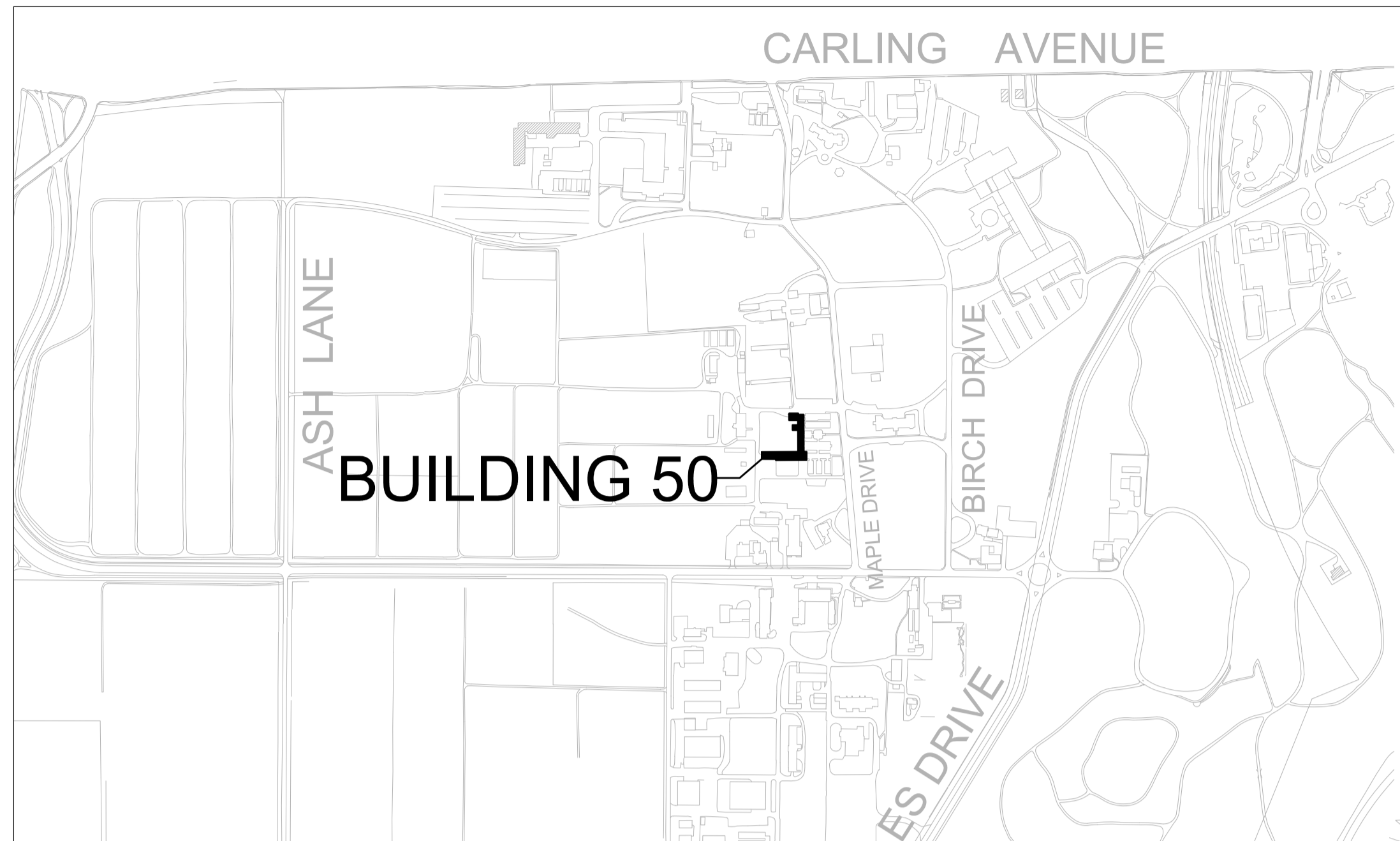
SERVICE	THICKNESS
DOMESTIC COLD WATER	25MM (1")
DOMESTIC HOT WATER	25MM (1")
 - PROVIDE PVC JACKETING FOR ALL EXPOSED PIPE INSULATION.
15. PLUMBING FIXTURES
- S-1:
 - SINK: NEW STAINLESS STEEL SINK BY CASEWORK CONTRACTOR.
 - MIXING FAUCET WITH RIGID/SWIVEL GOOSENECK AND BLADE HANDLES. COUNTER

MECHANICAL SPECIFICATIONS (CONT'D)

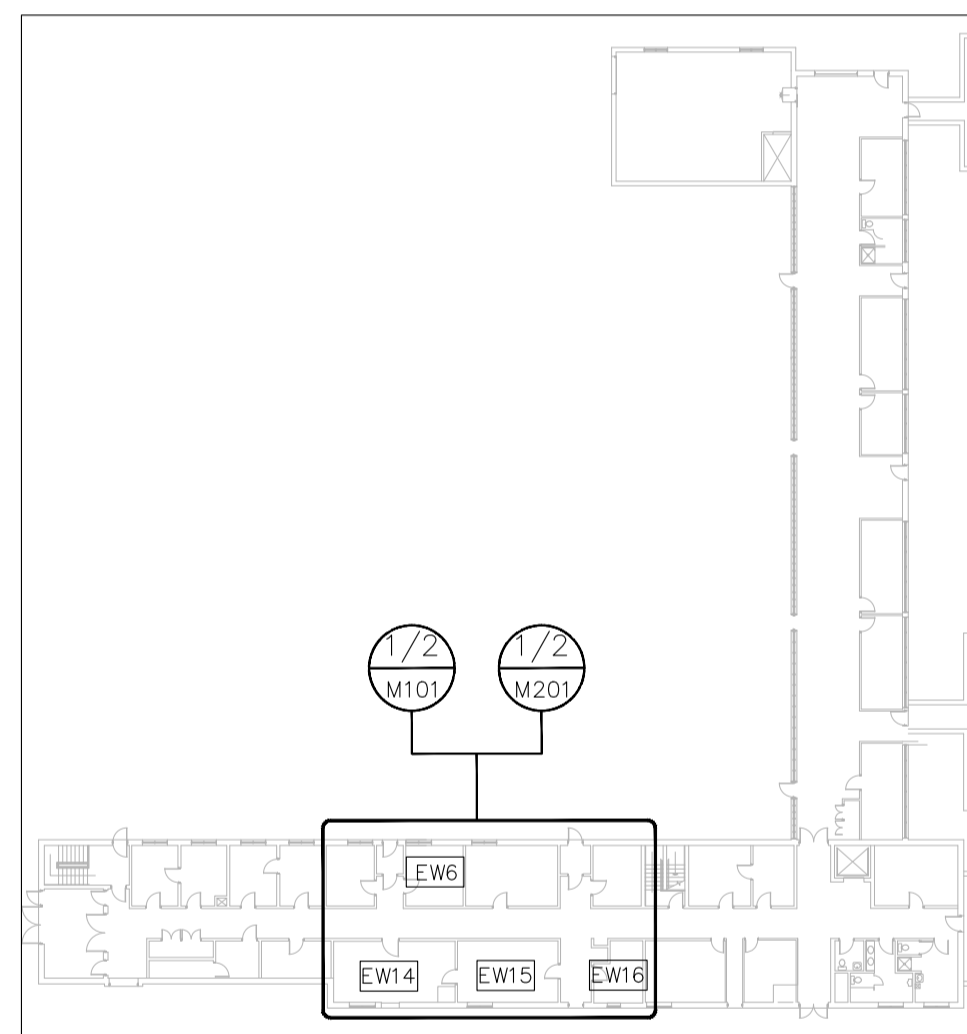
- MOUNTED MIXING FAUCET WITH IN-LINE DUAL CHECK VACUUM BREAKER AND NOZZLE. FAUCET TO HAVE A CHROME PLATED ALL BRASS BODY WITH 6MM NPT TAILPIECE AND COUPLING NUT.
 - SUPPLIES: CHROME PLATED POLISHED BRASS, COMMERCIAL DUTY 1/4 TURN BALL VALVE ANGLE STOPS, 13 MM (1/2") I.D. INLET X 127 MM (5") HORIZONTAL EXTENSION TUBES, COMBINATION V.P. LOOSE KEY HANDLE, ESCUTCHEON AND FLEXIBLE COPPER RISER.
 - P-TRAP, REFER TO CORROSIIVE WASTE DRAINAGE SYSTEM SPECIFICATIONS.
- S-2:
- SINK: EXISTING SINK TO BE RE-INSTALLED.
 - MIXING FAUCET WITH RIGID/SWIVEL GOOSENECK AND BLADE HANDLES. COUNTER MOUNTED MIXING FAUCET WITH IN-LINE DUAL CHECK VACUUM BREAKER AND NOZZLE. FAUCET TO HAVE A CHROME PLATED ALL BRASS BODY WITH 6MM NPT TAILPIECE AND COUPLING NUT.
 - SUPPLIES: CHROME PLATED POLISHED BRASS, COMMERCIAL DUTY 1/4 TURN BALL VALVE ANGLE STOPS, 13 MM (1/2") I.D. INLET X 127 MM (5") HORIZONTAL EXTENSION TUBES, COMBINATION V.P. LOOSE KEY HANDLE, ESCUTCHEON AND FLEXIBLE COPPER RISER.
 - P-TRAP, HEAVY CAST BRASS ADJUSTABLE BODY, WITH SLIP NUT, 38 MM (1-1/2") SIZE, BOX FLANGE AND SEAMLESS TUBULAR WALL BEND.
- EW-1:
- COUNTER MOUNTED EYE WASH WITH 90 DEGREE SWING DOWN DESIGN, TWIN CHROME PLATED ANTI-SURGE HEADS WITH PROTECTIVE DUST COVERS, CERAMIC 13MM NPT STAY OPEN VALVE, CHROME PLATED BRASS, EMERGENCY SIGN, EMERGENCY FIXTURE THERMOSTATIC MIXING VALVE: CHROME PLATED, WALL MOUNT BRACKET, CHECK STOPS ON INLETS, ADJUSTABLE SET POINT WITHIN TEMPERATURE RANGE, TEMPERATURE CONTROL WITHIN +/-3 DEGREES, BUILT IN COLD WATER BYPASS, POSITIVE SHUTOFF ON HOT SUPPLY WHEN COLD SUPPLY IS LOST, DIAL THERMOMETER, TEMPERATURE RANGE 180 TO 32C, MINIMUM FLOW 5.5L/MIN. MIXING VALVE SHALL BE COMPATIBLE WITH EYE WASH.
16. SEISMIC RESTRAINTS
- SEISMIC ENGINEER
 - PROFESSIONAL ENGINEER HOLDING A CERTIFICATE OF AUTHORIZATION IN THE PROVINCE OF ONTARIO WITH A MINIMUM OF 5 YEARS EXPERIENCE IN SEISMIC DESIGN, AND A MINIMUM OF \$1 MILLION PROFESSIONAL LIABILITY INSURANCE INCLUDING ERRORS AND OMISSIONS INSURANCE.
 - AT THE COMPLETION OF THE PROJECT, THE SEISMIC ENGINEER SHALL REVIEW THE INSTALLATIONS ON SITE, AND SHALL PREPARE A WRITTEN REPORT, WITH A LETTER SIGNED, SEALED AND DATED BY THE SEISMIC ENGINEER, CERTIFYING THAT THE INSTALLATIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THEIR DESIGN AND SHOP DRAWINGS.
 - A SINGLE SUPPLIER SHALL PROVIDE SEISMIC DESIGN, VIBRATION ISOLATION, AND SEISMIC RESTRAINT.
 - SEISMIC RESTRAINTS ARE TO BE PROVIDED FOR ALL OPERATIONAL AND FUNCTIONAL COMPONENTS OF BUILDING SERVICES IN ACCORDANCE WITH CURRENT REQUIREMENTS OF THE NATIONAL BUILDING CODE.
 - CABLE RESTRAINT SYSTEMS, ROD STIFFENER CLAMPS AND SEISMIC ISOLATOR CAPACITIES SHALL BE VERIFIED BY AN INDEPENDENT TEST LABORATORY.
 - CONNECTION MATERIALS SHALL BE SELECTED BY AND SITE SPECIFIC DESIGNS TO BE PREPARED BY THE SEISMIC ENGINEER, THE SEISMIC ENGINEER MAY SELECT AND SPECIFY MATERIALS AND ANCHORS TO BE PROVIDED BY THE CONTRACTOR WHERE THIS IS APPROPRIATE.
 - CONTRACTOR SHALL ENSURE THAT THE SEISMIC ENGINEERS' REQUIREMENTS AND SPECIFICATION ARE MET.
 - SUSPENDED EQUIPMENT: ALL SUSPENDED EQUIPMENT REQUIRES SEISMIC RESTRAINT.
 - SPLIT AIR CONDITIONING UNITS
 - INDOOR UNIT: R410A REFRIGERANT, COMPACT, LIGHTWEIGHT, SHINY-WHITE, FLAT PANEL DESIGN, QUIET OPERATION, MULTIPLE FAN-SPEED SETTINGS, INTAKE GRILLE FILTER IS EASILY REMOVED FOR CLEANING, BUILT-IN RECEIVER IS STANDARD.
 - OUTDOOR CONDENSING UNIT: AIR-COOLED CONDENSER C/W SEISMIC SNOW STAND AND ULTRA-LOW AMBIENT KIT, SINGLE PHASE OUTDOOR UNIT WITH VARIABLE REFRIGERANT FLOW (VRF) TECHNOLOGY, INVERTER-DRIVEN (VARIABLE SPEED) COMPRESSOR, MAXIMUM REFRIGERANT PIPING LENGTH OF 394' (120M).
18. REFRIGERANT PIPING
- GENERAL PRODUCT
 - TUBING: SHALL BE PROCESSED FOR REFRIGERATION INSTALLATIONS, DEOXIDIZED , DEHYDRATED AND SEALED SUCH AS HARD COPPER TO ASTM B280 , TYPE ACR OR ANNEALED COPPER TO ASTM B280, WITH MINIMUM WALL THICKNESS AS PER CSA B52 AND ANSI/ ASME B31.5.
 - FITTINGS
 - SERVICE: SHALL HAVE A SERVICE DESIGN PRESSURE OF 300 PSI AND TEMPERATURE OF 250 F
 - BRAZED FITTINGS: FITTINGS SHALL BE WROUGHT COPPER TO ANSI/ ASME B16.22, WITH SILVER JOINTS AND NON CORROSIIVE FLEX, OR SILFOS.
 - FLANGED:
 - BRONZE OR BRASS, TO ANSI/ ASME B16.24, CLASS 150 AND 300.
 - GASKETS: SUITABLE FOR SERVICE
 - BOLTS, UNITS AND WASHERS: TO ASTM A307, HEAVY SERIES
 - FLARED: BRONZE OR BRASS, FOR REFRIGERATION, TO ANSI/ASME 16.26
 - PIPE SLEEVES
 - HARD COOPER OR STEEL, SIZED TO PROVIDE 6MM CLEARANCE ALL AROUND BETWEEN SLEEVE AND UNINSULATED PIPE OR BETWEEN SLEEVE AND INSULATION.
 - VALVES
 - 22 MM AND UNDER – CLASS 500, 3.5 MPA GLOBE OR ANGLE NON-DIRECTIONAL TYPE, DIAPHRAGM, PACKLESS TYPE, WITH FORGED BRASS BODY AND BONNET, MOISTURE PROOF SEAL FOR BELOW FREEZING APPLICATIONS, BRAZED CONNECTIONS. BALL VALVES MEETING THIS SAME PERFORMANCE CRITERIA AND SUITABLE FOR REFRIGERATION SYSTEMS ARE ACCEPTABLE.
 - OVER 22 MM: CLASS 375, 2.5 MPA GLOBE OR ANGLE TYPE, DIAPHRAGM, PACKLESS TYPE, BACK-SEATING, CAP SEAL, WITH CAST BRONZE BODY BONNET, MOISTURE PROOF SEAL FOR BELOW FREEZING APPLICATIONS, BRAZED CONNECTIONS. BALL VALVES MEETING THIS SAME PERFORMANCE CRITERIA AND SUITABLE FOR REFRIGERATION SYSTEMS ARE ACCEPTABLE.
19. INSULATION
- INSULATE ALL REFRIGERATION LINES WITH 9 MM THICK INSULATION FOR UP TO NPS 2 PIPE SIZE AND 20 MM THICK INSULATION FOR OVER NPS 2 PIPE SIZE. INSULATION SHALL BE FLEXIBLE ELASTOMERIC CLOSED CELL INSULATION TO CAN/CSSB –51.40 WITH A FLAME/ SMOKE RATING NOT EXCEEDING 25/50 WHEN TESTED IN ACCORDANCE WITH CAN4–S102.INSULATE DISCHARGE LINES FOR SAFETY AND OUTDOORS FOR LOW AMBIENT OPERATION (LIQUID FLOOD BACK SYSTEMS, COMPUTER ROOMS, ETC.)
20. LABELING
- ENSURE ALL NEW EQUIPMENT IS LABELLED APPROPRIATELY AS PER THE SPECIFICATIONS BELOW. WORK THAT DOES NOT INCLUDE PROPER LABELLING WILL BE CONSIDERED INCOMPLETE AND WILL BE MARKED AS DEFICIENT UNTIL LABELLING IS IMPLEMENTED AS PER SPECIFICATIONS BELOW.
 - NORMAL LABEL SPECIFICATIONS:
 - ALL EQUIPMENT MUST BE LABELLED.
 - OBTAIN WRITTEN APPROVAL OF IDENTIFICATION SYSTEM FROM DEPARTMENTAL REPRESENTATIVE BEFORE STARTING MANUFACTURE OF LABELS. CONTRACTOR MUST NOT LABEL ITEMS BY NAME AND NUMBER ON THE CONSTRUCTION PLAN UNLESS ADVISED TO DO SO BY THE DEPARTMENTAL REPRESENTATIVE.
 - CONTRACTOR MUST SUPPLY 3 SEPARATE LABELS AS FOLLOWS:
 - LABEL 1: NAME AND INVENTORY NUMBER OF THE EQUIPMENT – AS PER THE BUILDING INVENTORY LIST (INVENTORY EQUIPMENT NAME AND EQUIPMENT NUMBER MUST BE PROVIDED TO CONTRACTOR BY PROJECT MANAGER)
 - LABEL 2: WHERE THE EQUIPMENT IS BEING FED FROM – THE EQUIPMENT INVENTORY NUMBER, THE LOCATION AND THE VOLTAGE
 - LABEL 3: WHERE THE EQUIPMENT IS FEEDING–THE EQUIPMENT INVENTORY NUMBER, THE LOCATION AND THE VOLTAGE
21. ACCESS DOORS
- MINIMUM 12 GA. PRIME COAT PAINTED, HEAVY DUTY FULLY CONCEALED FRAME AND HINGES, POSITIVE LOCKING DEVICE.
 - ACCESS DOORS SHALL BE AS RECOMMENDED BY MANUFACTURER FOR PARTICULAR INSTALLATION.
 - SUPPLY ACCESS DOORS FOR ACCESS TO EQUIPMENT REQUIRING SERVICE, LUBRICATION OR ADJUSTMENT AND ALL CONCEALED VALVES, CLEANOUTS, TRAP PRIMERS, FIRE DAMPERS, CONTROL AND VOLUME DAMPERS, AND OTHER SUCH EQUIPMENT.
 - TURN OVER ACCESS DOORS TO THE APPROPRIATE GENERAL TRADE FOR INSTALLATION.
 - INCLUDE COSTS FOR GENERAL TRADES TO SUPPLY AND INSTALL ACCESS PANELS IN GYPSUM CEILINGS OR WALLS.

MECHANICAL SPECIFICATIONS (CONT'D)

- SOFT ANNEALED COPPER TUBING – BEND WITHOUT CRIMPING OR CONSTRICTION. (HARD DRAWN COPPER TUBING– DO NOT BEND, MINIMIZE USE OF FITTINGS – OFFSETS CAN BE FABRICATED BY HEATING THE PIPE).
 - HOT GAS LINES AND SUCTION LINES
 - PITCH AT LEAST (1/8" PER 10') DOWN IN DIRECTION OF FLOW TO PROMOTE OIL RETURN TO COMPRESSOR DURING OPERATION
 - PROVIDE TRAP AT BASE OF RISERS GREATER THAN 8' HIGH AND AT EACH 25' THEREAFTER.
 - PROVIDE INVERTED DEEP TRAP AT TOP OF EACH RISER.
 - PROVIDE DOUBLE RISERS FOR COMPRESSORS HAVING CAPACITY MODULATION.
 - LARGE RISER: INSTALL TRAPS AS SPECIFIED ABOVE.
 - SMALL RISER: SIZE FOR 1000FT/MIN AT MINIMUM FLOW. CONNECT UPSTREAM OF TRAPS ON LARGE RISER.
 - PRESSURE AND LEAK TESTING
 - CLOSE VALVES ON ALL FACTORY CHARGED EQUIPMENT AND OTHER EQUIPMENT NOT DESIGNED FOR TEST PRESSURES. LEAK TEST TO CSA B52 BEFORE EVACUATION TO 1.5 TIMES WORKING PRESSURE ON BOTH HIGH AND LOW SIDES. TEST WITH NITROGEN TO REQUIRED PRESSURE. TEST FOR LEAKS WITH DETECTOR. REPAIR LEAKS AND REPEAT TESTS. SOLENOID VALVES MAY HAVE TO BE ENERGIZED TO CARRY OUT PRESSURE TESTING AND EVACUATION TO ELIMINATE ISOLATED SECTION OF THE SYSTEM.
 - DEHYDRATION AND CHARGING
 - CLOSE SERVICE VALVES ON FACTORY CHARGED EQUIPMENT AMBIENT TEMPERATURES TO BE AT LEAST +13C FOR AT LEAST 12 HOURS BEFORE AND DURING DEHYDRATION. USE COPPER LINES OF LARGEST PRACTICAL SIZE TO REDUCE EVACUATION TIME. USE 2 –STAGE VACUUM PUMP WITH GAS BALLAST ON 2ND STAGE CAPABLE OF PULLING AT LEAST 100 MICRONS AND FILLED WITH DEHYDRATED OIL-MEASURE SYSTEM PRESSURE WITH VACUUM GAUGE. TAKE READINGS WITH VALVE BETWEEN VACUUM PUMP AND SYSTEM CLOSED. TRIPLE EVACUATE ALL SYSTEM COMPONENTS CONTAINING REFRIGERANT GASES OTHER THAN CORRECT REFRIGERANT CHARGE OR HOLDING CHARGE AS FOLLOWS:
 - A STANDING VACUUM OF 250 MICRONS OR LESS FOR A PERIOD OF NOT LESS THAN 2 HOURS.
 - A STANDING VACUUM OF 250 MICRONS OR LESS FOR A PERIOD OF NOT LESS THAN 12 HOURS.
 - SUBMIT ALL TEST RESULTS TO DEPARTMENTAL REPRESENTATIVE.
 - CHARGING: CHARGE SYSTEM THOUGH FILTER-DRYER AND CHARGING VALVE ON HIGH SIDE. LOW SIDE VAPOUR CHARGING ONLY IS PERMITTED WITH COMPRESSOR OFF. CHARGE ONLY AMOUNT NECESSARY FOR PROPER OPERATION OF SYSTEM. IF SYSTEM PRESSURE EQUALIZE BEFORE SYSTEM IS FULLY CHARGED, CLOSE CHARGING VALVE AND START UP WITH UNIT OPERATING, ADD REMINDER OF CHARGE TO SYSTEM. RE-PRUGE CHARGING LINE IF REFRIGERANT CONTAINER IS CHARGED DURING CHARGING PROCESS.
 - CHECKS: MAKE ALL CHECKS AND MEASUREMENTS AS PER MANUFACTURERS OPERATION AND MAINTENANCE INSTRUCTIONS. RECORD AND REPORT ALL MEASUREMENTS IN WRITING TO DEPARTMENTAL REPRESENTATIVE. NO REFRIGERANT SHALL BE PURGED.
 - INSULATION
 - APPLY INSULATION AFTER REQUIRED TESTS HAVE BEEN COMPLETED AND REVIEWED BY DEPARTMENTAL REPRESENTATIVE.
 - INSULATION AND SURFACES SHALL BE CLEAN AND DRY WHEN INSTALLED AND DURING APPLICATION OF ANY FINISH ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
 - NATURAL GAS PIPING
 - ABOVE GROUND PIPING 50MM (2") AND SMALLER DIAMETER, SCHEDULE 40, SHALL COMPLY WITH ASTM A53 AND ASTM A120, WELDED CARBON STEEL PIPE, THREADED WITH CLASS 150, MALLEABLE IRON, THREADED FITTINGS TO ANSI B16.3.
 - PIPE HANGERS AND SUPPORTS CONFORM TO NFPA 31.
 - HANGERS FOR PIPES SIZED 15MM TO 40MM (1/2" TO 1-1/2"): MALLEABLE IRON, ADJUSTABLE SWIVEL, SPLIT RING.
 - MULTIPLE OR TRAPEZE HANGERS: STEEL CHANNELS WITH WELDED SPACERS AND HANGERS RODS.
 - WALL SUPPORT FOR PIPE SIZES UP TO 80MM (3-1/4"): CAST IRON HOOK, VERTICAL SUPPORT: STEEL RISER CLAMP.
 - INSTALLATION
 - INSTALL TO CODE.
 - PROVIDE NON-CONDUCTING DIELECTRIC CONNECTIONS WHEREVER JOINTING DISSIMILAR METALS. INSTALL TO NACE RP-01-69.
 - ROUTE PIPING IN ORDERLY MANNER AND MAINTAIN GRADIENT.
 - INSTALL PIPING TO CONSERVE BUILDING SPACE AND NOT INTERFERE WITH USE OF SPACE.
 - GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS.
 - INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT.
 - PROVIDE CLEARANCE FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES AND FITTINGS.
 - PROVIDE ACCESS WHERE VALVES AND FITTINGS ARE NOT EXPOSED. COORDINATE SIZE AND LOCATION OF ACCESS DOORS.
 - PROVIDE ACCESS WHERE VALVES AND FITTINGS ARE NOT EXPOSED. COORDINATE SIZE AND LOCATION OF ACCESS DOORS.
 - PREPARE PIPE, FITTINGS, SUPPORTS, AND ACCESSORIES NOT PREFINISHED, READY FOR FINISH PAINTING.
 - IDENTIFY PIPING SYSTEMS INCLUDING UNDERGROUND PIPING.
 - INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED.
 - PROTECT PIPING SYSTEMS FROM ENTRY OF FOREIGN MATERIALS BY TEMPORARY COVERS, COMPLETING SECTIONS OF THE WORK, AND ISOLATING PARTS OF COMPLETED SYSTEM.
 - LABELING
 - ENSURE ALL NEW EQUIPMENT IS LABELLED APPROPRIATELY AS PER THE SPECIFICATIONS BELOW. WORK THAT DOES NOT INCLUDE PROPER LABELLING WILL BE CONSIDERED INCOMPLETE AND WILL BE MARKED AS DEFICIENT UNTIL LABELLING IS IMPLEMENTED AS PER SPECIFICATIONS BELOW.
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1 SITEPLAN
M003 Scale: NTS



2 BUILDING 50 - AREA OF WORK
M003 Scale: 1:500



PACKAGED ROOFTOP UNIT SCHEDULE

SYMBOL	SUPPLY FAN					RETURN/EXHAUST FAN					COOLING CAPACITY			HEATING SECTION		ELECTRICAL		UNIT WEIGHT (KG)	OUTSIDE AIR (CFM)	REMARKS
	AIR VOLUME (CFM)	S.P. (IN.W.G.) E.S.P.	TOTAL	RPM	HP	AIR VOLUME (CFM)	S.P. (IN.W.G.) E.S.P.	TOTAL	RPM	HP	TOTAL (MBH)	SENSIBLE (MBH)	IEER	GAS INPUT (MBH)	GAS OUTPUT (MBH)	VOLTAGE	M.C.A. (AMPS)			
RTU-EW14	1752	1.25	2.36	1760	2.00	797	0.25	0.37	1760	0.5	67.90	50.43	11.5	140.0	113.4	575/3/60	18.0	792.0	955	REFER TO SPECIFICATIONS.

DUCTLESS AIR CONDITIONING UNIT SCHEDULE

SYMBOL	AREA SERVED	AIR TEMP (F)		TOTAL COOLING CAPACITY (BTUH)	ELECTRICAL			MANUFACTURER AND MODEL
		DB	WB		VOLTAGE	AMPS		
AC-EW16	LAB EW-16	80	67	30,000	208/1/60	1.0	2.5 TON WALL MOUNTED SPLIT UNIT	

AIR COOLED CONDENSING UNIT SCHEDULE

SYMBOL	AREA SERVED (UNITS SERVED)	AMBIENT AIR TEMP (F)	TOTAL COOLING (BTUH)	REFRIGERANT	ELECTRICAL			MANUFACTURER AND MODEL
					W	VOLTAGE	MCA	
CU-EW16	EW-16 (AC-EW16)	95DB/75WB	30,000	R410A	--	208/1/60	19	2.5 TON AIR-COOLED CONDENSER C/W SEISMIC SNOW STAND AND ULTRA-LOW AMBIENT KIT

SUPPLY AIR OUTLET SCHEDULE

DESIGNATION	S-1
MOUNTING	DUCT MOUNTED
OUTLET TYPE	LOUVERED SUPPLY (DOUBLE DEFLECTION)
NOMINAL SIZE: MM (IN)	350X250 (14"X10")
CONNECTION SIZE: MM (IN)	350X250 (14"X10")
AIRFLOW RANGE: L/S (CFM)	207 (438)
MAXIMUM NOISE CRITERIA	NC 25

RETURN AIR OUTLET SCHEDULE

DESIGNATION	R-1
MOUNTING	SURFACE MOUNTED
OUTLET TYPE	LOUVERED RETURN
NOMINAL SIZE: MM (IN)	600X400 (24"X16")
AIRFLOW RANGE: L/S (CFM)	414 (877)
MAXIMUM NOISE CRITERIA	NC 20

PLUMBING FIXTURE SCHEDULE

REFER	DESCRIPTION	MANUFACTURER	ACCESSORIES AND TRIM
S-1 EW-1	DOUBLE COMPARTMENT LAB SINK INTEGRALLY WELDED TO STAINLESS STEEL COUNTERTOP C/W LAB FAUCET AND EYE WASH	[SUPPLIED BY CASEWORK CONTRACTOR]	REFER TO SPECIFICATIONS
S-2 EW-1	DOUBLE COMPARTMENT LAB SINK INTEGRALLY WELDED TO STAINLESS STEEL COUNTERTOP C/W LAB FAUCET AND EYE WASH	EXISTING SINK TO BE RE-INSTALLED	REFER TO SPECIFICATIONS

NOTES:
 1. SPECIFIED FIXTURES SHALL BE AVAILABLE AS QUICK SHIP TO SUIT THE CONSTRUCTION SCHEDULE AT NO EXTRA COST.
 2. THE CONTRACTOR SHALL SUPPLY AND INSTALL THE ACCESSORIES AND TRIMS ONLY FOR FIXTURES SUPPLIED AND INSTALLED BY GENERAL TRADES (I.E. SOLID SURFACE, STAINLESS STEEL, ETC.)
 3. ACCEPTABLE ALTERNATES SUBJECT TO REVIEW DURING TENDER.
 4. PROVIDE THERMOSTATIC MIXING VALVE AND ADJUST TO MAXIMUM OF 49 DEGREE C (AT EACH GROUP OR BANK OF FIXTURES).

PLUMBING FIXTURE CONNECTION SCHEDULE

REFER	DESCRIPTION	SANITARY \varnothing	SANITARY VENT \varnothing	DHWS \varnothing	DCWS \varnothing	NOTES
S-1	CT. MTD. S.S. SINK LAB FAUCET	1-1/2" (40MM)	1-1/4" (32MM)	1/2" (13MM)	1/2" (13MM)	
S-2	CT. MTD. S.S. SINK LAB FAUCET	1-1/2" (40MM)	1-1/4" (32MM)	1/2" (13MM)	1/2" (13MM)	
EW-1	CT. MTD. EYE WASH	--	--	1/2" (13MM)	1/2" (13MM)	HW & CW TO TEMPERING VALVE, 1/2" (13MM) TEMPERED TO FIXTURE

ABBREVIATIONS: F.V. - FLUSH VALVE, F.M. - FLOOR MOUNTED, CT. MTD. - COUNTER MOUNTED, H - HANDICAPPED / BARRIER FREE, W.H. - WALL HUNG, S.R. - SEMI RECESSED, ELECT. - ELECTRONIC, S.S. - STAINLESS STEEL

NOTES:
 1. WHERE THERE ARE MIXING VALVES PROVIDE EXTERNAL CHECK VALVES ON THE HOT AND COLD WATER TO PREVENT CROSS FLOW. THE STOP CHECKS AVAILABLE ON MIXING VALVES ARE NOT ADEQUATE TO STOP CROSS FLOW.
 2. PROVIDE AND INSTALL WATER HAMMER ARRESTORS AHEAD OF EACH PLUMBING FIXTURE OR FIXTURE GROUP UTILIZING SOLENOID VALVES, FLUSH VALVES, OR OTHER QUICK CLOSING VALVES AND WHEREVER ELSE NECESSARY TO PREVENT WATER HAMMER.

SEAL

CONSULTANTS

KEY PLAN

#	ISSUE / REVISION	DATE
01	66% REVIEW	05/09/2018
02	99% REVIEW	05/28/2018
03	TRANSLATION	06/08/2018
04	TENDER	07/04/2018
05	RE-ISSUED FOR TENDER	08/15/2018
06	RE-ISSUED FOR TENDER	11/05/2019

PROJECT NAME

CENTRAL EXPERIMENTAL FARM
 Building 50
 Labs/Genomics
 RENOVATIONS
 OTTAWA, ON

NOM DU PROJET
 FERME EXPERIMENTALE CENTRALE
 Édifices 50
 Laboratoires/
 Genomique
 RENOVATIONS
 OTTAWA, ON

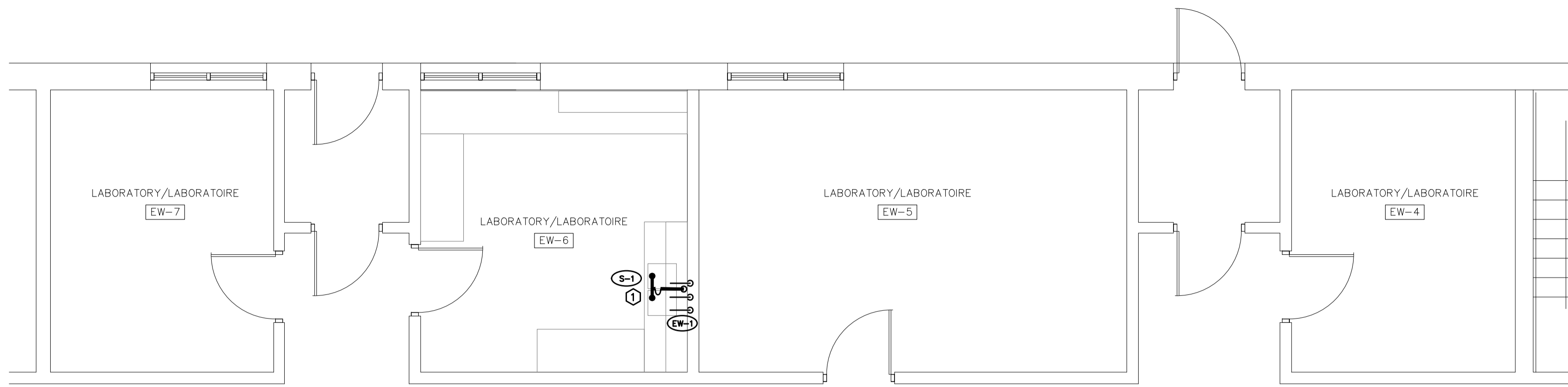
SHEET TITLE / TITRE DE LA
 FEUILLE
 MECHANICAL SCHEDULES
 AND KEY PLANS

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PROJECT / PROJET
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 PAR
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 PAR

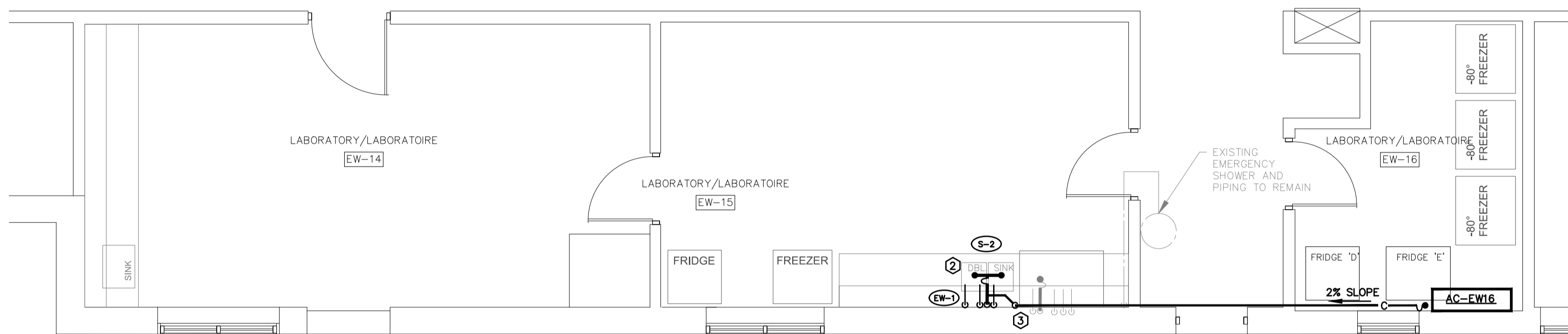
SHEET /
 FEUILLE

M-003

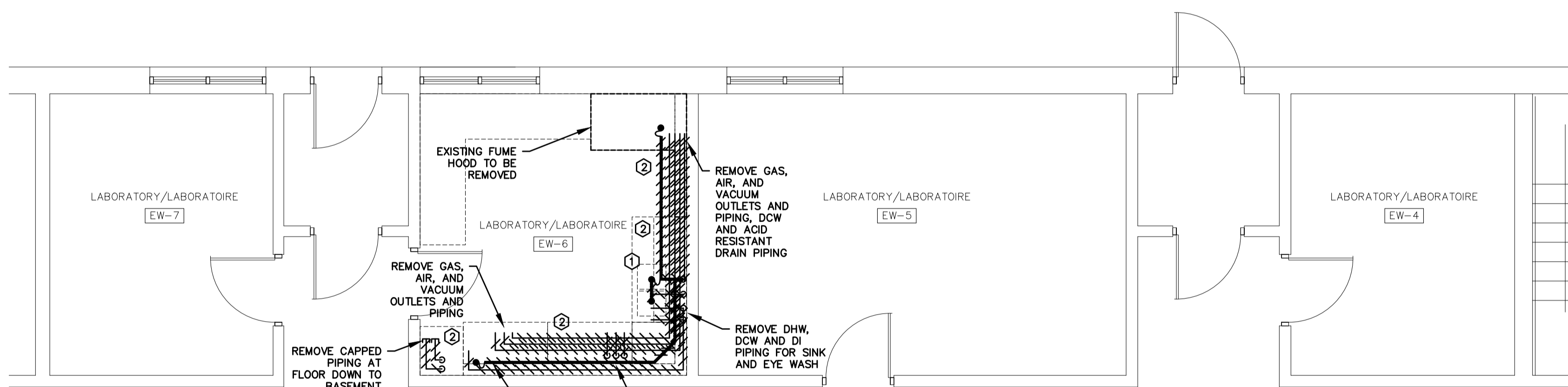


NEW PLUMBING NOTES

- ① INSTALL NEW SINK (SUPPLIED BY CASEWORK CONTRACTOR) AS INDICATED. REINSTALL SALVAGED FAUCET AND EYE WASH, AND CONNECT TO DOMESTIC HOT WATER, DOMESTIC COLD WATER, SANITARY AND VENT PIPING. SANITARY AND VENT PIPING TO BE CORROSIVE WASTE (REFER TO SPECIFICATIONS).
- ② REINSTALL SALVAGED SINK, AND PROVIDE NEW FAUCET AND EYE WASH. CONNECT TO DOMESTIC HOT WATER, DOMESTIC COLD WATER, SANITARY AND VENT PIPING.
- ③ PROVIDE INTEGRAL CONDENSATE PUMP IN AC UNIT AND DRAINAGE PIPING TO ROOM EW-15. PROVIDE NEW OPEN ENDED DRAIN AND INDIRECT CONNECTION FOR CONDENSATE BELOW SINK INSIDE MILLWORK.

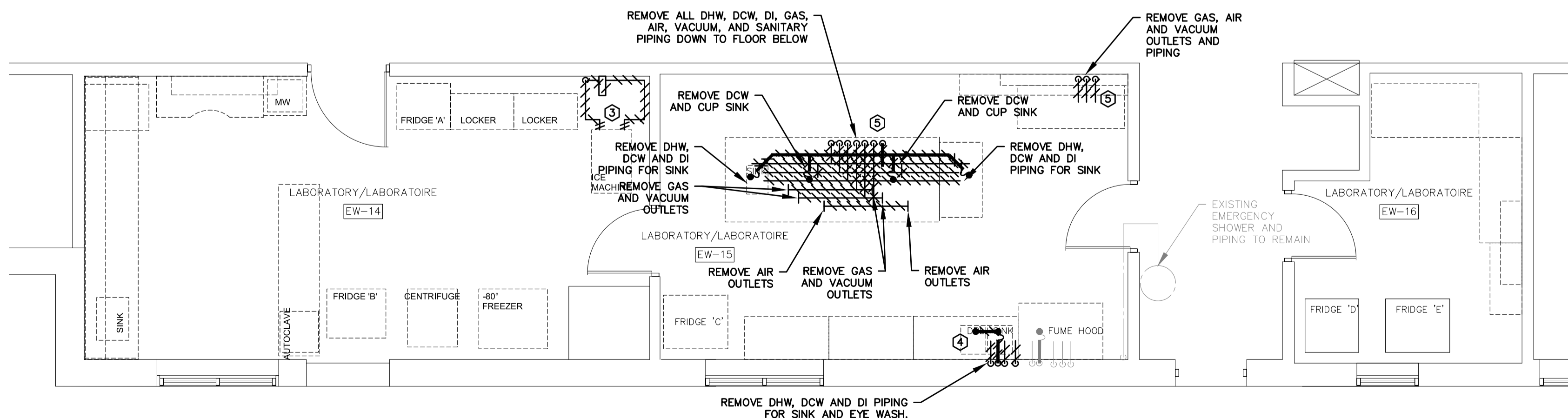


2 BUILDING 50 PROPOSED GROUND FLOOR PLAN
Scale: 1:50



DEMOLITION PLUMBING NOTES

- ① DISCONNECT AND REMOVE EXISTING SINK AND TEMPORARILY DISCONNECT PLUMBING CONNECTIONS. CUT BACK AND CAP DI WATER PIPING BACK TO MAINS ON FLOOR BELOW. EXISTING DOMESTIC HOT WATER, DOMESTIC COLD WATER, CORROSIVE WASTE DRAINAGE AND VENT PIPING TO REMAIN.
- ② DISCONNECT AND REMOVE EXISTING CUP SINKS, FUME HOOD CONNECTIONS, AND GAS OUTLETS (COMPRESSED AIR, NATURAL GAS, AND VACUUM). CUT BACK AND CAP ALL DOMESTIC HOT WATER, DOMESTIC COLD WATER, SANITARY, VENT, CORROSIVE WASTE DRAINAGE, COMPRESSED AIR, NATURAL GAS, AND VACUUM PIPING BACK TO MAINS ON FLOOR BELOW. PIPING SERVING SINK IN NOTE 1 TO REMAIN.
- ③ CUT BACK AND CAP DOMESTIC COLD WATER PIPING FOR ICE MACHINE BACK TO MAINS ON FLOOR BELOW.
- ④ DISCONNECT AND REMOVE EXISTING SINK AND TEMPORARILY DISCONNECT PLUMBING CONNECTIONS. SALVAGE SINK FOR REINSTALLATION. CUT BACK AND CAP DI WATER PIPING BACK TO MAINS ON FLOOR BELOW. EXISTING DOMESTIC HOT WATER, DOMESTIC COLD WATER, SANITARY AND VENT PIPING TO REMAIN.
- ⑤ DISCONNECT AND REMOVE EXISTING SINKS AND GAS OUTLETS (COMPRESSED AIR, NATURAL GAS, AND VACUUM). CUT BACK AND CAP ALL DOMESTIC HOT WATER, DOMESTIC COLD WATER, SANITARY, VENT, COMPRESSED AIR, NATURAL GAS, AND VACUUM PIPING BACK TO MAINS ON FLOOR BELOW.



1 BUILDING 50 DEMOLITION GROUND FLOOR PLAN
Scale: 1:50



SEAL

CONSULTANTS

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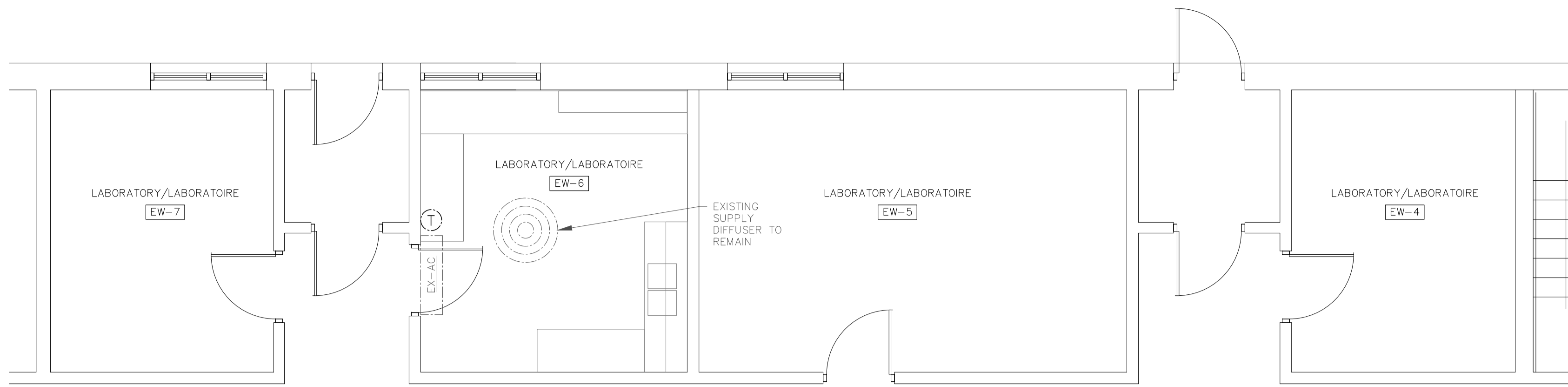
SHEET TITLE / TITRE DE LA
 FEUILLE
 BUILDING 50 DEMOLITION
 AND NEW PLUMBING
 PLANS

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PROJECT / PROJET
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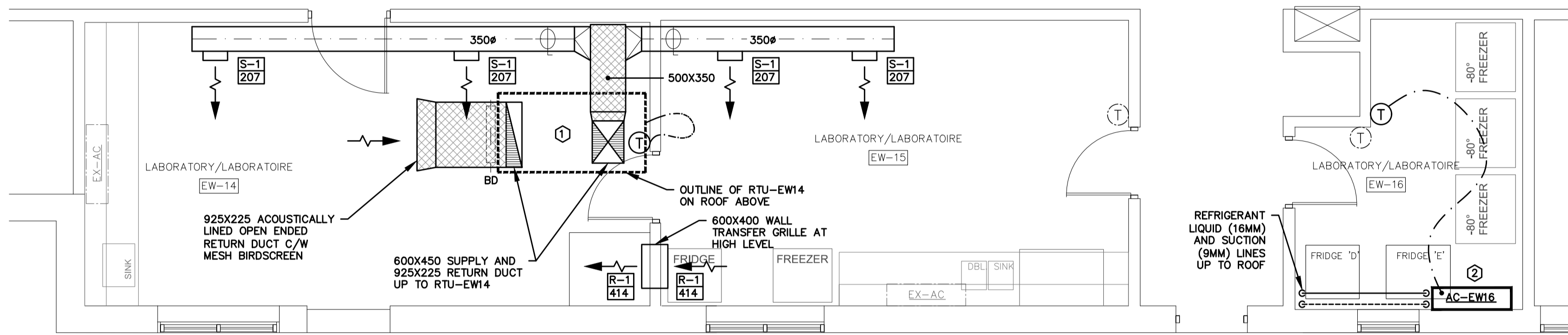
SHEET / FEUILLE

M-101

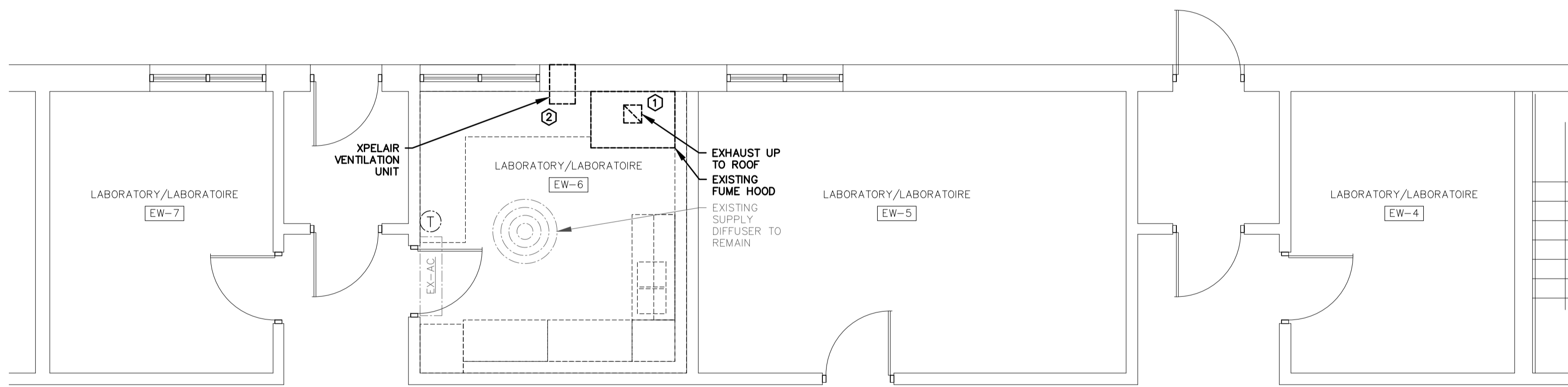


NEW HVAC NOTES

- 1 PROVIDE NEW ROOFTOP AIR HANDLING UNIT, SUPPLY AND RETURN DUCTWORK, DIFFUSERS AND GRILLES TO SERVE EW-14 AND EW-15. VENTILATION TO MEET CANADIAN BIOSAFETY STANDARD FOR LEVEL 1 CONTAINMENT.
- 2 PROVIDE NEW 2.5 TON WALL-MOUNTED SPLIT A/C UNIT C/W ALL REFRIGERANT PIPING, CONTROL WIRING AND WALL CONTROLLER FOR ROOM EW-16. COORDINATE LOCATION OF CONDENSING UNIT ON ROOF WITH OWNER.

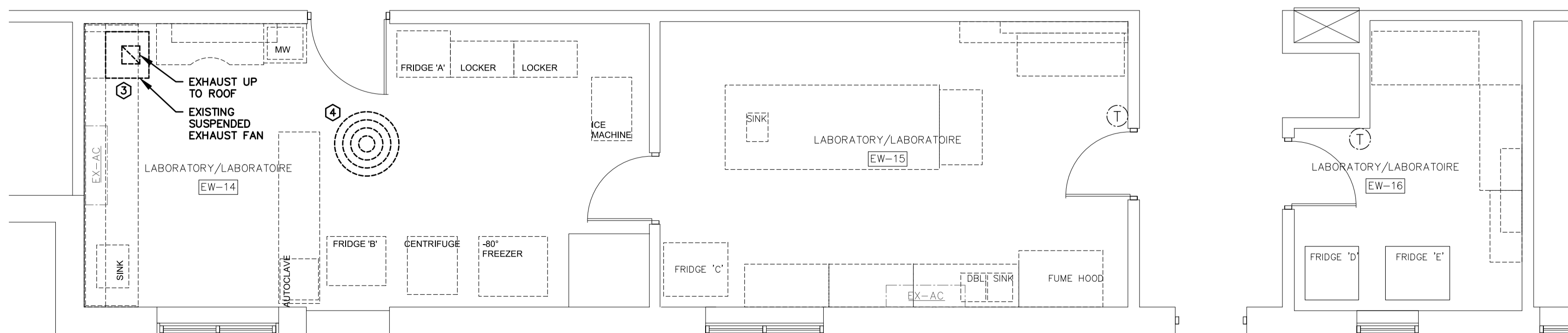


2 BUILDING 50 PROPOSED GROUND FLOOR PLAN
Scale: 1:50



DEMOLITION HVAC NOTES

- 1 DECOMMISSION EXISTING FUME HOOD IN EW-6 AS INDICATED. CONTRACTOR TO RETAIN AN ENVIRONMENTAL CONSULTANT TO CLEAN EXISTING FUME HOOD, ASSOCIATED DUCTWORK AND EXHAUST FAN FOR SAFE REMOVAL. ROOF EXHAUST DUCT PENETRATION TO BE PATCHED AND REPAIRED.
- 2 DISCONNECT AND REMOVE EXISTING WALL-MOUNTED XPELAIR MAKE-UP AIR VENTILATION UNIT.
- 3 DISCONNECT AND REMOVE EXISTING SUSPENDED EXHAUST FAN IN LAB EW-14. C/W GOOSENECK ON ROOF. ROOF TO BE PATCHED AND REPAIRED.
- 4 REMOVE EXISTING CAPPED SUPPLY DIFFUSER IN CEILING OF EW-14. REMOVE REDUNDANT DUCTWORK BACK TO MAIN. DRYWALL CEILING TO BE PATCHED AND REPAIRED. REFER TO ARCHITECTURAL DRAWINGS.



1 BUILDING 50 DEMOLITION GROUND FLOOR PLAN
Scale: 1:50

SEAL

CONSULTANTS

KEY PLAN

#	ISSUE / REVISION	DATE
01	66% REVIEW	05/09/2018
02	99% REVIEW	05/28/2018
03	TRANSLATION	06/08/2018
04	TENDER	07/04/2018
05	RE-ISSUED FOR TENDER	08/15/2018
06	RE-ISSUED FOR TENDER	11/05/2019

PROJECT NAME

CENTRAL EXPERIMENTAL FARM
 Building 50
 Labs/Genomics
 RENOVATIONS
 OTTAWA, ON

NOM DU PROJET
 FERME EXPERIMENTALE CENTRALE
 Édifices 50
 Laboratoires/
 Genomique
 RENOVATIONS
 OTTAWA, ON

SHEET TITLE / TITRE DE LA
 FEUILLE
 BUILDING 50 DEMOLITION
 AND NEW HVAC PLANS

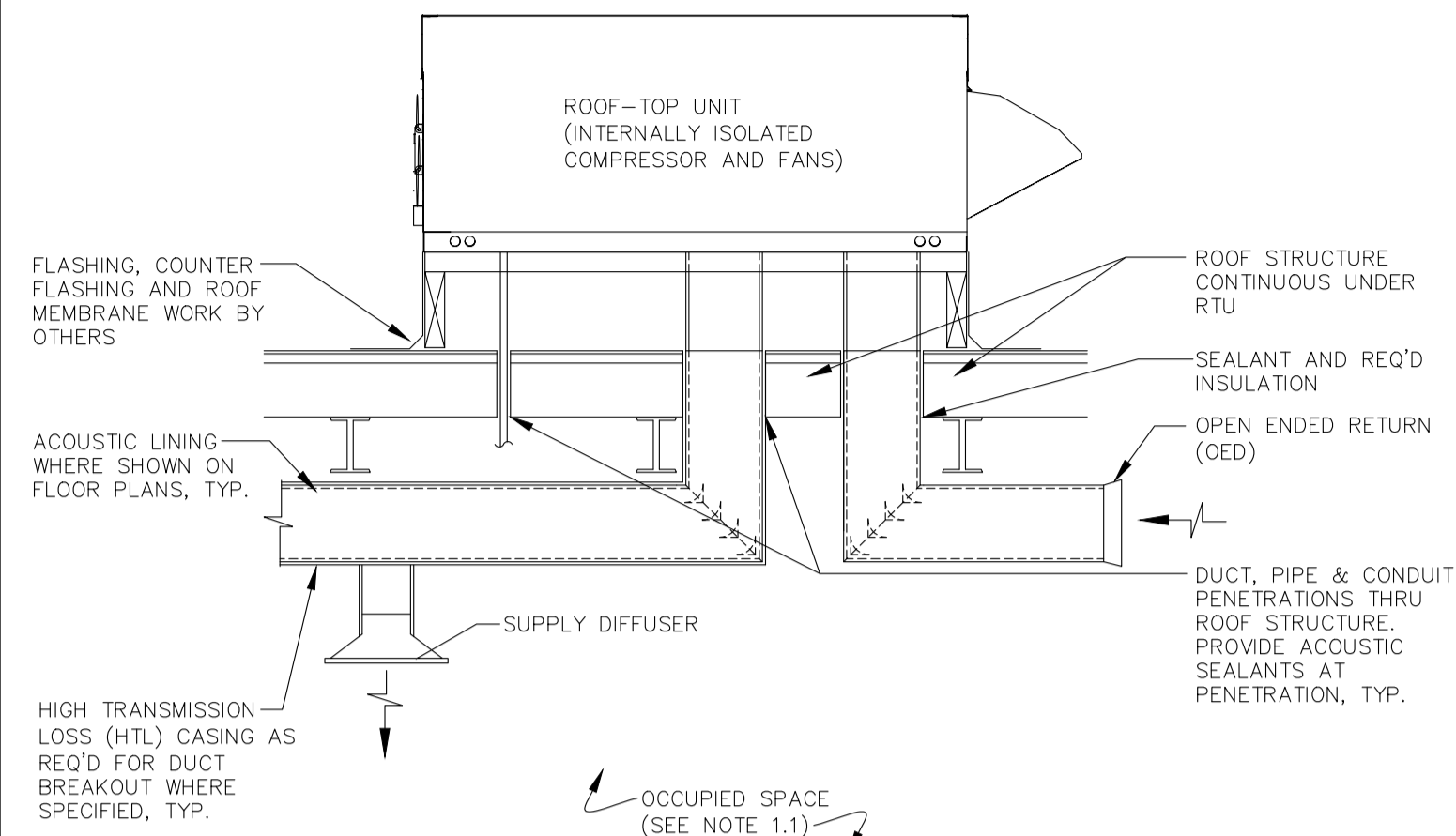
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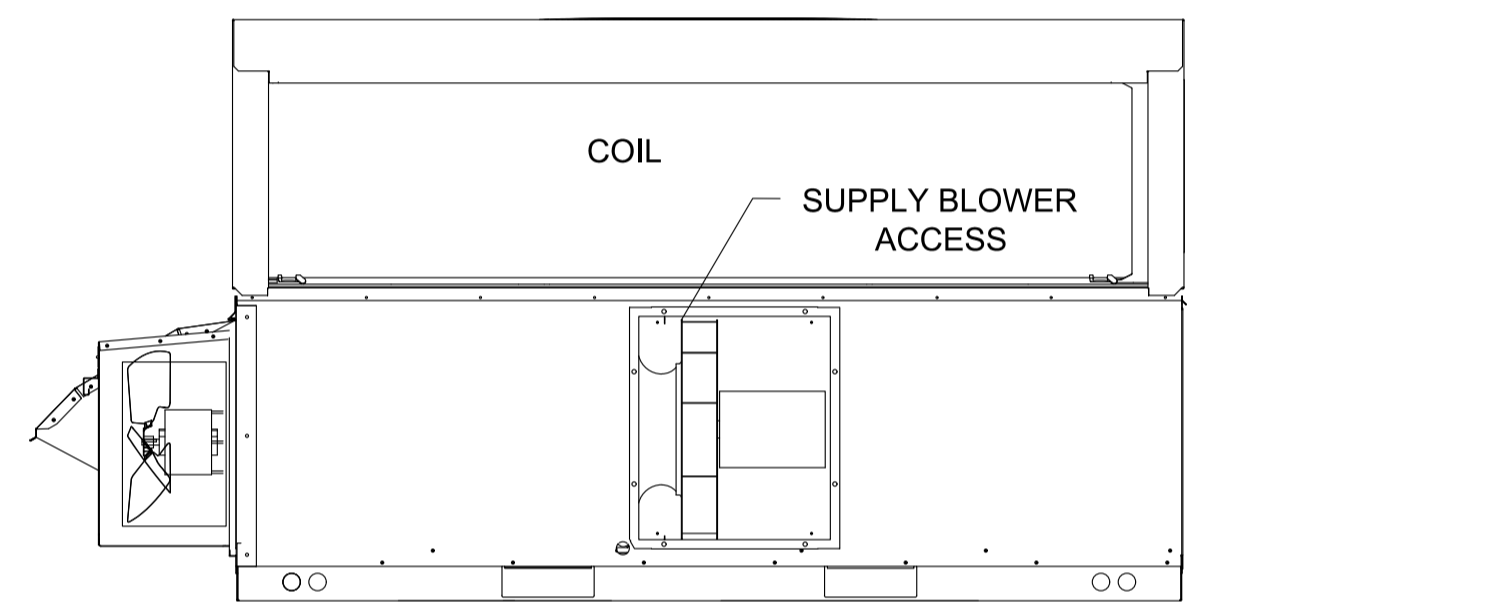
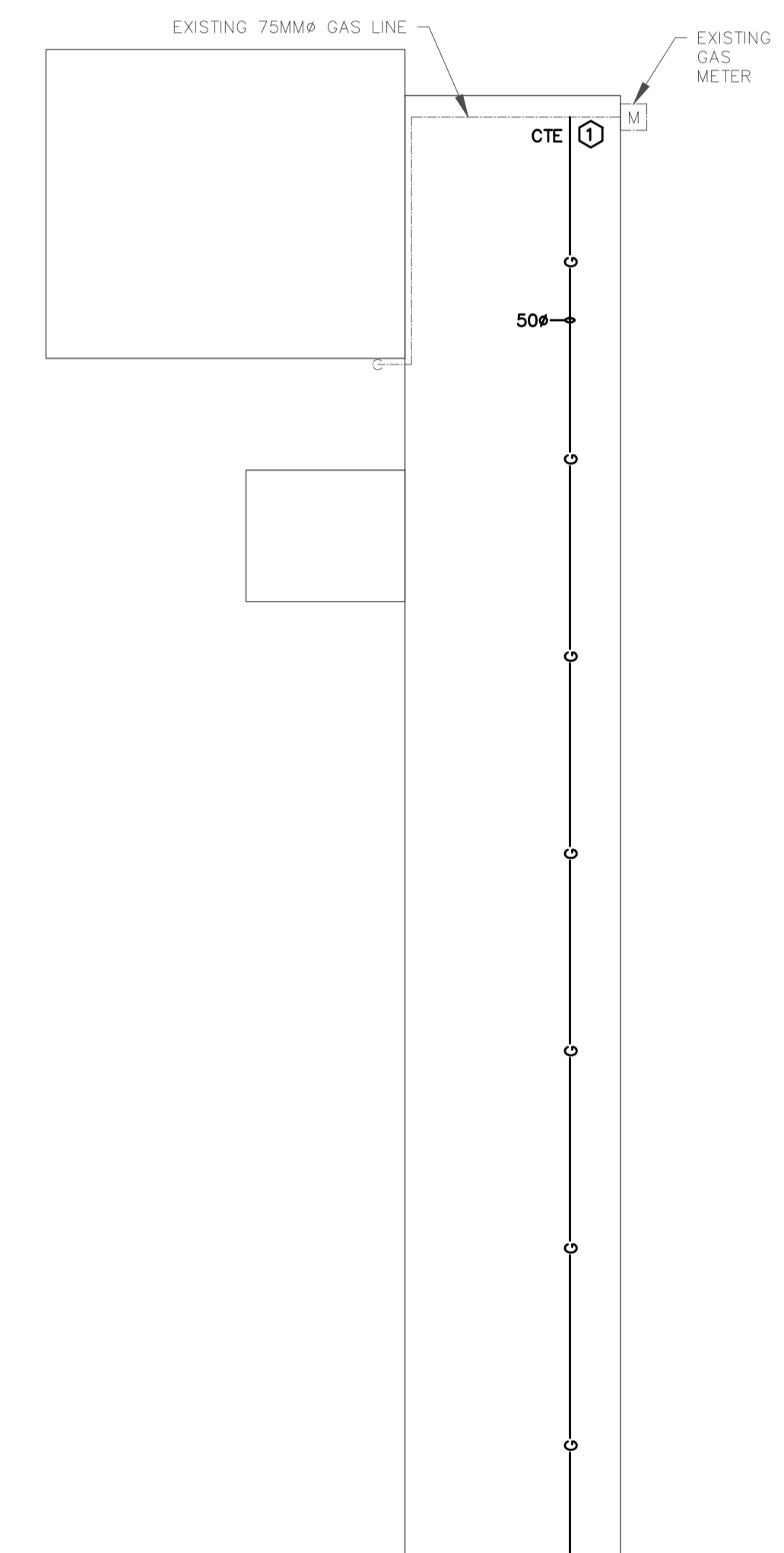
M-201

NOTES:
 1. NOISE LEVELS FROM COMBINED DUCT BREAKOUT AND AERODYNAMIC NOISE SHALL BE : OPEN OFFICE - NC/RC 35, CRITICAL SPACES - NC 30, CORRIDORS, UTILITY SPACES - NC 40
 2. PROVIDE ACOUSTICAL CURB/RAIL WITH ACOUSTIC BARRIER PACKAGE FOR ROOF TOP UNIT
 3. SEE SCHEDULES AND SPECIFICATION FOR VIBRATION ISOLATION AND NOISE ATTENUATION PERFORMANCE AND DETAILS.

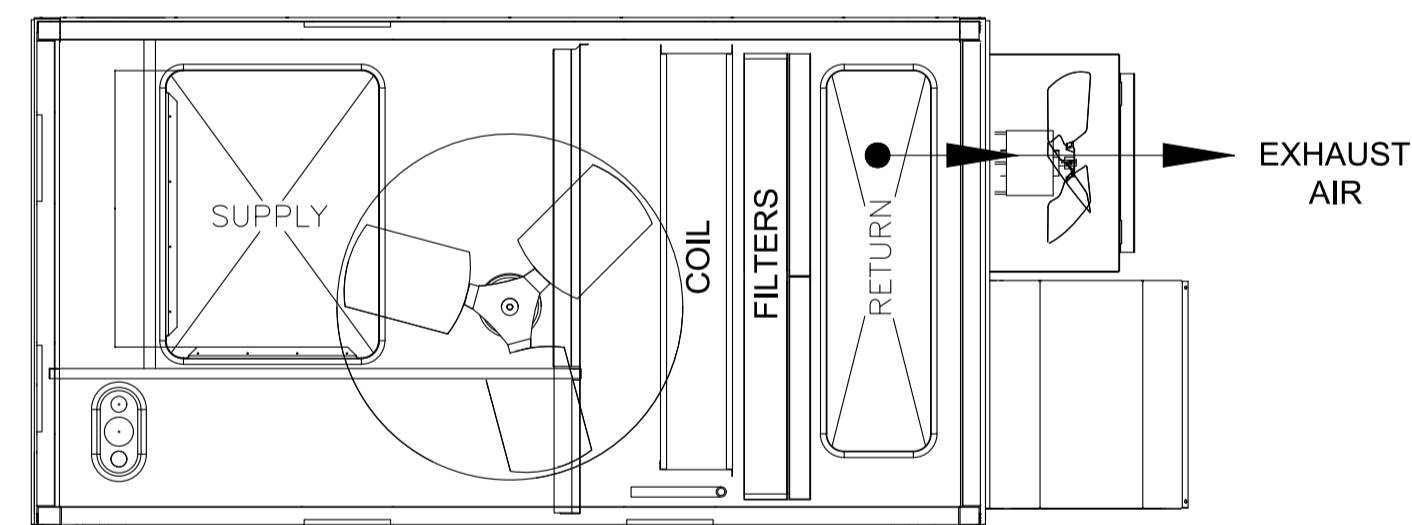


1
M-301
 DETAIL OF ROOFTOP UNIT INSTALLATION AND ACOUSTIC REQUIREMENTS

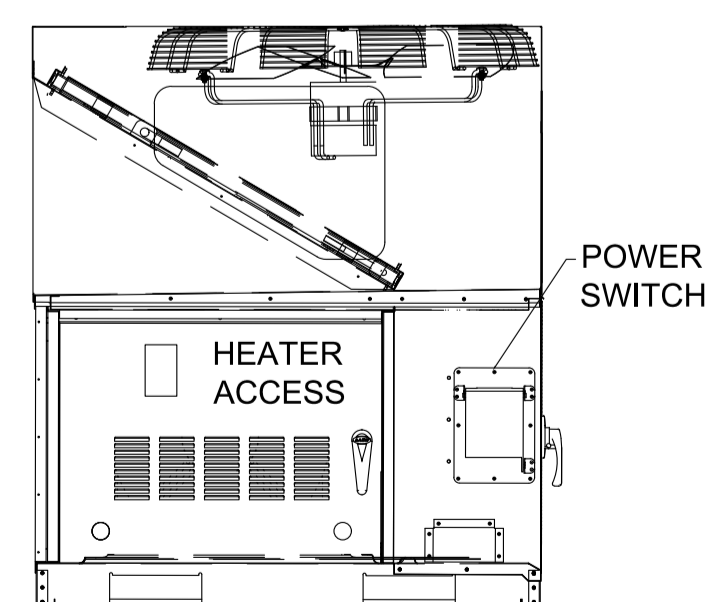
NEW HVAC NOTES
 ① PROVIDE NEW GAS-FIRED ROOFTOP AIR HANDLING UNIT. EXTEND NEW 50# GAS LINE FROM EXISTING METER AND CONNECT. COORDINATE LOCATION OF NEW ROOFTOP UNIT TO ENSURE MINIMUM 10M CLEARANCE FROM ANY FUME HOOD EXHAUST, 5M CLEARANCE FROM ANY COMBUSTION EXHAUST AND 3M MINIMUM CLEARANCE FROM GENERAL EXHAUST AND PLUMBING VENTS.
 ② PROVIDE NEW 2.5TON ROOF MOUNTED ULTRA LOW AMBIENT CONDENSING UNIT CU-EW16. FRAME TO BE SEISMICALLY FASTENED TO ROOF STRUCTURE. ROUTE REFRIGERANT PIPING THROUGH EXISTING PIPE CHASE HOUSING.



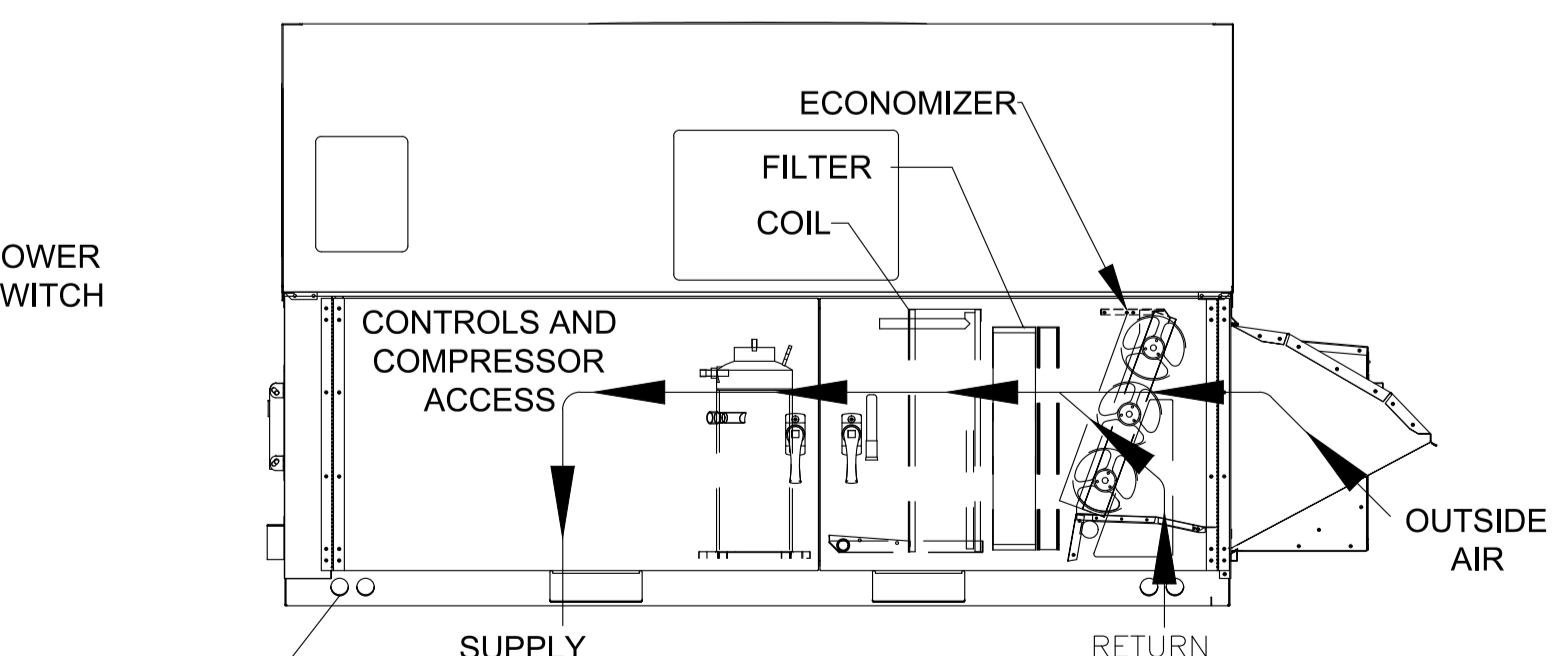
LEFT SIDE VIEW



TOP VIEW



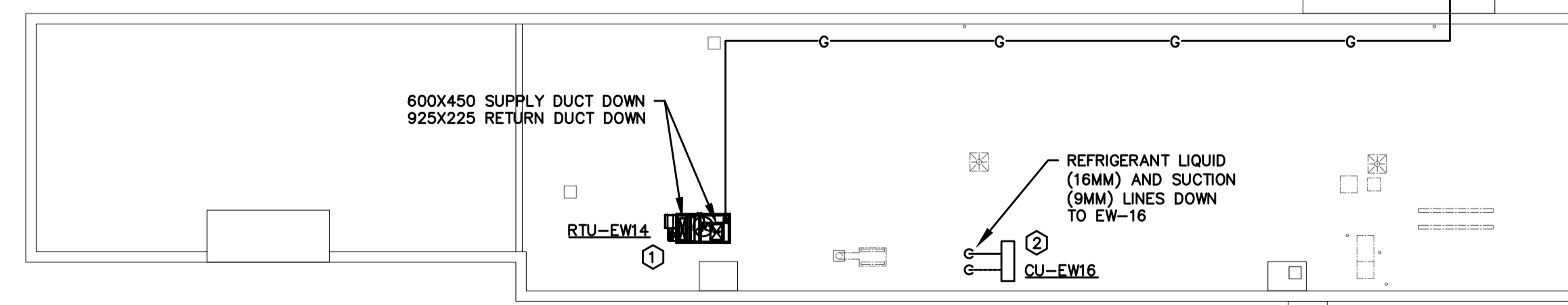
FRONT VIEW



RIGHT SIDE VIEW

LIFTING LUG (4 CORNERS)

2
M-301
 ROOFTOP UNIT ELEVATIONS



SEAL

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KEY PLAN

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01	66% REVIEW	05/09/2018
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PROJECT NAME

CENTRAL EXPERIMENTAL FARM
 Building 50
 Labs/Genomics
 RENOVATIONS
 OTTAWA, ON

NOM DU PROJET
 FERME EXPERIMENTALE CENTRALE
 Édifices 50
 Laboratoires/
 Genomique
 RENOVATIONS
 OTTAWA, ON

SHEET TITLE / TITRE DE LA FEUILLE

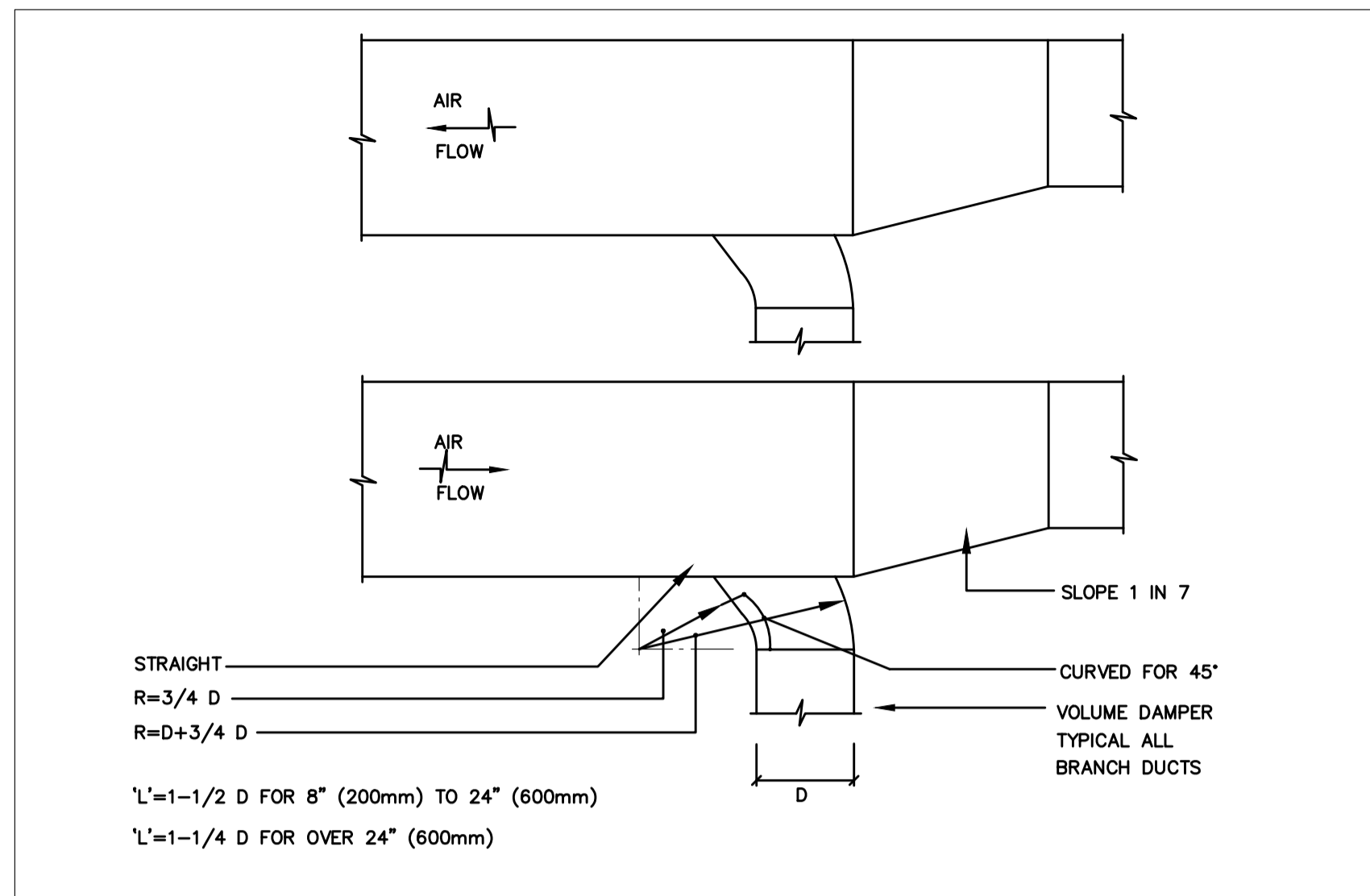
BUILDING 50
 DEMOLITION AND NEW
 ROOF PLAN AND
 DETAILS

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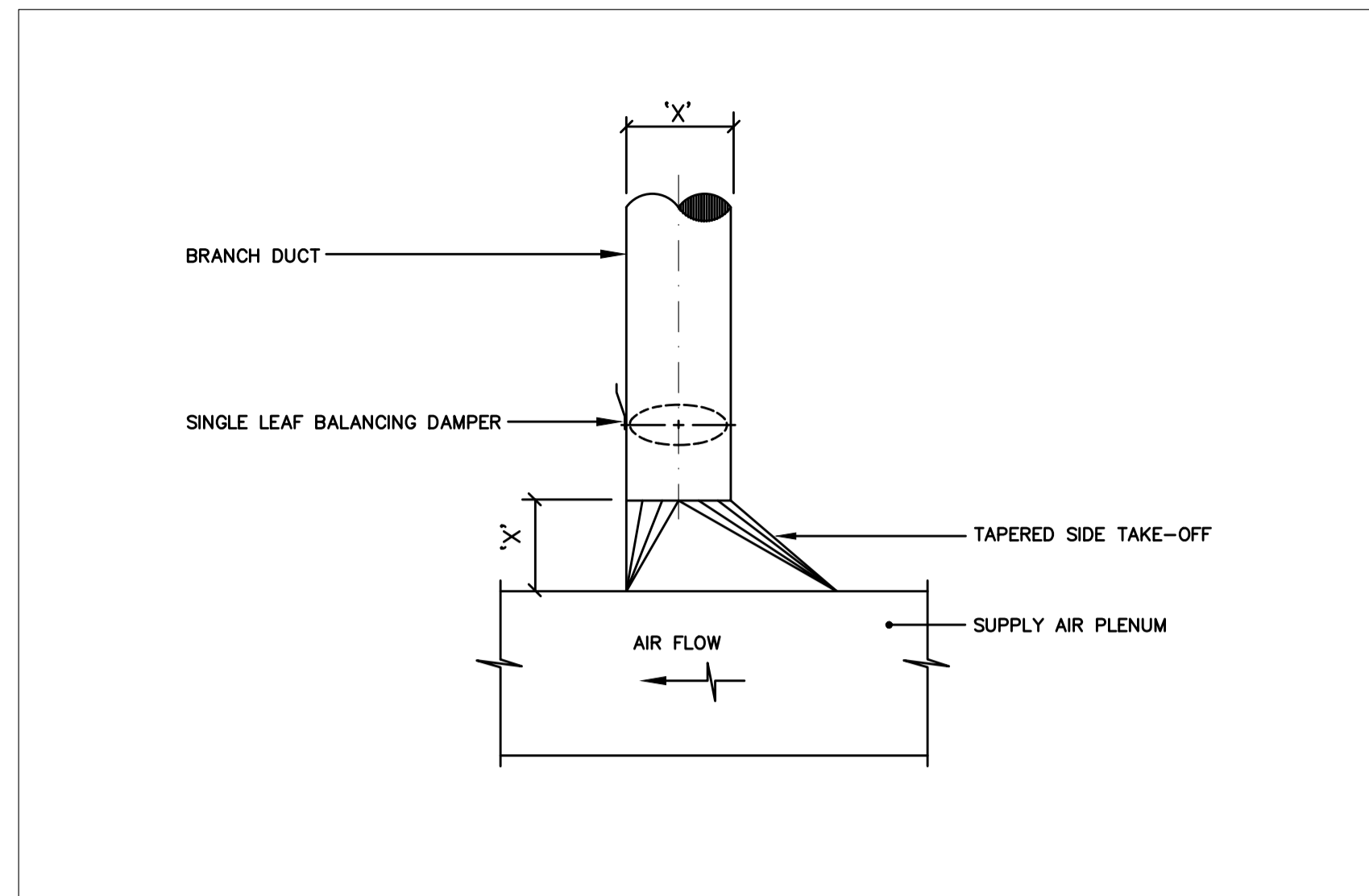
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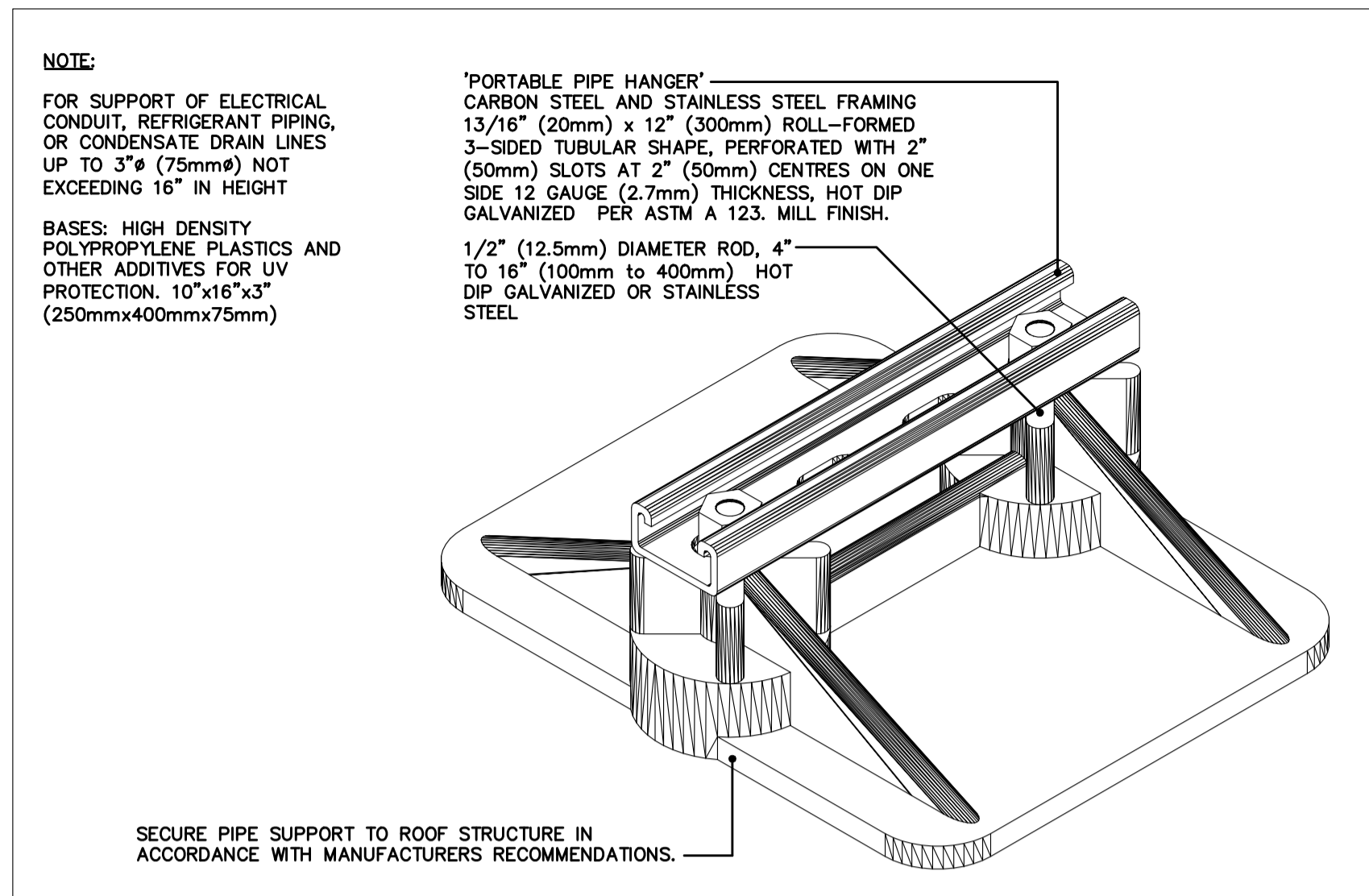
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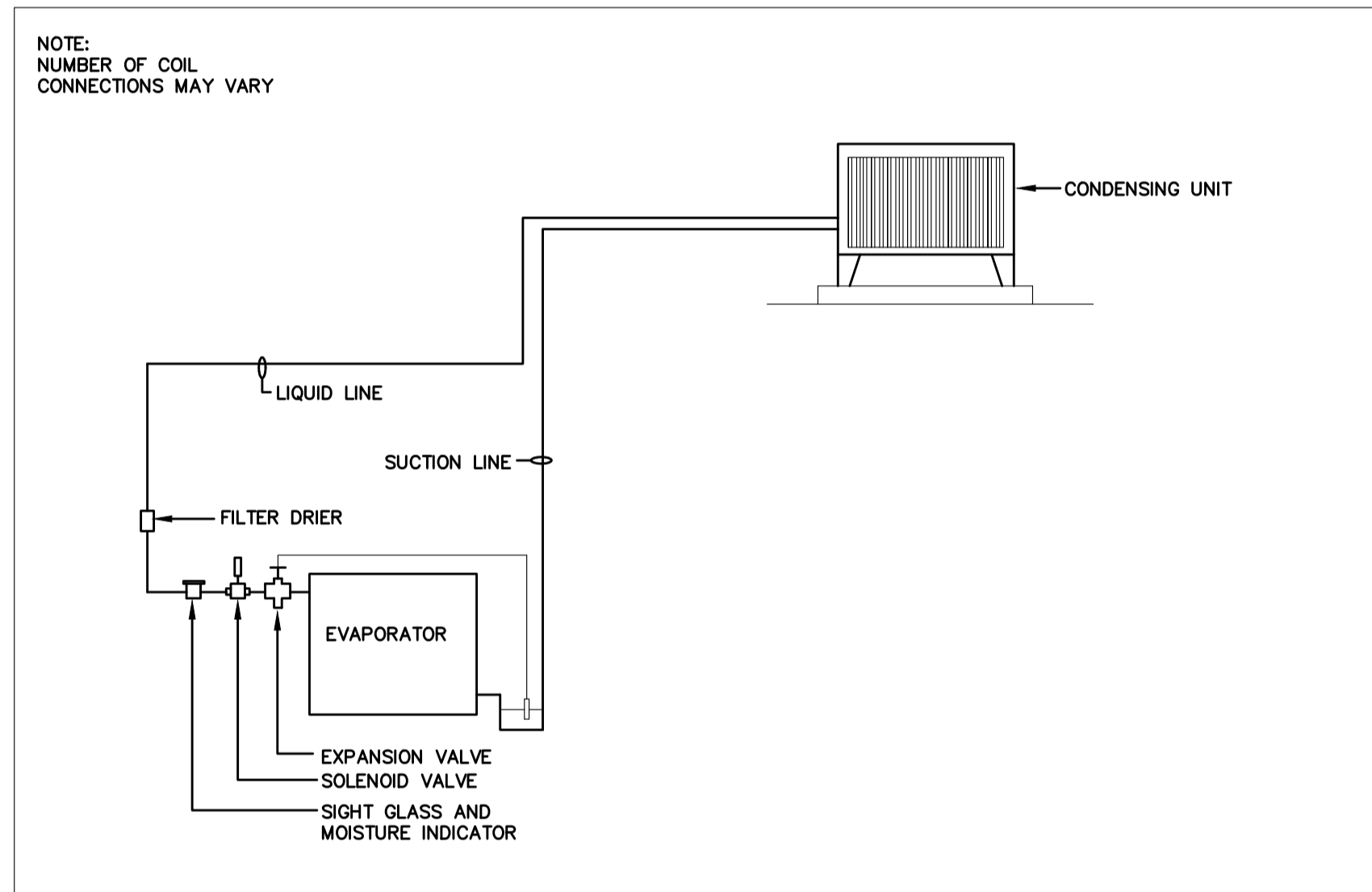
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M-401
DETAIL OF SUPPLY AND RETURN DUCT TAP-IN CONNECTION



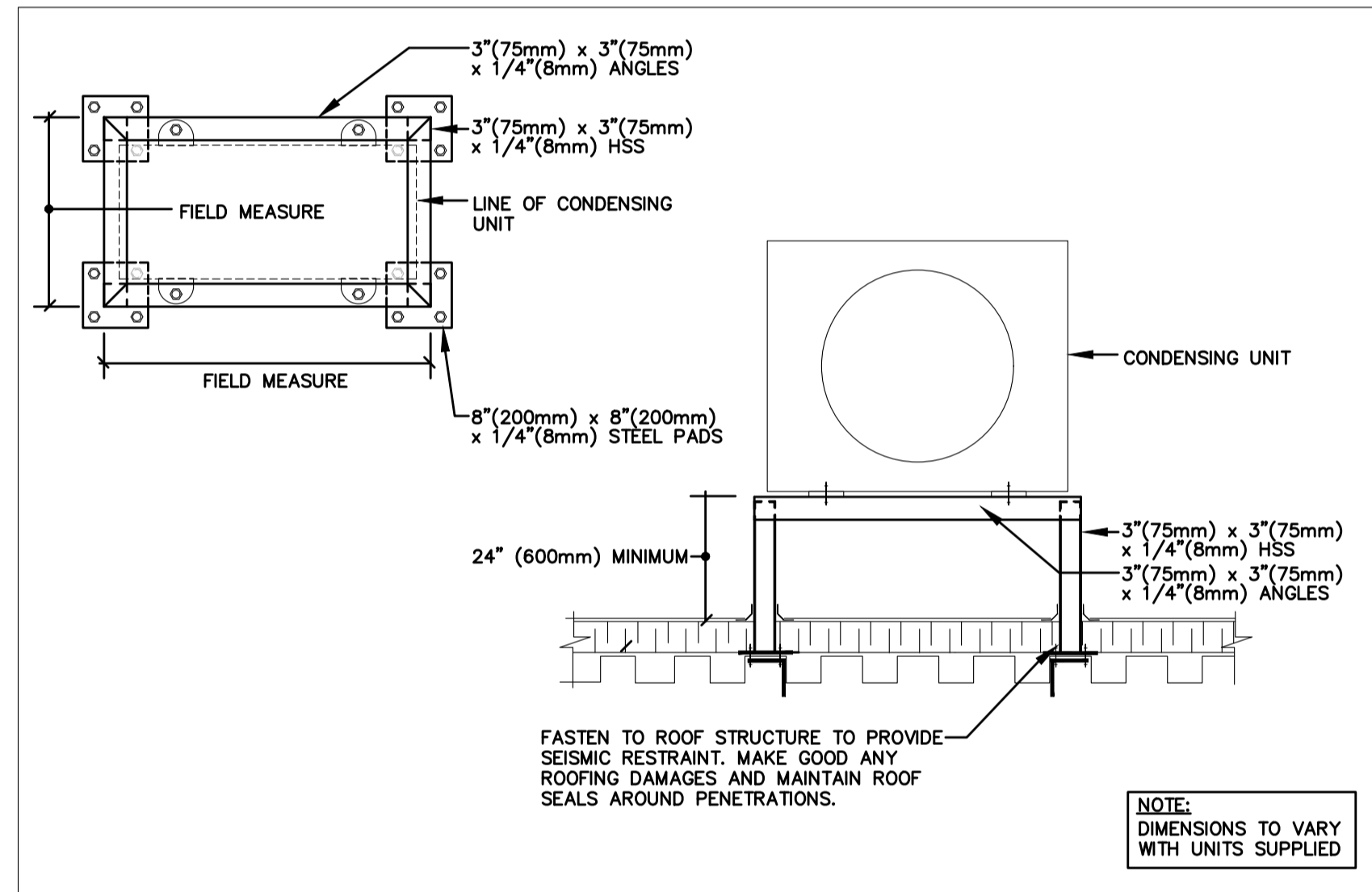
2
M-401
DETAIL OF ROUND DUCT TAKE-OFF



3
M-401
ROOF MOUNTED PIPE SUPPORT WITH STRUT



4
M-401
REFRIGERANT PIPING SCHEMATIC



5
M-401
CONDENSER SUPPORT STEEL DETAIL

SEAL

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 Laboratoires/
 Genomique
 RENOVATIONS
 OTTAWA, ON

SHEET TITLE / TITRE DE LA
 FEUILLE
 MECHANICAL DETAILS

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 PAR

SHEET /
 FEUILLE

1.0 GENERAL INFORMATION/RENSEIGNEMENTS GÉNÉRAUX

1. THE INFORMATION PRESENTED ON THESE DRAWINGS HAS BEEN DESIGNED AND ANALYZED IN ACCORDANCE WITH THE 2015 NATIONAL BUILDING CODE. CONSTRUCTION IS TO BE PERFORMED IN ACCORDANCE WITH THIS AND ALL OTHER APPLICABLE CODES. LES RENSEIGNEMENTS PRÉSENTÉS DANS CES DESSINS ONT FAIT L'OBJET DE DÉTAILS DE CONCEPTION ET D'ANALYSES CONFORMES AU AU CODE NATIONAL DU BÂTIMENT DU CANADA (ÉDITION DE 2015). ENTREPRENDRE LA CONSTRUCTION EN CONFORMITÉ AVEC LES PRÉSENTES DONNÉES AINSI QU'AVEC LES EXIGENCES DE TOUS LES AUTRES CODES PERTINENTS

1.1 STEEL STRUCTURE DESIGNED IN ACCORDANCE WITH CSA-S16.14
STRUCTURE EN ACIER, CONÇUE SELON LA NORME CSA-S16-14

2. CONTRACTOR IS TO VERIFY/COORDINATE ALL DIMENSIONS/PENETRATIONS WITH ARCHITECTURAL/MECHANICAL/ELECTRICAL DRAWINGS PRIOR TO CONSTRUCTION. REPORT INCONSISTENCIES BEFORE PROCEEDING WITH WORK. ANY OPENINGS NOT INDICATED ON STRUCTURAL DRAWINGS ARE TO BE APPROVED BY THE DEPARTMENTAL REPRESENTATIVE IN WRITING PRIOR TO CONSTRUCTION. L'ENTREPRENEUR SE DEVRA DE VÉRIFIER ET (OU) DE COORDONNER TOUTES LES DIMENSIONS ET (OU) PÉNÉTRATIONS ET CE, EN COMPARANT LE TOUT AVEC LES DESSINS D'ARCHITECTURE ET (OU) DE MÉCANIQUE AVANT LA MISE EN ROUTE DES PRÉSENTS TRAVAUX. SIGNALER TOUTE INCONSISTANCE AVANT LA MISE EN ROUTE DES TRAVAUX. LES OUVERTURES NON PRÉSENTÉES DANS LES DESSINS DE CHARPENTE DEVRONT ÊTRE APPROUVÉES PAR LE REPRÉSENTANT DU MINISTÈRE ET CE, PAR ÉCRIT ET AVANT LA MISE EN ROUTE DES TRAVAUX DE CONSTRUCTION

3. THE ROOF CURB/SLEEPER DESIGN AND SEISMIC RESTRAINT OF UNITS ARE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR IS TO RETAIN THE SERVICES OF A STRUCTURAL SEISMIC ENGINEER TO DESIGN THE SLEEPERS AND SEISMIC RESTRAINTS SYSTEMS FOR ALL NEW EQUIPMENT AND PIPING. LA BORDURE DU L'UNITE DU TOIT ET (OU) LES TRAVERSES ET LA RETENUE SISMIQUE DES UNITÉS SONT LA RESPONSABILITÉ DE L'ENTREPRENEUR. L'ENTREPRENEUR DOIT RETENIR LES SERVICES D'UN INGÉNIEUR EN SISMIQUE POUR CONCEVOIR LES TRAVERSES ET LES SYSTÈMES DE RETENUE SISMIQUE POUR TOUS LES NOUVEAUX ÉQUIPEMENTS ET LA NOUVELLE TUYAUTERIE.

2.0 STRUCTURAL STEEL/ACIER

STRUCTURAL STEEL SHALL COMPLY WITH CSA-S16.1-14 UNLESS OTHERWISE NOTED. À MOINS D'INDICATIONS CONTRAIRES, L'ACIER DE CONSTRUCTION DEVRA ÊTRE CONFORME AUX EXIGENCES PERTINENTES DE LA NORME CSA S16-14.

ITEM

APPLICABLE SPECIFICATION

ROLLED SECTIONS/SECTIONS OU PROFILÉS ROULÉS	G40.21M - 350W
CONNECTION BOLTS/BOULONS DE RACCORDEMENT	A325 (BEARING TYPE)(DE TYPE CONÇU COMME APPUI)
ANCHOR BOLTS/BOULONS D'ANCRAGE	A307
PLATES /ANGLES/PLAQUES ET (OU) CORNIÈRES	G40.21M-300

1. ALL STEEL WORK SHALL BE GIVEN ONE COAT OF APPROVED PRIMER. REVÊTIR D'UNE COUCHE D'APPRÊT APPROUVÉ L'ENSEMBLE DES TRAVAUX EN ACIER.

2. FIELD AND SHOP CONNECTIONS SHALL BE WELDED OR HIGH TENSILE BOLTED (ASTM STANDARD A325). LES CONNEXIONS DE CHANTIER ET EN USINE DEVRONT ÊTRE DE TYPE SOUDÉ OU BOULONNÉ ET À GRANDE VALEUR DE TENSION, SELON LA NORME ASTM A325

3. WELDING SHALL CONFORM TO LATEST CSA SPECIFICATION W59 AND BE UNDERTAKEN BY A FABRICATOR APPROVED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENTS OF CSA SPECIFICATION W47.1. LES TRAVAUX DE SOUDAGE DEVRONT ÊTRE CONFORMES À LA PLUS RÉCENTE ÉDITION DE LA NORME CSA W59 ET LEUR RÉALISATION DEVRA RELEVÉ D'UN FABRICANT APPROUVÉ PAR LE BUREAU CANADIEN DE SOUDAGE ET CE, EN CONFORMITÉ AVEC LES EXIGENCES DE LA NORME CSA W47.1

4. ALL EXPOSED WELDS SHALL BE CONTINUOUS AND BE GROUND SMOOTH. TOUTES LES SOUDURES APPARENTES DEVRONT ÊTRE FAÇONNÉES EN CONTINU ET ÊTRE LISSÉES JUSQU'À L'OBTENTION D'UN FINI LISSE.

5. STRUCTURAL STEEL MEMBERS SHALL NOT BE SPLICED UNLESS APPROVED BY THE STRUCTURAL ENGINEER IN WRITING. NE PAS ÉPISSER LES MEMBRURES EN ACIER DE CONSTRUCTION, SAUF SI L'INGÉNIEUR EN CHARPENTE APPROUVE LA CHOSE PAR ÉCRIT.

6. WHERE STRUCTURAL STEEL MEMBERS SPECIFIED ON THE STRUCTURAL DRAWINGS ARE UNAVAILABLE TO THE CONTRACTOR, THE STRUCTURAL STEEL CONTRACTOR SHALL PROVIDE MEMBERS HAVING ALL SECTION PROPERTIES EQUAL TO OR BETTER THAN THAT OF THE SPECIFIED MEMBERS AT NO ADDITIONAL COST. CONTACT THE DEPARTMENTAL REPRESENTATIVE FOR ACCEPTANCE OF ANY AND ALL SUBSTITUTIONS. ADVENANT QU'IL S'AVÈRE IMPOSSIBLE POUR L'ENTREPRENEUR D'OBTENIR DES MEMBRURES EN ACIER DE CONSTRUCTION QUI SONT PRÉSCRITES DANS LES DESSINS DE CHARPENTE, L'ENTREPRENEUR CHARGÉ DE L'ACIER DE CONSTRUCTION SE DEVRA ALORS DE PRÉVOIR DES MEMBRURES AYANT AU MOINS LES MÊMES PROPRIÉTÉS EN COUPE QUE CELLES DES MEMBRURES PRÉSCRITES ET CE, SANS QUE LA CHOSE N'ENTRAÎNE DES COÛTS ADDITIONNELS. L'ON SE DEVRA DE COMMUNIQUER AVEC L'INGÉNIEUR RELATIVEMENT À L'ACCEPTATION DE N'IMPORTE QUEL PRODUIT DE SUBSTITUTION

PROJECT	960 CARLING AVENUE, BLDG/Edifice 50, GENOMIC AC & RTU
DRAWING	GENERAL NOTES/NOTES GÉNÉRALES

DRAWN:	M. EPPICH
APPROVED:	B. WEATHERDON
DATE:	JUNE 28/18
SCALE:	AS SHOWN
PROJECT No:	1920144210P000 1

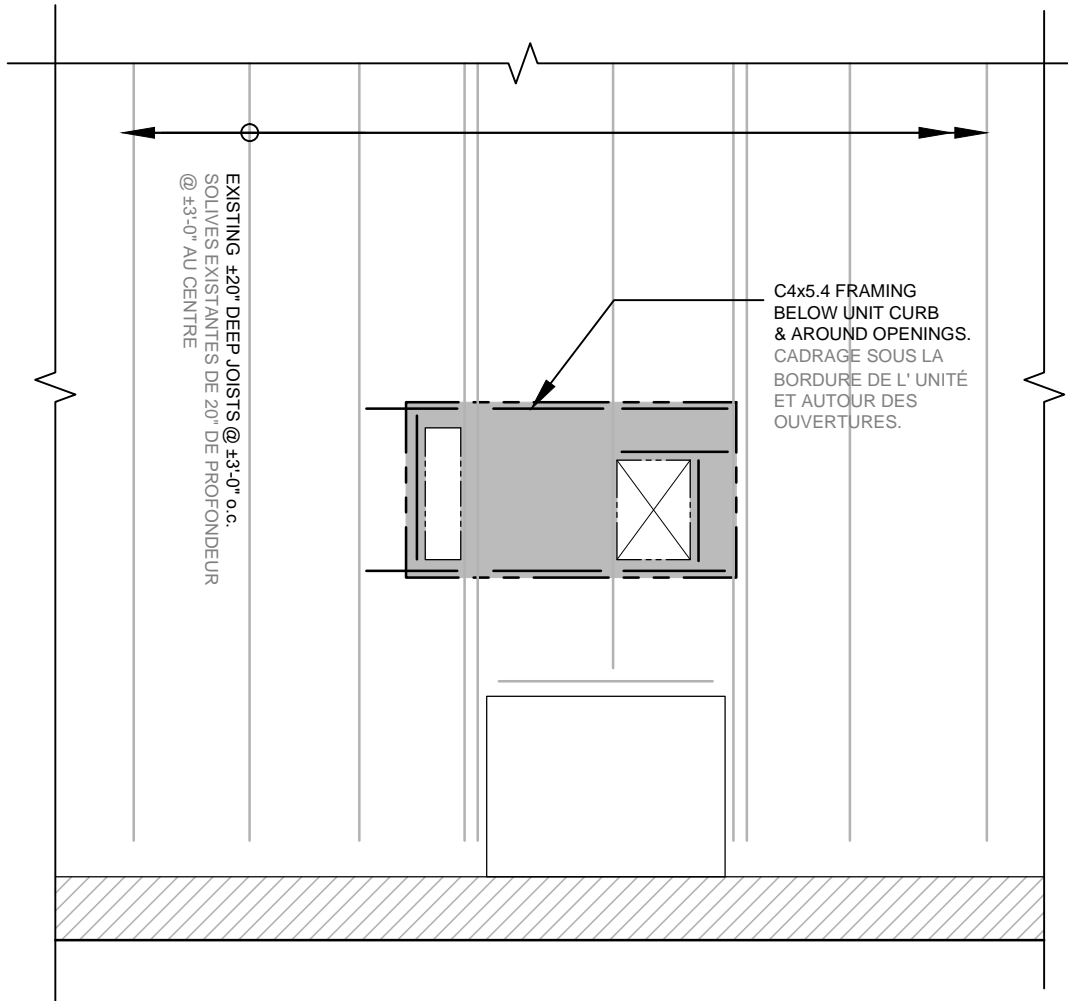
DRAWING No.

SK1

3.0 SHOP DRAWINGS/DESSINS D'ATELIER:

1. SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL WORK AND ANY WORK AFFECTING THE STRUCTURE TO THE DEPARTMENTAL REPRESENTATIVE. OBTAIN DEPARTMENTAL REPRESENTATIVE APPROVAL BEFORE PROCEEDING WITH THE FABRICATION. PRODUIRE DES DESSINS D'ATELIER POUR TOUS LES TRAVAUX DE CHARPENTE ET TOUS LES TRAVAUX AFFECTANT LA STRUCTURE ET LES PRÉSENTER AUX REPRESENTATIVE DU MINISTÈRE . LES FAIRE APPROUVER PAR LE REPRÉSENTANT DU MINISTÈRE AVANT D'ENTREPRENDRE LA FABRICATION.
2. EACH OF THE FOLLOWING SHOP DRAWINGS MUST BEAR THE SIGNATURE AND STAMP OF A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE (PLUS OTHER DRAWINGS AS NOTED). CHACUN DES DESSINS D'ATELIER DOIT PORTER LE SCEAU ET LA SIGNATURE D'UN INGÉNIEUR QUALIFIÉ ET DUMENT AUTORISÉ À PRATIQUE DANS LA PROVINCE OÙ S'EFFECTUENT LES TRAVAUX (ET CE, COMPTE TENU DES AUTRES DESSINS ANNOTÉS).
 - a) DRAWINGS FOR ANY TEMPORARY WORK. DESSINS POUR TOUS LES TRAVAUX TEMPORAIRES.
 - b) DRAWINGS FOR ANY STRUCTURAL PARTS DESIGNED BY THE CONTRACTOR'S FORCES INCLUDING SEISMIC RESTRAINT SYSTEMS. DESSINS POUR TOUTE PARTIE STRUCTURELLE CONÇUE PAR LES PERSONNES REPRÉSENTANT L'ENTREPRENEUR, INCLUANT DES SYSTÈMES DE RETENUE SÉISMQUES.
 - c) STRUCTURAL STEEL. ACIER DE CONSTRUCTION
 - d) STEEL TO STEEL CONECTIONS. CONNEXIONS DE L'ACIER.
3. SHOP DRAWINGS MUST BE REVIEWED AND STAMPED REVIEWED BY THE CONTRACTOR BEFORE ISSUING TO THE ARCHITECT/ENGINEER. SHOP DRAWINGS NOT STAMPED BY THE CONTRACTOR WILL BE REJECTED. ANY DELAYS IN THE CONSTRUCTION SCHEDULE DUE TO NONCOMPLIANCE WITH THIS REQUIREMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. LES DESSINS D'ATELIER DEVRONT ÊTRE PASSÉS EN REVUE ET ESCEAUILLÉS PAR L'ENTREPRENEUR ET CE, AVANT DE LES PRÉSENTER À L'EXAMEN DU REPRÉSENTANT DU MINISTÈRE. LES DESSINS D'ATELIER NON ESCEAUILLÉS PAR L'ENTREPRENEUR SERONT TOUT SIMPLEMENT REJETÉS. TOUT DÉLAI DANS LA CONSTRUCTION QUI POURRAIT ÊTRE PROVOQUÉ PAR LE FAIT DE NE PAS SE CONFORMER À LA PRÉSENTE EXIGENCE DEVRA ÊTRE ASSUMÉ PAR L'ENTREPRENEUR.
4. SHOP DRAWINGS ARE REVIEWED FOR CONFORMANCE WITH THE GENERAL DESIGN CONCEPT. THIS REVIEW DOES NOT IMPLY APPROVAL OF THE DETAILED DESIGN OR QUANTITIES DESCRIBED IN THE SHOP DRAWINGS. THE RESPONSIBILITY FOR THE QUANTITIES AND DETAILED DESIGN OF THE MATERIALS AND COMPONENTS AS REQUIRED TO PROVIDE THE COMPLETE AND SATISFACTORY JOB DESCRIBED IN THE DESIGN DOCUMENTS REMAINS WITH THE CONTRACTOR. LA RÉVISION DES DESSINS D'ATELIER EST FONDÉE SUR LE FAIT QUE LE TOUT DOIT ÊTRE CONFORME AUX EXIGENCES DE CONCEPTION GÉNÉRALE. CETTE RÉVISION NE CONSTITUE PAS UNE APPROBATION DE LA CONCEPTION DÉTAILLÉE NI DES QUANTITÉS AVANCÉES DANS LES DESSINS D'ATELIER. LA RESPONSABILITÉ PAR RAPPORT AUX QUANTITÉS ET À LA CONCEPTION DÉTAILLÉE DES MATÉRIAUX ET DES PIÈCES COMPOSANTES QUI S'AVÈRENT NÉCESSAIRES POUR EN ARRIVER À UN OUVRAGE EN TOUT POINT COMPLET ET SATISFAISANT ET CE, EN CONFORMITÉ AVEC LES PRÉCISIONS COMPRIS DANS LES DOCUMENTS DE CONCEPTION, RELÈVENT TOUT SIMPLEMENT DU PRÉSENT ENTREPRENEUR

	PROJECT	DRAWN: M. EPPICH	DRAWING No. SK2
	960 CARLING AVENUE, Bldg/Edifice 50, GENOMIC AC & RTU	APPROVED: B. WEATHERDON	
	DRAWING	DATE: JUNE 28/18	
	GENERAL NOTES/NOTES GÉNÉRALES	SCALE: AS SHOWN	
		PROJECT No: 1920144210P0001	



1
SK3

PARTIAL PLAN BUILDING 50: ROOF

PLAN PARTIEL BÂTIMENT 50: TOIT

SCALE/ÉCHELLE: 1/4"=1'-0"

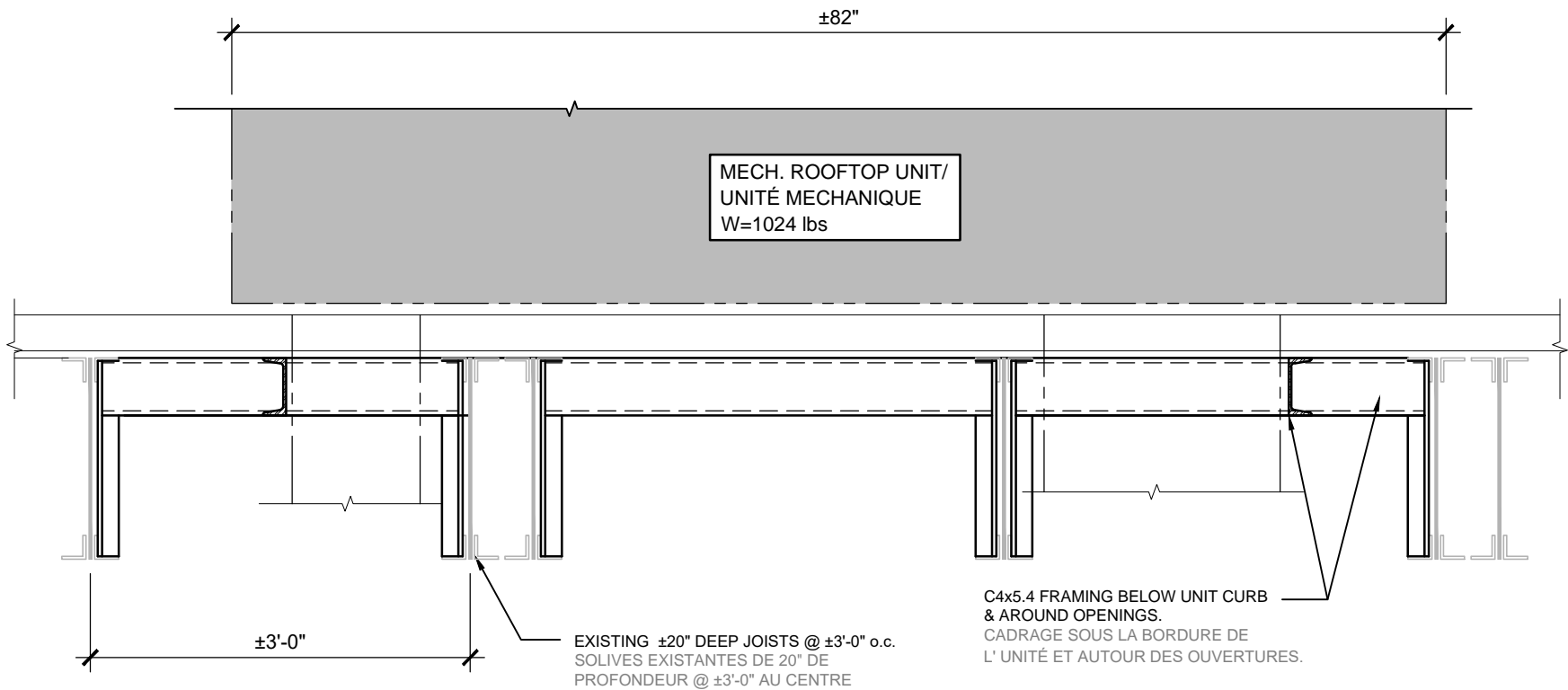
PROJECT
960 CARLING AVENUE, BLDG/Edifice 50,
GENOMIC AC & RTU

DRAWING
PARTIAL PLAN: ROOF
PLAN PARTIEL:TOIT

DRAWN: M. EPPICH
APPROVED: B. WEATHERDON
DATE: JUNE 28/18
SCALE: AS SHOWN
PROJECT No: 1920144210P0001

DRAWING No.

SK3



1
SK4

SECTION: TYPICAL ROOF FRAMING @ RTU

CADRAGE A L' UNITÉ TYPIQUE

SCALE/ÉCHELLE: N.T.S

	PROJECT 960 CARLING AVENUE, BUILDING/EDIFICE 50, GENOMIC AC & RTU	DRAWN: M. EPPICH	DRAWING No. SK4
	DRAWING ROOF FRAMING @ RTU/CADRAGE A L' UNITÉ	APPROVED: B. WEATHERDON	
		DATE: JUNE 28/18	
		SCALE: AS SHOWN	
		PROJECT No: 1920144210P0001	

Agriculture Agri-Food Canada – Central Experimental Farm - Building 50 Renovations



**5710 Akins Road,
Stittsville, ON
K2S 1B8**

**Central Experimental Farm
Building 50 Renovations
960 Carling Avenue
Ottawa, ON**

November 2019

Overview

The intent of this project is to remove all asbestos-containing materials and control exposure to designated substances from the project area in order to allow for renovations.

This specification package is provided to fulfill the owner's obligations under the Occupational Health and Safety Act with respect to asbestos and to ensure a safe work environment. In addition, this document will provide a baseline for bid calculation. Specific details pertaining to the procedural requirements for abatement of asbestos-containing materials (ACMs) are provided in Appendix A – Asbestos Abatement Specifications (Type 1 and Type 2)

Regulatory Requirements

The majority of the work under this contract will fall under various regulations within the Ontario Occupational Health and Safety Act. Specifically, the following regulations and guidelines will be applicable to this abatement project:

- Canada Labour Code – Part X Hazardous Substances.
- Canada Occupational Health and Safety Regulations (SOR/86-304) – Part X, Division II – Hazardous Substances Other than Hazardous Products.
- Public Services and Procurement Canada (PSPC) – Asbestos Management Standard.
- Ontario Regulation 278/05 “Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations”.
- Ontario Regulation 490/09 “Designated Substances”.

ACM Summary

Asbestos abatement measures and procedures are required for the following ACMs;

- 9’’x9’’ Vinyl floor tiles (grey) and mastic (asbestos content – 2-5% chrysotile);
- Transite cement panels (assumed to be asbestos-containing) and,
- Mechanical pipe insulation (assumed to be asbestos-containing).

Please note that other ACMs are be present within the building, however based on review of the construction design it is unlikely that these materials would be impacted as part of this project.

In order to manage the potential for exposures to ACMs during the abatement, specific restrictions on work activities have been proposed.

Any discrepancies between this document, the abatement specifications, or applicable regulations and guidelines should be confirmed at the job showing, or in writing with the Consultant and Project Authority.

APPENDIX A
Asbestos Abatement Type 1 and Type Specifications

Central Experimental Farm – Building 50 Renovations
960 Carling Avenue
Ottawa, ON

Part 1 General

1.1 SUMMARY

- .1 Provide all labour, materials, and equipment to complete the following in accordance with all Provincial and Federal regulation and Directives:
 - .1 Remove all non-friable asbestos containing floor tiles and associated mastic located within rooms EW6, EW15 and EW16 with the use of hand tools.
 - .2 Remove non-friable asbestos containing transite cement panels within the exhaust fumehood in EW6 with the use of hand tools.

1.2 SECTION INCLUDES

- .1 Requirements and procedures for asbestos abatement of non-friable asbestos-containing materials.

1.3 REFERENCES

- .1 Department of Justice Canada (Jus)
 - .1 Canadian Environmental Protection Act, 1999 (CEPA).
- .2 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
- .3 Canada Labour Code – Part X Hazardous Substances.
- .4 Canada Occupational Health and Safety Regulations (SOR/86-304) – Part X, Division II – Hazardous Substances Other than Hazardous Products.
- .5 Public Services and Procurement Canada – Asbestos Management Standard
- .6 Ontario Occupational Health and Safety Act: Regulation 490/09 “Designated Substance - Asbestos”.
- .7 Ontario Occupational Health and Safety Act : Regulation 278/05 “Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations”.
- .8 Ontario Environmental Protection Act: Regulation 347 “General Waste Management”

1.4 DEFINITIONS

- .1 HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with filter system capable of collecting and retaining fibres greater than 0.3 microns in any direction at 99.97% efficiency.
- .2 Amended Water: water with nonionic surfactant wetting agent added to reduce water tension to allow thorough wetting of fibres.
- .3 Asbestos-Containing Materials (ACMs): materials that contain 0.5 per cent or more asbestos by dry weight and are identified under Existing Conditions including fallen materials and settled dust.

- .4 Asbestos Work Area: area where work takes place which will, or may, disturb ACMs.
- .5 Authorized Visitors: Engineer, Consultant or designated representative, and departmental officials.
- .6 Competent person in relation to specific work, means a worker who:
 - .1 Is qualified because of knowledge, training and experience to perform the work.
 - .2 Is familiar with the provincial and federal laws and with the provisions of the regulations that apply to the work.
 - .3 Has knowledge of all potential or actual danger to health or safety in the work.
- .7 Friable material: means material that:
 - .1 When dry, can be crumbled, pulverized or powdered by hand pressure, or
 - .2 is crumbled, pulverized or powdered.
- .8 Non-Friable Material: material that when dry cannot be crumbled, pulverized or powdered by hand pressure.
- .9 Occupied Area: any area of the building or work site that is outside Asbestos Work Area.
- .10 Polyethylene: polyethylene sheeting or rip-proof polyethylene sheeting with tape along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide protection and isolation.
- .11 Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must have appropriate capacity for work.

1.5 SUBMITTALS

- .1 Submit proof satisfactory to Departmental Representative and Consultant that suitable arrangements have been made to dispose of asbestos-containing waste in accordance with requirements of authority having jurisdiction.
- .2 Submit Provincial/Territorial and/or local requirements for Notice of Project Form.
- .3 Submit proof of Contractor's Asbestos Liability Insurance.
- .4 Submit to Departmental Representative and Consultant necessary permits for transportation and disposal of asbestos-containing waste and proof that asbestos-containing waste has been received and properly disposed.
- .5 Submit proof that all asbestos workers and/or supervisor have received appropriate training and education by a competent person in the hazards of asbestos exposure, good personal hygiene and work practices while working in Asbestos Work Areas, and the use, cleaning and disposal of respirators and protective clothing.
- .6 Submit proof satisfactory to Departmental Representative and Consultant that employees have respirator fitting and testing. Workers must be fit tested (irritant smoke test) with respirator that is personally issued.

1.6 QUALITY ASSURANCE

- .1 Regulatory Requirements: comply with Federal, Provincial/Territorial, and local requirements pertaining to asbestos, provided that in case of conflict among these requirements or with these specifications, more stringent requirement applies. Comply with regulations in effect at time Work is performed.
- .2 Health and Safety:
 - .1 Abide by required health and safety protocols as outlined in related sections.
 - .2 Safety Requirements: worker protection.
 - .1 Protective equipment and clothing to be worn by workers while in Asbestos Work Area include:
 - .1 Air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter, personally issued to worker and marked as to efficiency and purpose, suitable for protection against asbestos and acceptable to Provincial Authority having jurisdiction. The respirator to be fitted so that there is an effective seal between the respirator and the worker's face, unless the respirator is equipped with a hood or helmet. The respirator to be cleaned, disinfected and inspected after use on each shift, or more often if necessary, when issued for the exclusive use of one worker, or after each use when used by more than one worker. The respirator to have damaged or deteriorated parts replaced prior to being used by a worker; and, when not in use, to be stored in a convenient, clean and sanitary location. The employer to establish written procedures regarding the selection, use and care of respirators, and a copy of the procedures to be provided to and reviewed with each worker who is required to wear a respirator. A worker not to be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.
 - .2 Disposable-type protective clothing that does not readily retain or permit penetration of asbestos fibres. Protective clothing to be provided by the employer and worn by every worker who enters the work area, and the protective clothing shall consist of a head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing to include suitable footwear, and to be repaired or replaced if torn.
 - .2 Eating, drinking, chewing, and smoking are not permitted in Asbestos Work Area.
 - .3 Before leaving Asbestos Work Area, the worker can decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing, or, if the protective clothing will not be reused, place it in a container for dust and waste. The container to be dust tight, suitable for asbestos waste, impervious to asbestos, identified as asbestos waste, cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before removal from the work area, and removed from the work area frequently and at regular intervals.

- .4 Facilities for washing hands and face shall be provided within or close to the Asbestos Work Area.
- .5 Ensure workers wash hands and face when leaving Asbestos Work Area.
- .6 Ensure that no person required to enter an Asbestos Work Area has facial hair that affects seal between respirator and face.

1.7 WASTE MANAGEMENT AND DISPOSAL

- .1 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
- .2 Disposal of asbestos waste generated by removal activities must comply with Federal, Provincial, Territorial and Municipal regulations. Dispose of asbestos waste in sealed double thickness 6 ml bags or leak proof drums. Label containers with appropriate warning labels.
- .3 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.

1.8 EXISTING CONDITIONS

- .1 Reports and information pertaining to ACMs to be handled, removed, or otherwise disturbed and disposed of during this project are provided as part of this specification package.
- .2 Notify Departmental Representative and Consultant of friable material discovered during Work and not apparent from drawings, specifications, or report pertaining to Work. Do not disturb such material pending instructions from the above.

1.9 SCHEDULING

- .1 Hours of Work: perform work during normal working hours.

1.10 OWNER'S INSTRUCTIONS

- .1 Before beginning Work, provide Departmental Representative and Consultant satisfactory proof that every worker has had instruction and training in hazards of asbestos exposure, in personal hygiene and work practices, and in use, cleaning, and disposal of respirators and protective clothing.
- .2 Instruction and training related to respirators includes, following minimum requirements:
 - .1 Fitting of equipment.
 - .2 Inspection and maintenance of equipment.
 - .3 Disinfecting of equipment.
 - .4 Limitations of equipment.
- .3 Instruction and training must be provided by a competent, qualified person.

Part 2 Products

2.1 MATERIALS

- .1 Drop Sheets:
 - .1 Polyethylene: 0.15 mm thick.
 - .2 FR polyethylene: 0.15 mm thick woven fibre reinforced fabric bonded both sides with polyethylene.
- .2 Wetting Agent: 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with water in a concentration to provide thorough wetting of asbestos-containing material.
- .3 Waste Containers: contain waste in two separate containers.
 - .1 Inner container: 0.15 mm thick sealable polyethylene waste bag.
 - .2 Outer container: sealable metal or fibre type where there are sharp objects included in waste material; otherwise outer container may be sealable metal or fibre type or second 0.15 mm thick sealable polyethylene bag.
 - .3 Labelling requirements: affix pre-printed cautionary asbestos warning in both official languages that is visible when ready for removal to disposal site.
- .4 Slow - drying sealer: non-staining, clear, water - dispersible type that remains tacky on surface for at least 8 hours and designed for purpose of trapping residual asbestos fibres.
- .5 Tape: fibreglass - reinforced duct tape suitable for sealing polyethylene under both dry conditions and wet conditions using amended water.

Part 3 Execution

3.1 PROCEDURES

- .1 Before beginning Work, isolate Asbestos Work Area using, minimum, preprinted cautionary asbestos warning signs in both official languages that are visible at access routes to Asbestos Work Area.
 - .1 Remove visible dust from surfaces in the work area where dust is likely to be disturbed during course of work.
 - .2 Use HEPA vacuum or damp cloths where damp cleaning does not create a hazard and is otherwise appropriate.
 - .3 Do not use compressed air to clean up or remove dust from any surface.
- .2 Prevent spread of dust from Asbestos Work Area using measures appropriate to work to be done.
 - .1 Use FR polyethylene drop sheets over flooring such as carpeting that absorbs dust and over flooring in Asbestos Work Area where dust and contamination cannot otherwise be safely contained. Drop sheets are not to be reused.
- .3 Wet materials containing asbestos to be cut, ground, abraded, scraped, drilled, or otherwise disturbed unless wetting creates hazard or causes damage.
 - .1 Use garden reservoir type low - velocity fine - mist sprayer.
 - .2 Perform Work to reduce dust creation to lowest levels practicable.

- .3 Work will be subject to visual inspection and air monitoring.
- .4 Contamination of surrounding areas indicated by visual inspection or air monitoring will require complete enclosure and clean-up of affected areas.
- .4 Remove:
 - .1 Non-friable asbestos containing 9x9 vinyl floor tiles and subsequent mastic below in rooms EW6, EW15 and EW16 with the use of handheld tools.
 - .2 Non-friable asbestos containing transite cement panels found inside the fumehood in room EW6 with the use of handheld tools.
- .5 Frequently and at regular intervals during Work and immediately on completion of work:
 - .1 Dust and waste to be cleaned up and removed using a vacuum equipped with a HEPA filter, or by damp mopping or wet sweeping, and placed in a waste container, and
 - .2 Drop sheets to be wetted and placed in a waste container as soon as practicable.
- .6 Cleanup:
 - .1 Place dust and asbestos containing waste in sealed dust-tight waste bags. Treat drop sheets and disposable protective clothing as asbestos waste; wet and fold these items to contain dust, and then place in plastic bags.
 - .2 Clean exterior of each waste-filled bag using damp cloths or HEPA vacuum and place in second clean waste bag immediately prior to removal from Asbestos Work Area.
 - .3 Seal waste bags and remove from site. Dispose of in accordance with requirements of Provincial/Territorial and Federal Authority having jurisdiction. Supervise dumping and ensure that dump operator is fully aware of hazardous nature of material to be dumped and that the appropriate guidelines and regulations for asbestos disposal are followed.
 - .4 Perform final thorough clean-up of Work areas and adjacent areas affected by Work using HEPA vacuum.

END OF SECTION

Part 1 General

1.1 SUMMARY

- .1 Comply with requirements of this Section when performing following Work:
 - .1 Remove friable asbestos containing pipe insulation below the sink in room EW14 and concealed locations if pipe insulation is discovered during renovations using glove-bag procedures.

1.2 SECTION INCLUDES

- .1 Requirements and procedures for asbestos abatement of asbestos containing materials of the type described within.

1.3 REFERENCES

- .1 Department of Justice Canada (Jus)
 - .1 Canadian Environmental Protection Act, 1999 (CEPA).
- .2 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
- .3 Canada Labour Code – Part X Hazardous Substances.
- .4 Canada Occupational Health and Safety Regulations (SOR/86-304) – Part X, Division II – Hazardous Substances Other than Hazardous Products.
- .5 Public Services and Procurement Canada – Asbestos Management Standard
- .6 Ontario Occupational Health and Safety Act: Regulation 490/09 “Designated Substance - Asbestos”.
- .7 Ontario Occupational Health and Safety Act: Regulation 278/05 “Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations”.
- .8 Ontario Environmental Protection Act: Regulation 347 “General Waste Management”

1.4 DEFINITIONS

- .1 Amended Water: water with non-ionic surfactant wetting agent added to reduce water tension to allow wetting of fibres.
- .2 Asbestos Containing Materials (ACMs): materials that contain 0.5 or 1.0 per cent or more asbestos by dry weight and are identified under Existing Conditions including fallen materials and settled dust.
- .3 Asbestos Work Area: area where work takes place which will, or may disturb ACMs.
- .4 Authorized Visitors: Engineer, Consultant, or designated representative, and departmental officials.

- .5 Competent worker in relation to specific work, means a worker who:
 - .1 Is qualified because of knowledge, training and experience to perform the work.
 - .2 Is familiar with the provincial and federal laws and with the provisions of the regulations that apply to the work.
 - .3 Has knowledge of all potential or actual danger to health or safety in the work.
- .6 Friable Materials: material that when dry can be crumbled, pulverized or powdered by hand pressure and includes such material that is crumbled, pulverized or powdered.
- .7 Glove Bag: prefabricated glove bag as follows:
 - .1 Minimum thickness 0.25 mm (10 mil) polyvinyl-chloride bag.
 - .2 Integral 0.25 mm (10 mil) thick polyvinyl-chloride gloves and elastic ports.
 - .3 Equipped with reversible double pull double throw zipper on top and at approximately mid-section of the bag.
 - .4 Straps for sealing ends around pipe.
- .8 HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with filter system capable of collecting and retaining fibres greater than 0.3 microns in any dimension at 99.97% efficiency.
- .9 Non-Friable Material: material that when dry cannot be crumbled, pulverized or powdered by hand pressure.
- .10 Occupied Area: any area of building or work site that is outside Asbestos Work Area.
- .11 Polyethylene: polyethylene sheeting or rip-proof polyethylene sheeting with tape along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide protection and isolation.
- .12 Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must have appropriate capacity for scope of work.

1.5 SUBMITTALS

- .1 Submit proof satisfactory to Departmental Representative and Consultant that suitable arrangements have been made to dispose of asbestos-containing waste in accordance with requirements of authority having jurisdiction.
- .2 Submit Provincial/Territorial and/or local requirements for Notice of Project Form.
- .3 Submit proof of Contractor's Asbestos Liability Insurance.
- .4 Submit to Departmental Representative and Consultant necessary permits for transportation and disposal of asbestos-containing waste and proof that asbestos-containing waste has been received and properly disposed.
- .5 Submit proof that all asbestos workers and/or supervisor have received appropriate training and education by a competent person in the hazards of asbestos exposure, good personal hygiene and work practices while working in Asbestos Work Areas, and the use, cleaning and disposal of respirators and protective clothing.

- .6 Submit proof satisfactory to Departmental Representative and Consultant that employees have respirator fitting and testing. Workers must be fit tested (irritant smoke test) with respirator that is personally issued.

1.6 QUALITY ASSURANCE

- .1 Regulatory Requirements: comply with Federal, Provincial/Territorial and local requirements pertaining to asbestos, provided that in case of conflict among these requirements or with these specifications more stringent requirement applies. Comply with regulations in effect at the time work is performed.
- .2 Health and Safety:
 - .1 Abide by required health and safety protocols as outlined in related sections.
 - .2 Safety Requirements: worker and visitor protection.
 - .1 Protective equipment and clothing to be worn by workers while in Asbestos Work Area include:
 - .1 Air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter, personally issued to worker and marked as to efficiency and purpose, suitable for protection against asbestos and acceptable to Provincial Authority having jurisdiction. The respirator to be fitted so that there is an effective seal between the respirator and the worker's face, unless the respirator is equipped with a hood or helmet. The respirator to be cleaned, disinfected and inspected after use on each shift, or more often if necessary, when issued for the exclusive use of one worker, or after each use when used by more than one worker. The respirator to have damaged or deteriorated parts replaced prior to being used by a worker; and, when not in use, to be stored in a convenient, clean and sanitary location. The employer to establish written procedures regarding the selection, use and care of respirators, and a copy of the procedures to be provided to and reviewed with each worker who is required to wear a respirator. A worker not to be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.
 - .2 Disposable type protective clothing that does not readily retain or permit penetration of asbestos fibres. Protective clothing to be provided by the employer and worn by every worker who enters the work area, and the protective clothing to consist of a head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing. It includes suitable footwear, and it to be repaired or replaced if torn.
 - .3 Eating, drinking, chewing, and smoking are not permitted in Asbestos Work Area.
 - .4 Before leaving Asbestos Work Area, the worker can decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing, or, if the protective clothing will not be reused, place it in a container for dust and waste. The container to be dust tight, suitable for asbestos waste, impervious to asbestos, identified as asbestos

waste, cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before removal from the work area, and removed from the work area frequently and at regular intervals.

- .5 Ensure workers wash hands and face when leaving Asbestos Work Area.
- .6 Ensure that no person required to enter an Asbestos Work Area has facial hair that affects seal between respirator and face.
- .7 Visitor Protection:
 - .1 Provide protective clothing and approved respirators to Authorized Visitors to work areas.
 - .2 Instruct Authorized Visitors in the use of protective clothing, respirators and procedures.
 - .3 Instruct Authorized Visitors in proper procedures to be followed in entering into and exiting from Asbestos Work Area.

1.7 WASTE MANAGEMENT AND DISPOSAL

- .1 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
- .2 Disposal of asbestos waste generated by removal activities must comply with Federal, Provincial, Territorial and Municipal regulations. Dispose of asbestos waste in sealed double thickness 6 ml bags or leak proof drums. Label containers with appropriate warning labels.
- .3 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.

1.8 EXISTING CONDITIONS

- .1 Reports and information pertaining to ACMs to be handled, removed, or otherwise disturbed and disposed of during this project are provided as part of this specification package.
- .2 Notify Departmental Representative and Consultant of friable material discovered during Work and not apparent from drawings, specifications, or report pertaining to Work. Do not disturb such material pending instructions from the above.

1.9 SCHEDULING

- .1 Hours of Work: perform work during normal working hours.

1.10 OWNER'S INSTRUCTIONS

- .1 Before beginning Work, provide Departmental Representative and Consultant satisfactory proof that every worker has had instruction and training in hazards of asbestos exposure, in personal hygiene and work practices, and in use, cleaning, and disposal of respirators and protective clothing.
- .2 Instruction and training related to respirators includes, following minimum requirements:
 - .1 Fitting of equipment.
 - .2 Inspection and maintenance of equipment.

- .3 Disinfecting of equipment.
- .4 Limitations of equipment.
- .3 Instruction and training must be provided by a competent, qualified person.

Part 2 Products

2.1 MATERIALS

- .1 Drop and Enclosure Sheets:
 - .1 Polyethylene: 0.15 mm thick.
 - .2 FR polyethylene: 0.15 mm thick woven fibre reinforced fabric bonded both sides with polyethylene.
- .2 Wetting Agent: 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with water in concentration to provide thorough wetting of asbestos containing material.
- .3 Waste Containers: contain waste in two separate containers.
 - .1 Inner container: 0.15 mm thick sealable polyethylene bag or where glove bag method is used, glove-bag itself.
 - .2 Outer container: sealable metal or fibre type where there are sharp objects included in waste material; otherwise outer container may be sealable metal or fibre type or second 0.15 mm thick sealable polyethylene bag.
 - .3 Labelling requirements: affix preprinted cautionary asbestos warning, in both official languages, that is visible when ready for removal to disposal site.
- .4 Glove bag:
 - .1 Acceptable materials: safe-T-Strip products in configuration suitable for Work, or Alternative material approved by addendum during tendering period in accordance with Instructions to Tenderers.
 - .2 The glove bag to be equipped with:
 - .1 Sleeves and gloves that are permanently sealed to the body of the bag to allow the worker to access and deal with the insulation and maintain a sealed enclosure throughout the work period.
 - .2 Valves or openings to allow insertion of a vacuum hose and the nozzle of a water sprayer while maintaining the seal to the pipe, duct or similar structure.
 - .3 A tool pouch with a drain.
 - .4 A seamless bottom and a means of sealing off the lower portion of the bag.
 - .5 A high strength double throw zipper and removable straps, if the bag is to be moved during the removal operation.
- .5 Tape: tape suitable for sealing polyethylene to surfaces under both dry and wet conditions using amended water.
- .6 Slow - drying sealer: non-staining, clear, water - dispersible type that remains tacky on surface for at least 8 hours and designed for purpose of trapping residual asbestos fibres.

Part 3 Execution

3.1 SUPERVISION

- .1 Minimum of one Supervisor for every ten workers is required.
- .2 Approved Supervisor must remain within Asbestos Work Area during disturbance, removal, or other handling of asbestos-containing materials.

3.2 PROCEDURES

- .1 Do construction occupational health and safety in accordance with the CLC and OHS Act.
- .2 Before beginning Work, at each access to Asbestos Work Area, install warning signs in both official languages in upper case 'Helvetica Medium' letters reading as follows, where number in parentheses indicates font size to be used: 'CAUTION ASBESTOS HAZARD AREA (25 mm) / NO UNAUTHORIZED ENTRY (19 mm) / WEAR ASSIGNED PROTECTIVE EQUIPMENT (19 mm) / BREATHING ASBESTOS DUST MAY CAUSE SERIOUS BODILY HARM (7 mm)'.
 - .1 Use polyethylene drop sheets over flooring in work areas where dust or contamination cannot otherwise be safely contained.
 - .2 Erect enclosure of polyethylene sheeting around work area, and protect fixtures, equipment and other non-movable objects as required.
 - .3 Shut off mechanical ventilation systems serving the work area and seal ventilation ducts.
- .4 Pipe Insulation Removal Using Glove Bag:
 - .1 Upon installation of the glove bag, inspect bag for any damage or defects. If any damage or defects are found, the glove bag is to be repaired or replaced. The glove bag to be inspected at regular intervals for damage and defects, and repair or replaced, as appropriately. The asbestos containing contents of the damaged or defective glove bag found during removal are to be wetted and the glove bag and its contents are to be removed and disposed of in an appropriate waste disposal container. Any damaged or defective glove bags are not to be reused.
 - .2 Place tools necessary to remove insulation in tool pouch. Wrap bag around pipe and close zippers. Seal bag to pipe with cloth straps.
 - .3 Place hands in gloves and use necessary tools to remove insulation. Arrange insulation in bag to obtain full capacity of bag.
 - .4 Insert nozzle of garden reservoir type sprayer into bag through valve and wash down pipe and interior of bag thoroughly. Wet surface of insulation in lower section of bag.
 - .5 To remove bag after completion of stripping, wash top section and tools thoroughly. Remove air from top section through elasticized valve using a HEPA vacuum. Pull polyethylene waste container over glove bag before removing from pipe. Release one strap and remove freshly washed tools. Place tools in water. Remove second strap and zipper. Fold over into waste container and seal.
 - .6 After removal of bag ensure that pipe is free of residue. Remove residue using HEPA vacuum or wet cloths. Ensure that surfaces are free of sludge which after

- drying could release asbestos dust into atmosphere. Seal exposed surfaces of pipe and ends of insulation with slow drying sealer to seal in any residual fibres.
- .7 Apply canvas lagging to ends of pipe insulation.
 - .8 Upon completion of Work shift, cover exposed ends of remaining pipe insulation with polyethylene taped in place.
- .5 Work is subject to visual inspection and air monitoring. Contamination of surrounding areas indicated by visual inspection or air monitoring will require complete enclosure and clean-up of affected areas.
- .6 Cleanup:
- .1 Frequently during Work and immediately after completion of work, clean up dust and asbestos containing waste using HEPA vacuum or by damp mopping.
 - .2 Place dust and asbestos containing waste in sealed dust tight waste bags. Treat drop sheets and disposable protective clothing as asbestos waste and wet and fold to contain dust and then place in waste bags.
 - .3 Immediately before their removal from Asbestos Work Area and disposal, clean each filled waste bag using damp cloths or HEPA vacuum and place in second clean waste bag.
 - .4 Seal and remove double bagged waste from site. Dispose of in accordance with requirements of Provincial/Territorial and Federal authority having jurisdiction. Supervise dumping and ensure that dump operator is fully aware of hazardous nature of material to be dumped and that guidelines and regulations for asbestos disposal are followed.
 - .5 Perform final thorough clean-up of Asbestos Work Areas and adjacent areas affected by Work using HEPA vacuum.

3.3 AIR MONITORING

- .1 From beginning of contaminated work until completion of cleaning operations, Consultant to take air samples on daily basis outside of Asbestos Work Area in accordance with Public Service Procurement Canada – Asbestos Management Standard and Canada Labour Code.
 - .1 Stop Work when PCM measurements exceed 0.05 f/cc and correct procedures.
- .2 If air monitoring shows that areas outside Asbestos Work Area are contaminated, enclose, maintain and clean these areas in same manner as that applicable to Asbestos Work Area.
- .3 Consultant to conduct a thorough visual inspection to detect visible accumulation of dust or bulk materials remaining in the work area. If dust, debris, or residue are detected repeat cleaning until area meets approval.

END OF SECTION

Designated Substance Report

Building 50, Central Experimental Farm

**DESIGNATED SUBSTANCE REPORT
BUILDING 50 - CENTRAL EXPERIMENTAL FARM
OTTAWA, ONTARIO**

Prepared For:



**Agriculture and
Agri-Food Canada**

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Prepared by:



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A handwritten signature in blue ink, appearing to read 'Taylor Collins'.

Taylor Collins, B.E.S, EPT
Project Manager

A handwritten signature in black ink, appearing to read 'Richard Pope'.

Richard Pope, C.E.T, CIE
Principal Consultant

November 2019
CM3 Reference: RCP2494

EXECUTIVE SUMMARY

CM3 Environmental Inc. (CM3) was retained by Agriculture and Agri-Food Canada (AAFC) to conduct a Project Specific Designated Substance Survey (PSDSS) for the areas of proposed renovations in Building 50 located on the main campus of the Central Experimental Farm in Ottawa, Ontario (Site). It is understood that the PSDSS was commissioned as a matter of due diligence prior to proposed renovation project and laboratory decommissioning at the site.

The project area was outlined in the Central Experimental Farm Building 50 Renovations documents provided by AAFC. The project area in building 50 was defined as rooms EW16, EW15, EW14 and EW6.

The DSS is prepared to satisfy Section 30 of the Occupational Health and Safety Act, Part II of the Canada Labour Code – Occupational Health and Safety, Ontario Regulation 278/05 “Regulation Respecting Asbestos on Construction Projects and in Building and Repair Operations” (O.Reg. 278/05) and Public Services and Procurement Canada Asbestos Management Standard in order to provide an inventory of designated and hazardous materials that may be present at the site.

CM3 personnel completed the site reconnaissance on May 23rd, 2018. Based on the findings of the visual inspection, suspect materials were documented, collected and subsequently submitted for analysis at a 3rd party analytical laboratory.

The following findings and recommendations are based on the DSS conducted by CM3 in June 2018 for building 49 and building 50. A second site visit was completed November 20, 2019 to verify the information obtained during the initial site visit. The previous report titled “TLW1938 - DSR and Lab Decommissioning Genomics” was referenced while extracting all information for building 50 and creating a separate report.

FINDINGS

General

The Occupational Health and Safety Act requires building owners, managers and their agents to notify all employees, and contractors of the presence of designated substances at a project site.

Asbestos

Confirmed Asbestos Containing Materials (ACMs) identified at the site include the following:

- Transite cement panels in fume hood in room EW6 and EW15 of building 50,
- Vinyl floor tiles and mastic in rooms EW16, EW15 and EW6 of building 50,
- Asbestos containing pipe insulation in room EW14 of building 50 and,
- Pipes insulated with friable asbestos insulation may be present in inaccessible spaces such as above solid ceilings, in chases, in column enclosures and within shafts.

The following recommendations are based on the requirements of Ontario Regulation 278/05 – Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations:

1. Provide a copy of this report or applicable portions of this report to prospective bidders.
2. Remove all asbestos materials that may be disturbed during the renovations. The asbestos materials summary table in Appendix A lists the recommended/minimum abatement operation for each confirmed asbestos containing material identified.
3. The asbestos abatement must be conducted by an experienced competent asbestos abatement contractor. The contractor should be able to show proof of adequate experience, employee training, workers compensation documentation, and asbestos liability insurance.
4. All asbestos wastes generated by asbestos abatement operations must be packaged and disposed of in accordance with Waste Regulation 347/90 and O.Reg 278/05. Asbestos waste may be disposed of at any municipal landfill approved by the MOE to accept this type of waste pending notification to the landfill operator. Although a waste manifest is not required for the transportation or disposal of asbestos waste, it is good management practice to keep a record of the amount removed and sent to landfill.
5. An asbestos waste management procedure should be prepared.

Benzene

Excessive heat must not be used on wire coatings, plastic materials, or PVC as heat may release benzene. If these practices cannot be avoided, then implement control measures appropriate for the control of benzene prescribed in Ontario Regulation 490/09 – Designated Substances.

Lead

Lead based paints and lead containing paints were observed at the site. Lead is likely present in the solder on copper fittings observed in the building. All painted surfaces are expected to contain some level of lead and such the following is recommended:

1. Measures must be implemented to control lead dust hazard during any construction or demolition activity that would result in the disturbance of any painted surface or solder. The measures implemented must be in accordance with the “Guideline – Lead on Construction Projects” (Ministry of Labour, September 2004).

Mercury

Mercury vapour is present in fluorescent light tubes observed throughout the project area.

If the florescent light fixtures are to be replaced the mercury containing fluorescent light tubes must be carefully removed and containerized for disposal in accordance with Ontario Regulation 347/09 (as amended).

Ozone-Depleting Substances (ODS)

If any ozone-depleting refrigerant containing equipment is to be disturbed the refrigerant must be removed by an individual, licensed to perform such work in accordance with the Federal Halocarbon Regulation, 2003 SOR/2003-289 under the Canadian Environmental Protection Act, prior to the removal and disposal of any ozone-depleting substance containing equipment.

Silica

Based on CM3 observations silica is present in the plaster, vinyl floor tiles, drywall, drywall joint compound, and acoustic ceiling tiles at the site.

Measures prescribed in the Ministry of Labour's Guideline titled "Silica on Construction Projects", should be followed during the disturbance of any silica containing material.

Vinyl Chloride

Excessive heat must not be used on wire coatings, plastic materials, or PVC as heat may release vinyl chloride. If these practices cannot be avoided, then implement control measures appropriate for the control of vinyl chloride prescribed in Ontario Regulation 490/09 – Designated Substances.

Other Designated Substances and Hazardous Materials

Arsenic, Acrylonitrile, Isocyanates, Coke Oven Emissions, Ethylene Oxide, PCBs, and, Urea Formaldehyde Foam Insulation (UFFI) were not observed at the site.

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1.0 INTRODUCTION

CM3 Environmental Inc. (CM3) was retained by Agriculture and Agri-Food Canada (AAFC) to conduct a Project Specific Designated Substance Survey (DSS) in rooms EW16, EW15, EW14 and EW6 of building 50 located on the main campus of the Central Experimental Farm in Ottawa, Ontario (Site). It is understood that the DSS was commissioned as a matter of due diligence prior to proposed renovations at the site.

2.0 OBJECTIVE

The DSS is prepared to satisfy Section 30 of the Occupational Health and Safety Act, Part II of the Canada Labour Code – Occupational Health and Safety, Ontario Regulation 278/05 “Regulation Respecting Asbestos on Construction Projects and in Building and Repair Operations” (O.Reg. 278/05) and Public Services and Procurement Canada Asbestos Management Standard in order to identify any designated and hazardous materials that may be present at the site prior to the planned renovations.

3.0 SCOPE OF WORK

The scope of work included the following activities:

- Preparation of a Health and Safety Plan (HASP) prior to conducting the field work;
- Review existing asbestos survey reports for the site;
- Room by room inspection and sampling of potential hazardous materials within the building;
- Documenting the location of potential hazardous materials and estimating quantities;
- Submission of representative samples of potential hazardous materials for laboratory analysis; and
- Preparation of a report summarizing the designated substances survey.

4.0 DESIGNATED SUBSTANCE SURVEY METHODOLOGY AND RESULTS

The field survey included the visual identification of potential designated substances and collection of samples for laboratory analysis to confirm the absence/presence of hazardous materials.

Designated substances in Ontario are defined in accordance with OHSAs as a biological, chemical, or physical agent or combination thereof as a designated substance to which the exposure of a worker is prohibited, regulated, restricted, limited or controlled. Under section 30 of OHSAs – “Duty of Project Owners”, owners are required to determine if designated substances are present at a project site and disclose this information to project participants.

Designated substances that individuals are likely to be exposed to during construction projects include asbestos, lead and silica. The Ontario Ministry of Labour provides guidance regarding these substances during construction in the following documents:

1. Ontario Regulation 278/05 (O.Reg. 278/05) – Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations.
2. Guideline – Silica on Construction Projects, Ministry of Labour 2004.
3. Guideline – Lead on Construction Projects, Ministry of Labour 2004.

Given that the site is a federal government building and that asbestos is present, the project is also subject to the Public Services and Procurement Canada Asbestos Management Standard.

The following sections provide an overview of the regulated designated substances and the potential presence of such substances at the site.

4.1 Acrylonitrile

Acrylonitrile is a chemical compound that exists as a clear pungent smelling liquid. Acrylonitrile is an important compound used in the production of other chemicals and products.

Acrylonitrile is highly flammable and toxic. When burned it releases hazardous compounds into the air including hydrogen sulfide..

Based on CM3 observations Acrylonitrile was not identified at the site during the DSS.

4.2 Arsenic

Arsenic is chemical element that occurs in several different minerals in nature. Arsenic is used in a wide variety of applications including the strengthening of steel and cooper alloys, it is a valuable semiconductor, and has been used in the production of herbicides and pesticides.

Arsenic is a known human carcinogen and potent poison.

Based on CM3 observations arsenic was not identified at the site during the DSS however small quantities are likley present in the paint observed throughout the site.

4.3 Asbestos

Asbestos is a group of naturally occurring mineral silicates that has been used in the manufacture of building materials due to their desirable physical properties. Asbestos was used in a number of building materials such as roofing shingles, acoustic ceiling tile, vinyl flooring, cement products, insulation and other applications.

The association between the inhalation of asbestos fibres and various respiratory diseases is undisputed.

Asbestos containing material (ACM) survey was conducted by CM3 as part of this DSS. Details of the ACM survey are presented in section 5.0.

4.4 Benzene

Benzene is a natural compound found in petroleum based products such as gasoline and diesel fuels, asphalt and other hydrocarbon based products. It is used as a catalyst in various chemical processes including the production of plastics, rubber, drugs and pesticides.

Benzene is a known human carcinogen. Exposure to airborne benzene has been linked to various forms of leukemia.

Benzene was not observed at the site during the DSS.

4.5 Coke Oven Emissions

Coke oven emissions are the airborne by-product resulting from the distillation of low-ash and sulfur coal or coke. Coke is a useful fuel, chemical reducer, and is even used in the production of Scotch whisky.

Coke oven emissions potentially cause lung and skin cancers.

Based on CM3 observations coke oven emissions are not present at the site.

4.6 Ethylene Oxide

Ethylene oxide is a colourless gas with a faint sweet odour. This organic compound has various applications in the chemical engineering industry.

Ethylene oxide is a known human carcinogen and poison. Chronic exposure is known to cause genetic mutations (damage caused to DNA resulting in physical mutations).

Based on observations noted during the DSS and historical use of the site, ethylene oxide is not present.

4.7 Isocyanates

Isocyanates are any organic compound that contain a specific chemical functional group made up of a specific structure of one atom of nitrogen, carbon, and oxygen. The presence of this functional group gives chemical compounds unique properties that may be exploited in the production of polymers. Isocyanate containing polymers are used in the manufacture of paints, foams, and electrical insulation.

All isocyanates must be treated as highly hazardous with inhalation being the primary exposure pathway.

Based on observations noted during the DSS and historical use of the site, Isocyanates are not present.

4.8 Lead

Lead is a naturally occurring metal element and is the most common metal found in the environment. Pure metallic lead was primarily used to make products such as electric storage batteries, ammunition, solder, radiation shields, pipes and sheaths for electric cables. The most common organic lead compounds are tetraethyl (TEL) and tetra methyl (TML) lead that were used as anti-knock agents in gasoline. Inorganic lead compounds such as lead oxides, chromates, carbonates and nitrates are commonly found in insecticides, pigments, paints, frits, glasses, plastics and rubber compounds.

The Canadian Federal Government has been limiting the amount of lead in paint to 0.5 percent (5,000 ppm) since 1976. Paint used in buildings before 1960 probably contained elevated levels of lead. If the building was built after 1980, it is unlikely that interior paint contains elevated concentrations of lead; if it was built after 1992, exterior paint probably does not contain lead. The Surface Coating Materials Regulation (SOR/2010-224 dated March, 2011), pursuant to the 2005 Hazardous Products Act, limits the allowed concentration of lead in a paint applied to

manufactured products to 0.009 percent (90 ppm) of lead. Any paint containing lead at a concentration of 0.5% by weight (i.e. 5,000ug/g, or 5,000ppm) or greater is considered to be a lead-based paint (LBP). These paints represent the greatest potential exposure if disturbed. Paints confirmed to contain lead at a concentration of at least 0.009% by weight (i.e. 90ug/g, or 90ppm) but less than 0.5% by weight are considered to be lead-containing paints (LCP). These paints may present an exposure hazard depending on the type of work activities (i.e. degree of disturbance) and length of exposure. Paint with lead concentrations below 0.009% by weight are not considered to be lead-containing and represent little to no lead exposure hazard.

One (1) paint sample was collected as part of this assessment. Paint sample LS-03 was found to be lead containing paint.

Table 1: Summary of Laboratory Analytical Results – Lead

Sample ID	Sample		Results (ppm)
	Description	Location	
LS-03	Cream wall paint	Room EW16 – Building 50	1,900

4.9 Mercury

Mercury is a chemical element that is the only metal that exists in the liquid state at standard temperature and pressure. Elemental mercury has been used in a number of scientific instruments such as thermometers and barometers. In buildings liquid mercury has been used widely in thermostats and switch gear. Mercury vapour is used to produce light in fluorescent light tubes.

Chronic and acute inhalation of mercury vapour has been shown to have profound effects on the central nervous system including impaired cognitive skills, tremors, hallucinations, delirium, and suicidal tendency.

Mercury vapour is present in the fluorescent light tubes observed in Building 50.

4.10 Silica

Silica is the common name for the chemical compound silicon dioxide that occurs naturally as sand or quartz. Due to the hardness of silica it has been used as the primary raw material in products such as glass, ceramics, and cement.

Inhalation of silica is known to cause irreversible lung diseases including cancer and silicosis.

Based on CM3 observations silica is present in the concrete, plaster, vinyl floor tiles, drywall, drywall joint compound, and acoustic ceiling tiles present at the site. If the aforementioned materials are to be disturbed, appropriate precautions should be taken during disturbance.

4.11 Vinyl Chloride

Vinyl Chloride is a chemical compound that exists as a gas at standard temperature and pressure. It is used in the production of polyvinyl chloride (PVC) which is non-hazardous.

Vinyl chloride is a known human carcinogen and is known to cause liver damage.

Based on CM3 observations vinyl chloride is not present at the site; however, there is the potential that vinyl chloride could be released if PVC pipes, plastic, or wire coatings are burnt.

5.0 ASBESTOS CONTAINING MATERIALS SURVEY

5.1 General

The asbestos containing materials (ACMs) survey was conducted by CM3 to satisfy Section 30 of the Occupational Health, Safety Act of Ontario and Ontario Regulation 278/05: Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations (O.Reg.278/05) and Public Services and Procurement Canada Asbestos Management Standard.

The ACMs survey was carried out in accordance with the measures prescribed in O.Reg. 278/05 and the Public Services and Procurement Canada Asbestos Management Standard.

5.2 Inspection and Sampling

CM3 personnel completed the site reconnaissance including a room by room visual inspection and sampling of potential ACMs on May 23rd, 2018. As part of the asbestos inspection, CM3 collected thirty-five (35) samples from seven (7) distinct building materials, which were suspected to contain asbestos. Materials sampled by CM3 included wall plaster, ceiling plaster, beam plaster, window caulking, cove base, brick, mortar and floor tiles. A summary of the samples collected along with the analytical results is presented in Table 1 below.

All potential ACM samples were submitted under chain of custody to EMSL Analytical Inc. laboratories (EMSL) in Ottawa, Ontario for analysis. The samples of potential asbestos were analyzed for type and percent fiber content using Polarized Light Microscopy (PLM). Copies of the laboratory analytical reports are included in Appendix A.

Table 2: Summary of Laboratory Analytical Results – Asbestos

Sample ID	Sample			% Asbestos
	Description	Building	Location	
VT-02A-C	9"x9" Vinyl Tile (Grey w/ Black Streaks) and Mastic	50	Rm. EW16	2% and 5% Chrysotile
COV-01A-C	Cove Base (Black)	50	Rm. EW16	None Detected
CLK-02A-C	Window Caulking	50	Rm. EW15	None Detected
BR-01A-C	Brick	50	Rm. EW14	None Detected
MOR-01A-C	Mortar	50	Rm. EW14	None Detected
PLA-05A-E	Plaster Walls	50	Rm. EW6/EW16/EW15	None Detected
PLA-06A-C	Plaster Ceiling	50	Rm. EW6/EW15	None Detected

Results of the sample analysis indicate that asbestos was detected in the following materials at a concentration greater than 0.5% by dry weight:

- Transite cement panels in fume hood in room EW6 and EW15 of building 50,
- Vinyl floor tiles and mastic in rooms EW16, EW15 and EW6 of building 50,
- Asbestos containing pipe insulation in room EW14 of building 50 and,
- Pipes insulated with friable asbestos insulation may be present in inaccessible spaces such as above solid ceilings, in chases, in column enclosures and within shafts.

As such the above noted materials are considered to be asbestos containing and are subject to the procedures outlined in Ontario Regulation 278/05.

6.0 HAZARDOUS MATERIALS SURVEY

6.1 General

The field survey included the visual identification of materials that are potentially hazardous to site occupants, workers, and others.

The following sections provide an overview of the potential hazardous materials of interest and the potential presence of such substances at the site.

6.2 Ozone Depleting Substances

6.2.1 General

Ozone Depleting Substances (ODSs) are a group of man-made halocarbon refrigerants. They were invented in the 1920's and were used widely as refrigerants and aerosol propellants before 1980. The removal and disposal of ODSs is governed by Federal Regulation SOR/2003-289, Federal Halocarbons Regulations, 2003 made under the Canadian Environmental Protection Act.

ODSs are the primary cause of man-made ozone layer depletion and therefore must not be released into the environment.

6.2.2 Findings

Non-base building ODS-containing equipment was observed at the Site. All equipment containing ozone depleting refrigerant is expected to be removed from the site prior to the renovations.

6.3 Polychlorinated Biphenyls

6.3.1 General

Polychlorinated Biphenyls (PCBs) are a group of man-made organic compounds made up of a specific structure that includes two benzene rings or phenyl functional groups. Commercial production began in the 1920's and they were used primarily as coolants and insulating fluids used widely in transformers and capacitors. The removal and disposal of PCBs is governed by Federal Regulation SOR/2010-273, PCBs Regulations, made under the Canadian Environmental Protection Act.

PCBs interfere with hormone production in people causing toxic and mutagenic effects. PCBs are a persistent pollutant and must not be released into the environment.

6.3.2 Findings

Potential PCB containing equipment was not observed at the Site.

6.4 Urea Formaldehyde Foam Insulation

6.4.1 General

Urea Formaldehyde Foam Insulation (UFFI) is a foam insulation that contains a urea-formaldehyde resin. In the 1970's UFFI was installed in homes throughout Canada. For a short period of time the insulation would off-gas formaldehyde. Authorities became concerned about potential exposure to formaldehyde and the application was banned in 1980. It is unlikely that UFFI installed before the ban would produce a significant concentration of airborne formaldehyde.

6.4.2 Findings

Based on CM3 observations during the DSS, UFFI was not observed at the Site.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The following recommendations are based on the DSS conducted by CM3 on May 23rd, 2018 and review site visit November 20, 2019:

FINDINGS

General

In accordance with the Occupational Health and Safety Act regarding designated substances, the building owner must notify all employees and contractors of the presence of all designated substances present. A copy of this report should be made available to all prospective bidders and upon award to the general contractor and all subcontractors working in the project area.

Asbestos

Confirmed asbestos containing materials identified at the site include the following:

- Transite cement panels in fume hood in room EW6 and EW15 of building 50,
- Vinyl floor tiles and mastic in rooms EW16, EW15 and EW6 of building 50,
- Asbestos containing pipe insulation in room EW14 of building 50 and,
- Pipes insulated with friable asbestos insulation may be present in inaccessible spaces such as above solid ceilings, in chases, in column enclosures and within shafts.

The following table provides a list of action items for the area:

Table 3 – Summary of Asbestos Containing Materials

Material	Location	Approx. Quantity	Friable (Y/N)	Action	Asbestos Operation
Vinyl Floor Tiles & Mastic	Building 50 rooms EW6, EW15 and EW16	400 sq. ft.	No	If asbestos containing vinyl floor tiles and mastic have the potential to be disturbed during the	Type 1 (Low risk work)

				renovation activities it should be removed prior to renovations.	
Transite Panels	Building 50 fume hood in room EW6 and EW15	NQ	No	Asbestos containing transite cement panels located in the fume hood should be removed prior to the removal of the equipment.	Type 1 (Low risk work)
Pipe Insulation	Building 50 below sink in room EW14	5 elbows and 5 linear feet of aircell.	Yes	Asbestos containing pipe insulation in poor condition located below the sink must be removed for compliance.	Type 2 Glove-Bag (Moderate)

The following recommendations are based on the requirements of Ontario Regulation 278/05 – Regulation Respecting Asbestos on Construction Projects and in Buildings and Repair Operations prior to the demolition of the building and/or Public Services and Procurement Canada Asbestos Management Standard:

1. Provide a copy of this report or applicable portions of this report to prospective bidders.
2. Remove all asbestos materials that may be disturbed during the renovations. The asbestos materials summary table in section 7 lists the recommended/minimum abatement operations.
3. The asbestos abatement must be conducted by an experienced competent asbestos abatement contractor. The contractor should be able to show proof of adequate experience, employee training, workers compensation documentation, and asbestos liability insurance.
4. All asbestos wastes generated by asbestos abatement operations must be packaged and disposed of in accordance with Waste Regulation 347/90 and O.Reg 278/05. Asbestos waste may be disposed of at any municipal landfill approved by the MOE to accept this type of waste pending notification to the landfill operator. Although a waste manifest is not required for the transportation or disposal of asbestos waste, it is good management practice to keep a record of the amount removed and sent to landfill.
5. An asbestos waste management procedure should be prepared.

Benzene

Excessive heat must not be used on wire coatings, plastic materials, or PVC as heat may release benzene. If these practices cannot be avoided, then implement control measures appropriate for the control of benzene prescribed in Ontario Regulation 490/09 – Designated Substances.

Lead

Lead was found to be present in the paints observed at the site. In addition, lead is likely present on all copper fittings located throughout the site and as such the following is recommended.

1. Measures must be implemented to control the lead dust hazard during any construction or demolition activity that would result in the disturbance of any painted surface. The measures

implemented must be in accordance with the “Guideline – Lead on Construction Projects” (Ministry of Labour, September 2004).

Mercury

If removed from service the mercury containing fluorescent light bulbs must be carefully removed and containerized for disposal in accordance with Ontario Regulation 347/09 (as amended) if they are to be disturbed as part of the renovation.

Ozone-Depleting Substances (ODS)

If any ozone-depleting refrigerant containing equipment is to be disturbed the refrigerant must be removed by an individual, licensed to perform such work in accordance with the Federal Halocarbon Regulation, 2003 SOR/2003-289 under the Canadian Environmental Protection Act, prior to the removal and disposal of any ozone-depleting substance containing equipment.

Silica

Measures prescribed in the Ministry of Labour’s Guideline titled “Silica on Construction Projects”, should be followed during the disturbance of any silica containing material.

Vinyl Chloride

Excessive heat must not be used on wire coatings, plastic materials, or PVC as heat may release vinyl chloride. If these practices cannot be avoided, then implement control measures appropriate for the control of vinyl chloride prescribed in Ontario Regulation 490/09 – Designated Substances.

8.0 LIMITATIONS

This report has been prepared and the work referred to in this report has been undertaken by CM3 Environmental Inc. for **Agriculture and Agri-Food Canada**. It is intended for the sole and exclusive use of **Agriculture and Agri-Food Canada and its authorized agents** for the purpose(s) set out in this report. Any use of, reliance on or decision made based on this report by any person other than **the co-operators** for any purpose, or by **Agriculture and Agri-Food Canada** for a purpose other than the purpose(s) set out in this report, is the sole responsibility of such other person or **the Agriculture and Agri-Food Canada**. **Agriculture and Agri-Food Canada** and CM3 Environmental Inc. make no representation or warranty to any other person with regard to this report and the work referred to in this report and they accept no duty of care to any other person or any liability or responsibility whatsoever for any losses, expenses, damages, fines, penalties or other harm that may be suffered or incurred by any other person as a result of the use of, reliance on, any decision made or any action taken based on this report or the work referred to in this report.

Any conclusions or recommendations made in this report reflect CM3 Environmental Inc.’s judgment based on the following limited investigations: visual site inspection(s) on the date(s) set out in this report; examination of public records; and interviews with individuals having information about the site. While efforts have been made to substantiate information provided by third parties, CM3 Environmental Inc. makes no representation or warranty as to its completeness or accuracy.

This report has been prepared for specific application to this site. Unless otherwise stated, the findings cannot be extended to previous or future site conditions; portions of the site which were unavailable for direct investigation; subsurface locations which were not investigated directly; or chemical parameters, materials or analysis which were not addressed. 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.

Nothing in this report is intended to constitute or provide a legal opinion. CM3 Environmental Inc. makes no representation as to the requirements of or compliance with environmental laws, rules, regulations or policies established by federal, provincial or local government bodies. Revisions to the regulatory standards referred to in this report may be expected over time. As a result, modifications to the findings, conclusions and recommendations in this report may be necessary.

Other than by **Agriculture and Agri-Food Canada and its authorized agents** and as set out herein, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted without the express written permission of CM3 Environmental Inc.

Appendix A
Certificate of Laboratory Analysis

Project Specific Designated Substances Survey
Building 50
Central Experimental Farm



EMSL Canada Inc.

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EMSL Canada Order 671801005
Customer ID: 55CMTE42
Customer PO:
Project ID:

Attn: Joel Marcellus
CM3 Environmental Inc.
5710 Akins Rd
Stittsville, ON K2S 1B8
Phone: (613) 820-4343
Fax:
Collected: 5/23/2018
Received: 5/24/2018
Analyzed: 5/31/2018
Proj: TLW 1937 - Genomics Reno

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: PLA-01A-Skim Coat **Lab Sample ID:** 671801005-0001
Sample Description: Rm. 206/Plaster Walls Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-01A-Base Coat **Lab Sample ID:** 671801005-0001A
Sample Description: Rm. 206/Plaster Walls Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	

Client Sample ID: PLA-01B-Skim Coat **Lab Sample ID:** 671801005-0002
Sample Description: Rm. 206/Plaster Walls Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-01B-Base Coat **Lab Sample ID:** 671801005-0002A
Sample Description: Rm. 206/Plaster Walls Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	

Client Sample ID: PLA-01C-Skim Coat **Lab Sample ID:** 671801005-0003
Sample Description: Rm. 204/Plaster Walls Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-01C-Base Coat **Lab Sample ID:** 671801005-0003A
Sample Description: Rm. 204/Plaster Walls Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	

Client Sample ID: PLA-01D-Skim Coat **Lab Sample ID:** 671801005-0004
Sample Description: Rm. 204/Plaster Walls Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	



EMSL Canada Inc.

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EMSL Canada Order 671801005
Customer ID: 55CMTE42
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: PLA-01D-Base Coat **Lab Sample ID:** 671801005-0004A
Sample Description: Rm. 204/Plaster Walls Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	

Client Sample ID: PLA-01E-Skim Coat **Lab Sample ID:** 671801005-0005
Sample Description: Rm. 101/Plaster Walls Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-01E-Base Coat **Lab Sample ID:** 671801005-0005A
Sample Description: Rm. 101/Plaster Walls Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	

Client Sample ID: PLA-02A-Skim Coat **Lab Sample ID:** 671801005-0006
Sample Description: Rm. 204/Plaster Ceiling Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-02A-Base Coat **Lab Sample ID:** 671801005-0006A
Sample Description: Rm. 204/Plaster Ceiling Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	2%	98%	None Detected	

Client Sample ID: PLA-02B-Skim Coat **Lab Sample ID:** 671801005-0007
Sample Description: Rm. 204/Plaster Ceiling Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-02B-Base Coat **Lab Sample ID:** 671801005-0007A
Sample Description: Rm. 204/Plaster Ceiling Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	2%	98%	None Detected	

Client Sample ID: PLA-02C-Skim Coat **Lab Sample ID:** 671801005-0008
Sample Description: Rm. 206/Plaster Ceiling Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	



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EMSL Canada Order 671801005
Customer ID: 55CMTE42
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: PLA-02C-Base Coat **Lab Sample ID:** 671801005-0008A
Sample Description: Rm. 206/Plaster Ceiling Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	2%	98%	None Detected	

Client Sample ID: PLA-03A-Skim Coat **Lab Sample ID:** 671801005-0009
Sample Description: Rm. 101/Plaster Ceiling Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-03A-Base Coat **Lab Sample ID:** 671801005-0009A
Sample Description: Rm. 101/Plaster Ceiling Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	

Client Sample ID: PLA-03B-Skim Coat **Lab Sample ID:** 671801005-0010
Sample Description: Rm. 101/Plaster Ceiling Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-03B-Base Coat **Lab Sample ID:** 671801005-0010A
Sample Description: Rm. 101/Plaster Ceiling Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	

Client Sample ID: PLA-03C-Skim Coat **Lab Sample ID:** 671801005-0011
Sample Description: Rm. 101/Plaster Ceiling Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-03C-Base Coat **Lab Sample ID:** 671801005-0011A
Sample Description: Rm. 101/Plaster Ceiling Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	1%	99%	None Detected	

Client Sample ID: PLA-04A **Lab Sample ID:** 671801005-0012
Sample Description: Rm. 204/Plaster Beam Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	



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Customer ID: 55CMTE42
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Project ID:

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: PLA-04B **Lab Sample ID:** 671801005-0013
Sample Description: Rm. 204/Plaster Beam Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-04C **Lab Sample ID:** 671801005-0014
Sample Description: Rm. 206/Plaster Beam Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: DJC-01A **Lab Sample ID:** 671801005-0015
Sample Description: Rm. 206/Drywall Joint Compound Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Tan	0%	98%	2% Chrysotile	

Client Sample ID: DJC-01B **Lab Sample ID:** 671801005-0016
Sample Description: Rm. 206/Drywall Joint Compound Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018					Positive Stop (Not Analyzed)

Client Sample ID: DJC-01C **Lab Sample ID:** 671801005-0017
Sample Description: Rm. 204/Drywall Joint Compound Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018					Positive Stop (Not Analyzed)

Client Sample ID: SVF-01A-Vinyl Sheet Flooring **Lab Sample ID:** 671801005-0018
Sample Description: Rm. 206/Sheet Vinyl Flooring (grey) - Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	40%	60%	None Detected	

Client Sample ID: SVF-01A-Mastic **Lab Sample ID:** 671801005-0018A
Sample Description: Rm. 206/Sheet Vinyl Flooring (grey) - Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Brown	0%	100%	None Detected	

Client Sample ID: SVF-01B-Vinyl Sheet Flooring **Lab Sample ID:** 671801005-0019
Sample Description: Rm. 206/Sheet Vinyl Flooring (grey) - Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	40%	60%	None Detected	



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Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: SVF-01B-Mastic **Lab Sample ID:** 671801005-0019A

Sample Description: Rm. 206/Sheet Vinyl Flooring (grey) - Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Yellow	0%	100%	None Detected	

Client Sample ID: SVF-01C-Vinyl Sheet Flooring **Lab Sample ID:** 671801005-0020

Sample Description: Rm. 206/Sheet Vinyl Flooring (grey) - Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	40%	60%	None Detected	

Client Sample ID: SVF-01C-Mastic **Lab Sample ID:** 671801005-0020A

Sample Description: Rm. 206/Sheet Vinyl Flooring (grey) - Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018				Insufficient Material	

Client Sample ID: CLK-01A **Lab Sample ID:** 671801005-0021

Sample Description: Rm. 206/Window Caulking - Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	90%	10% Chrysotile	

Client Sample ID: CLK-01B **Lab Sample ID:** 671801005-0022

Sample Description: Rm. 206/Window Caulking - Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018				Positive Stop (Not Analyzed)	

Client Sample ID: CLK-01C **Lab Sample ID:** 671801005-0023

Sample Description: Rm. 206/Window Caulking - Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018				Positive Stop (Not Analyzed)	

Client Sample ID: VT-01A-Vinyl Floor Tile **Lab Sample ID:** 671801005-0024

Sample Description: Rm. 101/12"x12" Vinyl Tile (brown) - Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	98%	2% Chrysotile	

Client Sample ID: VT-01A-Mastic **Lab Sample ID:** 671801005-0024A

Sample Description: Rm. 101/12"x12" Vinyl Tile (brown) - Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Black	0%	100%	None Detected	



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Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: VT-01B **Lab Sample ID:** 671801005-0025
Sample Description: Rm. 101/12"x12" Vinyl Tile (brown) - Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018					Positive Stop (Not Analyzed)

Client Sample ID: VT-01C **Lab Sample ID:** 671801005-0026
Sample Description: Rm. 101/12"x12" Vinyl Tile (brown) - Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018					Positive Stop (Not Analyzed)

Client Sample ID: AT-01A **Lab Sample ID:** 671801005-0027
Sample Description: Rm. 101/2'x4' Acoustic Tile (pinholes) Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	80%	17%	3% Chrysotile	

Client Sample ID: AT-01B **Lab Sample ID:** 671801005-0028
Sample Description: Rm. 101/2'x4' Acoustic Tile (pinholes) Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018					Positive Stop (Not Analyzed)

Client Sample ID: AT-01C **Lab Sample ID:** 671801005-0029
Sample Description: Rm. 101/2'x4' Acoustic Tile (pinholes) Building 49

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018					Positive Stop (Not Analyzed)

Client Sample ID: VT-02A-Vinyl Floor Tile **Lab Sample ID:** 671801005-0030
Sample Description: Rm. EW-16/9"x9" Vinyl Tile (grey w/ black streaks) Bldg. 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	98%	2% Chrysotile	

Client Sample ID: VT-02A-Mastic **Lab Sample ID:** 671801005-0030A
Sample Description: Rm. EW-16/9"x9" Vinyl Tile (grey w/ black streaks) Bldg. 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Black	0%	95%	5% Chrysotile	

Client Sample ID: VT-02B **Lab Sample ID:** 671801005-0031
Sample Description: Rm. EW-16/9"x9" Vinyl Tile (grey w/ black streaks) Bldg. 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018					Positive Stop (Not Analyzed)



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Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: VT-02C **Lab Sample ID:** 671801005-0032
Sample Description: Rm. EW-16/9"x9" Vinyl Tile (grey w/ black streaks) Bldg. 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018					Positive Stop (Not Analyzed)

Client Sample ID: COV-01A-Cove Base **Lab Sample ID:** 671801005-0033
Sample Description: Rm. EW-16/Cove Base (Black) - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Black	0%	100%	None Detected	

Client Sample ID: COV-01A-Mastic **Lab Sample ID:** 671801005-0033A
Sample Description: Rm. EW-16/Cove Base (Black) - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Brown	0%	100%	None Detected	

Client Sample ID: COV-01B-Cove Base **Lab Sample ID:** 671801005-0034
Sample Description: Rm. EW-16/Cove Base (Black) - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Black	0%	100%	None Detected	

Client Sample ID: COV-01B-Mastic **Lab Sample ID:** 671801005-0034A
Sample Description: Rm. EW-16/Cove Base (Black) - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Brown	0%	100%	None Detected	

Client Sample ID: COV-01C-Cove Base **Lab Sample ID:** 671801005-0035
Sample Description: Rm. EW-16/Cove Base (Black) - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Black	0%	100%	None Detected	

Client Sample ID: COV-01C-Mastic **Lab Sample ID:** 671801005-0035A
Sample Description: Rm. EW-16/Cove Base (Black) - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Brown	0%	100%	None Detected	

Client Sample ID: CLK-02A **Lab Sample ID:** 671801005-0036
Sample Description: Rm. EW-15/Window Caulking - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	



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Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: CLK-02B **Lab Sample ID:** 671801005-0037
Sample Description: Rm. EW-15/Window Caulking - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: CLK-02C **Lab Sample ID:** 671801005-0038
Sample Description: Rm. EW-15/Window Caulking - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: BR-01A **Lab Sample ID:** 671801005-0039
Sample Description: Rm. EW-14/Brick - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Yellow	0%	100%	None Detected	

Client Sample ID: BR-01B **Lab Sample ID:** 671801005-0040
Sample Description: Rm. EW-14/Brick - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Yellow	0%	100%	None Detected	

Client Sample ID: BR-01C **Lab Sample ID:** 671801005-0041
Sample Description: Rm. EW-14/Brick - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Yellow	0%	100%	None Detected	

Client Sample ID: MOR-01A **Lab Sample ID:** 671801005-0042
Sample Description: Rm. EW-14/Mortar - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: MOR-01B **Lab Sample ID:** 671801005-0043
Sample Description: Rm. EW-14/Mortar - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: MOR-01C **Lab Sample ID:** 671801005-0044
Sample Description: Rm. EW-14/Mortar - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	



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Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: PLA-05A-Skim Coat **Lab Sample ID:** 671801005-0045
Sample Description: Rm. EW-6/Plaster Walls - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-05A-Base Coat **Lab Sample ID:** 671801005-0045A
Sample Description: Rm. EW-6/Plaster Walls - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	

Client Sample ID: PLA-05B-Skim Coat **Lab Sample ID:** 671801005-0046
Sample Description: Rm. EW-6/Plaster Walls - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-05B-Base Coat **Lab Sample ID:** 671801005-0046A
Sample Description: Rm. EW-6/Plaster Walls - Building 50

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	

Client Sample ID: PLA-05C-Skim Coat **Lab Sample ID:** 671801005-0047
Sample Description: Rm. EW-16/Plaster Walls

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-05C-Base Coat **Lab Sample ID:** 671801005-0047A
Sample Description: Rm. EW-16/Plaster Walls

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	

Client Sample ID: PLA-05D-Skim Coat **Lab Sample ID:** 671801005-0048
Sample Description: Rm. EW-16/Plaster Walls

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-05D-Base Coat **Lab Sample ID:** 671801005-0048A
Sample Description: Rm. EW-16/Plaster Walls

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	



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Client Sample ID: PLA-05E-Skim Coat **Lab Sample ID:** 671801005-0049
Sample Description: Rm. EW-15/Plaster Walls

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-05E-Base Coat **Lab Sample ID:** 671801005-0049A
Sample Description: Rm. EW-15/Plaster Walls

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	

Client Sample ID: PLA-06A-Skim Coat **Lab Sample ID:** 671801005-0050
Sample Description: Rm. EW-6/Plaster Ceiling

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-06A-Base Coat **Lab Sample ID:** 671801005-0050A
Sample Description: Rm. EW-6/Plaster Ceiling

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	

Client Sample ID: PLA-06B-Skim Coat **Lab Sample ID:** 671801005-0051
Sample Description: Rm. EW-15/Plaster Ceiling

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-06B-Base Coat **Lab Sample ID:** 671801005-0051A
Sample Description: Rm. EW-15/Plaster Ceiling

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	

Client Sample ID: PLA-06C-Skim Coat **Lab Sample ID:** 671801005-0052
Sample Description: Rm. EW-15/Plaster Ceiling

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	White	0%	100%	None Detected	

Client Sample ID: PLA-06C-Base Coat **Lab Sample ID:** 671801005-0052A
Sample Description: Rm. EW-15/Plaster Ceiling

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	5/31/2018	Gray	0%	100%	None Detected	



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**Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via
EPA600/R-93/116 Method**

Analyst(s):

Ewa Krupinska PLM (35)
Simon Parent PLM (33)

Reviewed and approved by:

Simon Parent, Laboratory Manager
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP of any agency of the U.S. Government.

Samples analyzed by EMSL Canada Inc. Ottawa, ON

Initial report from: 05/31/2018 12:11:50



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CustomerID:	55CMTE42
CustomerPO:	TLW-1937
ProjectID:	

Attn: **Joel Marcellus**
CM3 Environmental Inc.
5710 Akins Rd
Stittsville, ON K2S 1B8

Phone: (613) 820-4343
 Fax:
 Received: 05/25/18 10:25 AM
 Collected: 5/23/2018

Project: TLW-1937

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

<i>Client Sample Description</i>	<i>Lab ID</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>Lead Concentration</i>
LS-01	551806097-0001	5/23/2018	5/29/2018	0.1271 g	2000 ppm
Site: OFF-WHITE WALL PAINT / ROOM 206/ BLDG. 49					
LS-02	551806097-0002	5/23/2018	5/29/2018	0.2411 g	2100 ppm
Site: BEIGE WALL PAINT / ROOM 204 / BLDG.49					
LS-03	551806097-0003	5/23/2018	5/29/2018	0.2296 g	1900 ppm
Site: WHITE WALL PAINT / ROOM EW-16 / BLDG. 50					

Rowena Fanto, Lead Supervisor
or other approved signatory

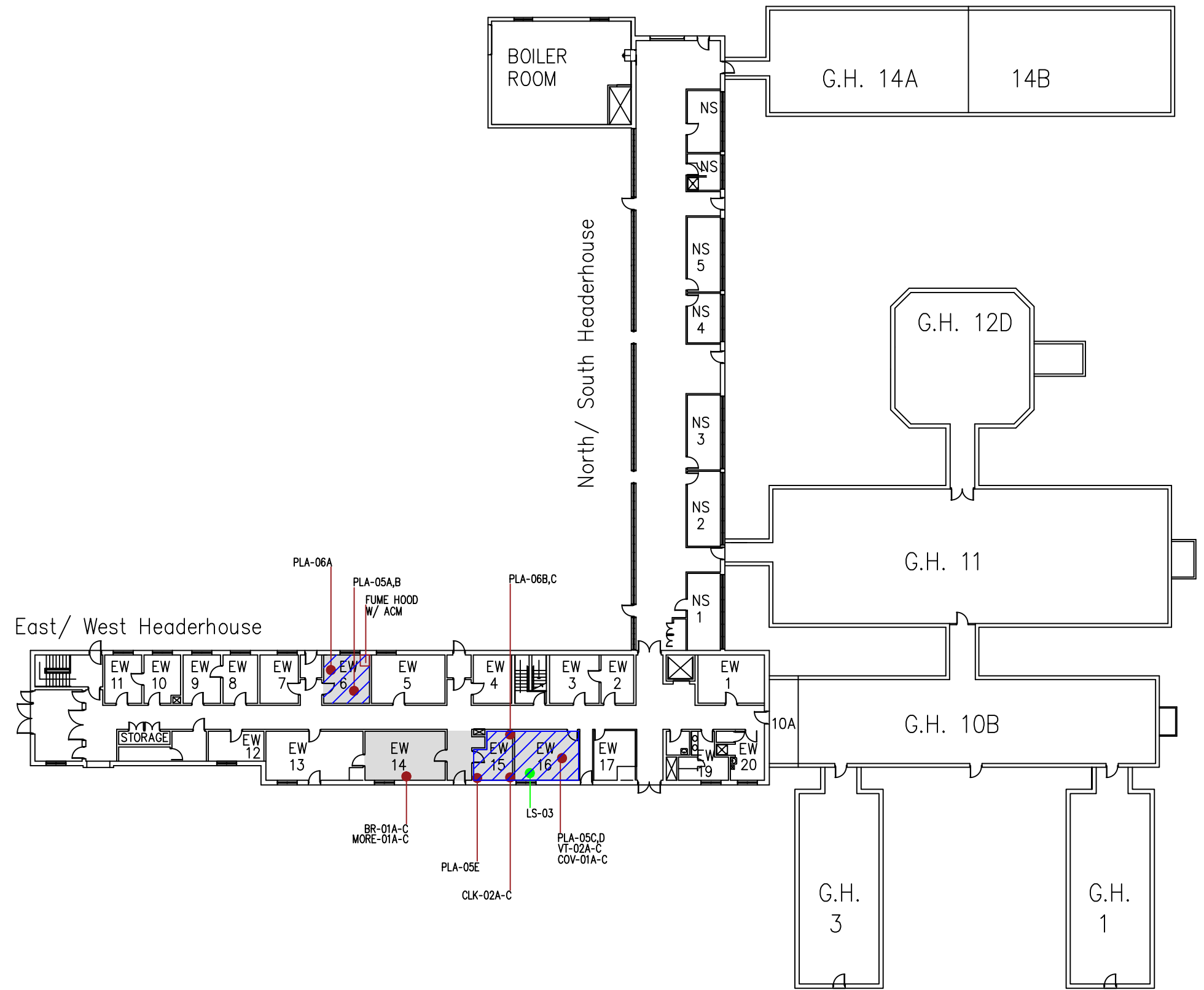
*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON A2LA Accredited Environmental Testing Cert #2845.08

Initial report from 06/01/2018 08:51:08

Appendix B
Drawings

Project Specific Designated Substances Survey
Building 50
Central Experimental Farm



LEGEND

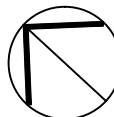
- ASBESTOS BULK SAMPLE LOCATION
- LEAD BULK SAMPLE LOCATION
- AREA OF RENOVATION
- ASBESTOS-CONTAINING VINYL FLOOR TILES

NOTES:
 - ALL DRYWALL JOINT COMPOUND IN BUILDING 49 SHOULD BE CONSIDERED ASBESTOS-CONTAINING.
 - ALL WINDOW CAULKING IN BUILDING 49 SHOULD BE CONSIDERED ASBESTOS-CONTAINING.



AGRICULTURE AND AGRI-FOOD CANADA
 BUILDING 49 & 50 LABS /
 GENOMICS RENOVATIONS
 OTTAWA, ONTARIO

GREENHOUSE BUILDING No. 50

	DATE: JUNE 2018	DWG. No.
	SCALE: AS NOTED	3
	DRAWN: MATT MOORE	
	APPROVED:	

Appendix C
Photographic Record

Project Specific Designated Substances Survey
Building 50
Central Experimental Farm



Photograph 1: Asbestos containing vinyl floor tiles and mastic in rooms EW6, EW15 and EW16 – Building 50



Photograph 2: Asbestos containing transite panels in fume hood rooms EW6 – Building 50