



<p>RETURN BIDS TO:</p> <p>Bid Receiving - Environment Canada /</p> <p>Electronic Copy: ec.soumissions-bids.ec@canada.ca</p> <p>BID SOLICITATION- INVITATION TO TENDER</p> <p>PROPOSAL TO: ENVIRONMENT CANADA</p> <p>We offer to perform or provide to Canada the services detailed in the document including any attachments and annexes, in accordance with the terms and conditions set out or referred to in the document, at the price(s) provided.</p>	Title	
	Re-roofing work at Environnement Climate Change Canada 's Meteorological Centre in Dorval (QC)	
	EC Bid Solicitation No. /SAP No.	
	5000059759	
	Date of Bid solicitation (YYYY-MM-DD) : 2021-08-26	
	Bid Solicitation Closes (YEAR-MM-DD)	Time Zone
	at – 2:00 P.M.	<i>Eastern Daylight Time (EDT)</i>
	on – <u>2021-09-23</u>	
	F.O.B – F.A.B : Destination	
	Address Enquiries to : Marie-Christine Blais	
	Email : marie-christine.blais@ec.gc.ca	
	Delivery Required (YEAR-MM-DD)	
Destination of Services		
Environment Climate Change Canada 2121, Voie de service nord route Transcanadienne, Dorval (Québec) H9P 1J3		
Security : Not Applicable		
Vendor/Firm Name and Address		
Telephone No	Fax No.	
Name and title of person authorized to sign on behalf of Vendor/Firm: (type or print)		
Signature	Date	



INVITATION TO TENDER

Re-roofing work at Environnement Climate Change Canada's Meteorological Centre in Dorval
(QC)

TABLE OF CONTENTS

SPECIAL INSTRUCTIONS TO BIDDERS (SI)

- SI01 Bid Documents
- SI02 Enquiries during the Solicitation Period
- SI03 Mandatory Site Visit
- SI04 Revision of Bid
- SI05 Insufficient Funding
- SI06 Bid Validity Period
- SI07 Bid Preparation Instructions
- SI08 Construction Documents
- SI09 Industrial Security Related Requirements
- SI10 Green Procurement
- SI11 Web Sites

R2710T GENERAL INSTRUCTIONS - CONSTRUCTION SERVICES - BID SECURITY REQUIREMENTS (GI) (2019-05-30)

The following GI's are included by reference and are available at the following Web Site
<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R>

- GI01 Integrity Provisions - Bid
- GI02 Completion of Bid
- GI03 Identity or Legal Capacity of the Bidder
- GI04 Applicable Taxes
- GI05 Capital Development and Redevelopment Charges
- GI06 Registry and Pre-qualification of Floating Plant
- GI07 Listing of Subcontractors and Suppliers
- GI08 Bid Security Requirements
- GI09 Submission of Bid
- GI10 Revision of Bid
- GI11 Rejection of Bid
- GI12 Bid Costs
- GI13 Procurement Business Number
- GI14 Compliance with Applicable Laws
- GI15 Approval of Alternative Materials
- GI16 Performance Evaluation
- GI17 Conflict of Interest-Unfair Advantage
- GI18 Code of Conduct for Procurement—bid

CONTRACT DOCUMENTS (CD)

SUPPLEMENTARY CONDITIONS (SC)

- SC01 Industrial Security Related Requirements, Documents Safeguarding
- SC02 Limitation of Liability
- SC03 Insurance Terms



BID AND ACCEPTANCE FORM (BA)

- BA01 Identification
- BA02 Business Name and Address of Bidder
- BA03 The Offer
- BA04 Bid Validity Period
- BA05 Acceptance and Contract
- BA06 Construction Time
- BA07 Bid Security
- BA08 Signature

APPENDIX "1"

APPENDIX "2"

APPENDIX "3"

INTEGRITY PROVISIONS

LISTING OF SUBCONTRACTORS AND SUPPLIERS

Mandatory Evaluation Criteria

ANNEX "A"

STATEMENT OF WORK (SoW)

SPECIAL INSTRUCTIONS TO BIDDERS (SI)

SI01 BID DOCUMENTS

1. The following are the Bid Documents:
 - a. Invitation to Tender - Page 1;
 - b. Special Instructions to Bidders;
 - c. General Instructions - Construction Services - Bid Security Requirements R2710T (2019-05-30)
 - d. Clauses & Conditions identified in “Contract Documents”;
 - e. Drawings and Specifications;
 - f. Bid and Acceptance Form and related Appendix(s); 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.

2. General Instructions - Construction Services - Bid Security Requirements R2710T is incorporated by reference and is set out in the Standard Acquisition Clauses and Conditions (SACC) Manual, issued by Public Services and Procurement Canada. The SACC Manual is available on the PWGSC Web site: <https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R>

The General Instructions R2710T are modified as follows:

At GI08 (2018-06-21) Bid security requirements

DELETE 2.

INSERT: 2. A bid bond (form [PWGSC-TPSGC 504](#)) shall be in an approved form, properly completed, with valid and enforceable signatures and sealed by the approved bonding 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](#).

2.1 A bid bond may be submitted in an electronic format (Electronic Bonding (E-Bond)) if it meets the following criteria:

- a. The version submitted by the Bidder must be an electronic encrypted file with embedded digital certificate verifiable by Canada with respect to the totality and wholeness of the bond form, including: the content; all digital signatures; all digital seals; with the Surety Company, or an approved verification service provider of the Surety Company.
- b. The version submitted must be viewable, printable and storable in standard electronic file formats compatible with Canada, and in a single file, allowable format pdf.
- c. The verification may be conducted by Canada immediately or at any time during the life of the Bond and at the discretion of Canada.



- d. The results of the verification must provide a clear, immediate and printable indication of pass or fail regarding Item 2.1.a.
- e. Submitting copies (**non-original, non-verifiable or scanned copy**) of signed and sealed bid bond are NOT acceptable. Failure to submit an original or verifiable bond will render the bid non-compliant. Non-compliant bids will be given no further consideration. A scanned copy of a bond does NOT constitute a digital bond.

2.2 Bonds failing the verification process will NOT be considered valid.

2.3 Bonds passing the verification process will be treated as original and authentic

INSERT Subsection: "3.1 Security Deposit"

A **security deposit** such as a bank draft, money order or bill of exchange (certified cheque) may be submitted in the form of an electronic PDF file, verifiable by Canada with respect to the totality and wholeness of the security deposit, with all signatures. The security deposit can be provided in one of two ways:

- Electronic PDF file with embedded digital certificate including content, digital signatures and digital seals of the issuing government or banking institution; or
- Electronic PDF of a scanned copy of the security deposit including content, signatures and seals of the issuing government or banking institution.

At GI10 (2010-01-11) Revision of bid

Delete: In its entirety.

Insert:

1. A bid submitted in accordance with these instructions may be revised 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 revision 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 change(s) in the unit price(s) and the specific item(s) to which each change applies.

At GI13 (2019-05-30) Procurement Business Number

Delete: In its entirety.

At GI16 (2010-01-11) Performance evaluation

DELETE: 2.



SI02 ENQUIRIES DURING THE SOLICITATION PERIOD

1. Enquiries regarding this bid must be submitted in writing to the Contracting Authority named on the Invitation to Tender - Page 1 at e-mail address marie-christine.blais@ec.gc.ca Except for the approval of alternative materials as described in GI15 of R2710T, enquiries should be received no later than **September 16 2021**, this will allow sufficient time to provide a response. Enquiries received after that time may result in an answer NOT being provided.
2. To ensure consistency and quality of the information provided to Bidders, ECCC will examine the content of the enquiry and will decide whether or not to issue an amendment.
3. All enquiries and other communications related to this bid sent throughout the solicitation period must be directed ONLY to the Contracting Authority named in paragraph 1. above. Failure to comply with this requirement may result in the bid being declared non-compliant.

SI03 MANDATORY SITE VISIT

1. There will be a site visit on **September 9th 2021 at 10:00 am**. Interested bidders are to meet at:

Environment Climate Change Canada
Meteorological Center Canada (CMC)
2121, Voie de service nord route Transcanadienne
Dorval (Québec) H9P 1J3

Bidders should communicate with the Contracting Authority, at e-mail address marie-christine.blais@ec.gc.ca, no later than September 08, 2021. to confirm attendance and provide the name(s) of the person(s) who will attend.

2. The site visit for this project is MANDATORY. The representative of the Bidder must sign the Site Visit Attendance Sheet at the site visit. Bids submitted by **Bidders who have not signed the attendance sheet will be rejected.**
3. Safety Attire: In order to be guaranteed access to the site visit all persons should have the proper personal protection equipment (safety glasses, footwear, vests and hard hats etc.). Contractor's personnel/individuals who do not have the proper safety attire may be denied access to the site.
4. COVID-19: In order to be guaranteed access to the site visit all persons should respect all **provincial** regulations/guidelines or measures related to COVID-19. Contractor's personnel/individuals who do not respect those measures/regulations may be denied access to the site.

SI04 REVISION OF BID

A bid may be revised in accordance with GI10 of R2710T.



SI05 INSUFFICIENT FUNDING

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.

SI06 BID VALIDITY PERIOD

1. Canada reserves the right to seek an extension to the bid validity period prescribed in BA04 of the Bid and Acceptance Form. Upon notification in writing from Canada, Bidders will have the option to either accept or reject the proposed extension.
2. If the extension referred to in paragraph 1. above is accepted, in writing, by all those who submitted bids, then Canada will continue immediately with the evaluation of the bids and its approvals processes.
3. If the extension referred to in paragraph 1. above is not accepted in writing by all those who submitted bids then Canada will, 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 tender.
4. The provisions expressed herein do not in any manner limit Canada's rights in law or under GI11 of R2710T.

SI07 Bid Preparation Instructions

Bids must be prepared and submitted in accordance with GI09 (2014-03-01) Submission of Bid.

In addition, Canada requests that bidders follow the format instructions described below in the preparation of their hard copy bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process Policy on Green Procurement (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- (1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and

- (2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders, must not contain any materials composed of plastic; and
- (3) print on both sides of the paper.

Note for electronic submission of bids:

In order to be considered, bids must be received **no later than 1400h (2 p.m.)** (Eastern Time) on the date and time indicated on the cover page to herein as the “Closing Date.” Bids received after the Closing Date will be considered non-responsive and will not be considered for contract award. Bids submitted by email must be submitted **ONLY** to the following email address:

Email Address: ec.soumissions-bids.ec@canada.ca
Attention: *Marie-Christine Blais*
Solicitation Number: 5000059759

Bidders should ensure that their name, address, Closing Date of the solicitation and Solicitation Number are clearly indicated in the body of their email. Bids and supporting information may be submitted in either English or French.

The total size of the email, including all attachments, must be less than 15 megabytes (MB). It is each Bidder’s responsibility to ensure that the total size of the email does not exceed this limit.

Bids sent by fax will not be accepted.

It is important to note that emails systems can experience systematic delays and, at times, large attachments may cause systems to hold or delay transmission of emails. It is solely the Bidder’s responsibility to ensure that the Contracting Authority receives a bid on time, in the mailbox that has been identified for bid receipt purposes. Date stamps for this form of transmission are not acceptable.

If there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the hard copy will have priority over the wording of the soft copy.

SI08 CONSTRUCTION DOCUMENTS

The successful Contractor will be provided (**with 1 electronic or paper copy**) of the sealed and signed drawings, the specifications and the amendments upon acceptance of the offer. Additional copies, up to a maximum (*insert amount*), will be provided free of charge upon request by the Contractor. Obtaining more copies will be the responsibility of the Contractor including costs.

SI09 INDUSTRIAL SECURITY RELATED REQUIREMENTS

Not applicable

S10 Green Procurement

To support the mandate and commitments of ECCC and the Government of Canada as a whole, Bidders that do business with ECCC are expected to have a Corporate Environmental Policy that addresses water conservation, greenhouse gas (GHG) reduction, waste reduction, air quality, and supports biodiversity and protection of wildlife.

SI11 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>

Buy and Sell
<https://www.achatsetventes-buyandsell.gc.ca>

Canadian economic sanctions
https://www.international.gc.ca/world-monde/international_relations-relations_internationales/sanctions/index.aspx?lang=eng

Bid Bond (form PWGSC-TPSGC 504)
<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/504.pdf>

Performance Bond (form PWGSC-TPSGC 505)
http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/505_eng.pdf

Labour and Material Payment Bond (form PWGWSC-TPSGC 506)
<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/documents/506.pdf>

Standard Acquisition Clauses and Conditions (SACC) Manual
<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual/5/R>

PWGSC, Industrial Security Services
<http://ssi-iss.tpsgc-pwgsc.gc.ca/index-eng.html>

PWGSC, Code of Conduct and Certifications
<http://www.tpsgc-pwgsc.gc.ca/app-acq/cndt-cndct/contexte-context-eng.html>

Construction and Consultant Services Contract Administration Forms Real Property Contracting
<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-eng.html>

Declaration Form
<http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-eng.html>

Trade agreements
<https://buyandsell.gc.ca/policy-and-guidelines/Policy-and-Legal-Framework/Trade-Agreements>

CONTRACT DOCUMENTS (CD)

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. General Conditions and clauses

GC1	General Provisions – Construction Services	R2810D (2017-11-28);
GC2	Administration of the Contract	R2820D (2016-01-28);
GC3	Execution and Control of the Work	R2830D (2018-06-21);
GC4	Protective Measures	R2840D (2008-05-12);
GC5	Terms of Payment	R2850D (2019-11-28);
GC6	Delays and Changes in the Work	R2860D (2019-05-30);
GC7	Default, Suspension or Termination of Contract	R2870D (2018-06-21);
GC8	Dispute Resolution	R2880D (2019-11-28)
GC9	Contract Security	R2890D (2018-06-21);
GC10	Insurance	R2900D (2008-05-12);
GC11	Allowable Costs for Contract Changes Under GC6.4.1	R2950D (2015-02-25);

 - e. Supplementary Conditions
 - f. Any amendment issued or any allowable bid revision received before the date and time set for solicitation closing;
 - g. Any amendment incorporated by mutual agreement between Canada and the Contractor before acceptance of the bid; and
 - h. Any amendment or variation of the contract documents that is made in accordance with the General Conditions.

2. The documents identified by title, number and date above are incorporated by reference and are set out in the Standard Acquisition Clauses and Conditions (SACC) Manual, issued by Public Works and Government Services Canada (PWGSC). The SACC Manual is available on the PWGSC Web site: <https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>

3. The language of the contract documents is the language of the Bid and Acceptance Form submitted.



SUPPLEMENTARY CONDITIONS (SC)

SC01 INDUSTRIAL SECURITY RELATED REQUIREMENTS, DOCUMENT SAFEGUARDING

There is no document security requirement applicable to this Contract.

SC02 LIMITATION OF LIABILITY

GC1.6 of R2810D is deleted and replaced with the following:

GC1.6 Indemnification by the Contractor

1. The Contractor shall indemnify and save Canada harmless from and against all claims, demands, losses, costs, damages, actions, suits, or proceedings whether in respect to losses suffered by Canada or in respect of claims 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 in performing the Work, provided such claims are caused by the negligent or deliberate acts or omissions of the Contractor, or those for whom it is responsible at law.

The Contractor's obligation to indemnify Canada for losses related to first party liability shall be limited to:

- a. In respect to each loss for which insurance is to be provided pursuant to the insurance requirements of the Contract, the Commercial General Liability insurance limit for one occurrence as referred to in the insurance requirements of the Contract
- b. In respect to losses for which insurance is not required to be provided in accordance with the insurance requirements of the Contract, the greater of the Contract Amount or \$5,000,000, but in no event shall the sum be greater than \$20,000,000.

The limitation of this obligation shall be exclusive of interest and all legal costs and shall not apply to any infringement of intellectual property rights or any breach of warranty obligations.

3. The Contractor's obligation to indemnify Canada for losses related to third party liability shall have no limitation and shall include the complete costs of defending any legal action by a third party. If requested by Canada, the Contractor shall defend Canada against any third party claims.
4. 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.
5. Notice in writing of a claim shall be given within a reasonable time after the facts, upon which such claim is based, became known.

SC03 INSURANCE TERMS

1) Insurance Contracts

- (a) The Contractor must, at the Contractor's expense, obtain and maintain insurance contracts in accordance with the requirements of the Certificate of Insurance. Coverage must be placed with an Insurer licensed to carry out business in Canada.
- (b) Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract. The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

2) Period of Insurance

- (a) The policies required in the Certificate of Insurance must be in force from the date of contract award and be maintained throughout the duration of the Contract.
- (b) The Contractor must be responsible to provide and maintain coverage for Products/Completed Operations hazards on its Commercial General Liability insurance policy, for a period of six (6) years beyond the date of the Certificate of Substantial Performance.

3) Proof of Insurance

- (a) Before commencement of the Work, and no later than thirty (30) days after contract award, the Contractor must deposit with Canada a Certificate of Insurance.
- (b) Upon request by Canada, the Contractor must provide originals or certified true copies of all contracts of insurance maintained by the Contractor pursuant to the Certificate of Insurance.

4) Insurance Proceeds

In the event of a claim, the Contractor must, without delay, do such things and execute such documents as are necessary to effect payment of the proceeds.

5) Deductible

The payment of monies up to the deductible amount made in satisfaction of a claim must be borne by the Contractor.



BID AND ACCEPTANCE FORM (BA)

BA01 IDENTIFICATION

Project no. ENV-21-3112

Re-Roofing Work at the Meteorological Center Canada in Dorval

BA02 LEGAL NAME AND ADDRESS OF BIDDER

Legal Name:	
Operating Name (if any):	
RBQ License number:	
Address	
Telephone:	
Fax;	
E-mail:	

BA03 THE OFFER

The Bidder offers to 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 Tax(es) (amount in numbers).

BA04 BID VALIDITY PERIOD

The bid must not be withdrawn for a period of **120 days** following the date of solicitation closing.

BA05 ACCEPTANCE AND CONTRACT

Upon acceptance of the Bidder's offer by Canada, a binding Contract will be formed between Canada and the Bidder. The documents forming the Contract will be the Contract Documents identified in "Contract Documents (CD)" section.

BA06 CONSTRUCTION TIME

The Contractor must perform and complete the Work within six (6) weeks from the date of notification of acceptance of the offer.

BA07 BID SECURITY

The Bidder must enclose bid security with its bid in accordance with G108 - Bid Security Requirements of R2710T - General Instructions - Construction Services - Bid Security Requirements.



BA08 SIGNATURE

Name and title of person authorized to sign on behalf of Bidder (Type or print)

Name & Title (*printed*):

Signature:

Date:



APPENDIX 1 - INTEGRITY PROVISIONS

Environnement et Changement climatique Canada a adopté le régime d'intégrité développé et mis en place par Services publics et Approvisionnement Canada. Les fournisseurs acceptent, en soumettant une proposition, de se conformer aux dispositions du régime d'intégrité et la [Politique d'inadmissibilité et de suspension](#) ainsi que le [Code de conduite pour l'approvisionnement](#). / Environment and Climate Change Canada has endorsed the Integrity Regime developed and implemented by Public Services and Procurement Canada. By submitting a quote, Contractors agree to comply with the provisions of the Integrity Regime and [Ineligibility and Suspension Policy](#) as well as the [Code of Conduct for Procurement](#).

Selon la [Politique d'inadmissibilité et de suspension](#) de TPSGC (maintenant SPAC), les renseignements suivants doivent être fournis lors d'une soumission ou de la passation d'un marché.¹ / In accordance with the PWGSC (now PSPC) [Ineligibility and Suspension Policy](#), the following information is to be provided when bidding or contracting.¹

* Informations obligatoires / Mandatory Information

*Dénomination complète de l'entreprise / Complete Legal Name of Company		
*Nom commercial / Operating Name		
* Adresse de l'entreprise / Company's address	*Type d'entreprise / Type of Ownership	
	<input type="checkbox"/> Individuel / Individual <input type="checkbox"/> Corporation / Corporation <input type="checkbox"/> Coentreprise / Joint Venture	
* Membres du conseil d'administration² / Board of Directors² (Ou mettre la liste en pièce-jointe / Or provide the list as an attachment)		
Prénom / First name	Nom / Last Name	Position (si applicable) / Position (if applicable)

¹ **Liste des noms** : Tous les fournisseurs, peu importe leur situation au titre de la Politique, doivent présenter les renseignements ci-dessous au moment de prendre part à un processus d'approvisionnement:

- les fournisseurs constitués en personne morale, y compris ceux qui présentent une soumission à titre de coentreprise, doivent fournir la liste complète des noms de tous les administrateurs actuels ou, dans le cas d'une entreprise privée, des propriétaires de la société;
- les fournisseurs soumissionnant à titre d'entreprise à propriétaire unique, y compris ceux soumissionnant en tant que coentreprise, doivent fournir la liste complète des noms de tous les propriétaires;
- les fournisseurs soumissionnant à titre de société en nom collectif n'ont pas à soumettre une liste de noms.

List of names: All suppliers, regardless of their status under the Policy, must submit the following information when participating in a procurement process:

- suppliers that are corporate entities, including those bidding as joint ventures, must provide a complete list of the names of all current directors or, for a privately owned corporation, the names of the owners of the corporation;
- suppliers bidding as sole proprietors, including sole proprietors bidding as joint ventures, must provide a complete list of the names of all owners; or
- suppliers that are a partnership do not need to provide a list of names.

² Conseil des gouverneurs / Board of Governors; Conseil de direction / Board of Managers; Conseil de régents / Board of Regents; Conseil de fiducie / Board of Trustees; Comité de réception / Board of Visitors

APPENDIX 2 - LISTING OF SUBCONTRACTORS AND SUPPLIERS

The Bidder must submit the list of Subcontractors and Suppliers for any division of the Work as listed in the table below. If “own forces” of the General Contractor are planned to be used to execute certain division(s) of work it must also be indicated in the table below.

Not Applicable

APPENDIX 3 - Mandatory Technical Criteria

Mandatory Technical Criteria

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

Bidders who do not meet the mandatory criteria will be rejected without any other consideration.

N*	Mandatory technical criteria	Compliant Yes /No
1)	Experience	
	<p>The Bidder must demonstrate experience in carrying out roofing replacement as described in Annex A. The Bidder must provide two (2) similar projects valued at more than \$100 000.00 completed within the last five (5) years of the bid closing date.</p> <p>For each roofing project, the Bidder must provide the following information.</p> <ul style="list-style-type: none"> • Description of project • Total duration of the work in months (month/year to month/year) • Name, title and telephone number and/or email address of the client's project and/or technical Authority for whom the work was performed • Value of the project 	
2)	Workplace Health & Safety (WHS)	
	The Bidder must provide its occupational health and safety program.	
3)	Mandatory Site Visit	
	The Bidder must sign the attendance sheet	



ANNEX A – STATEMENT OF WORK

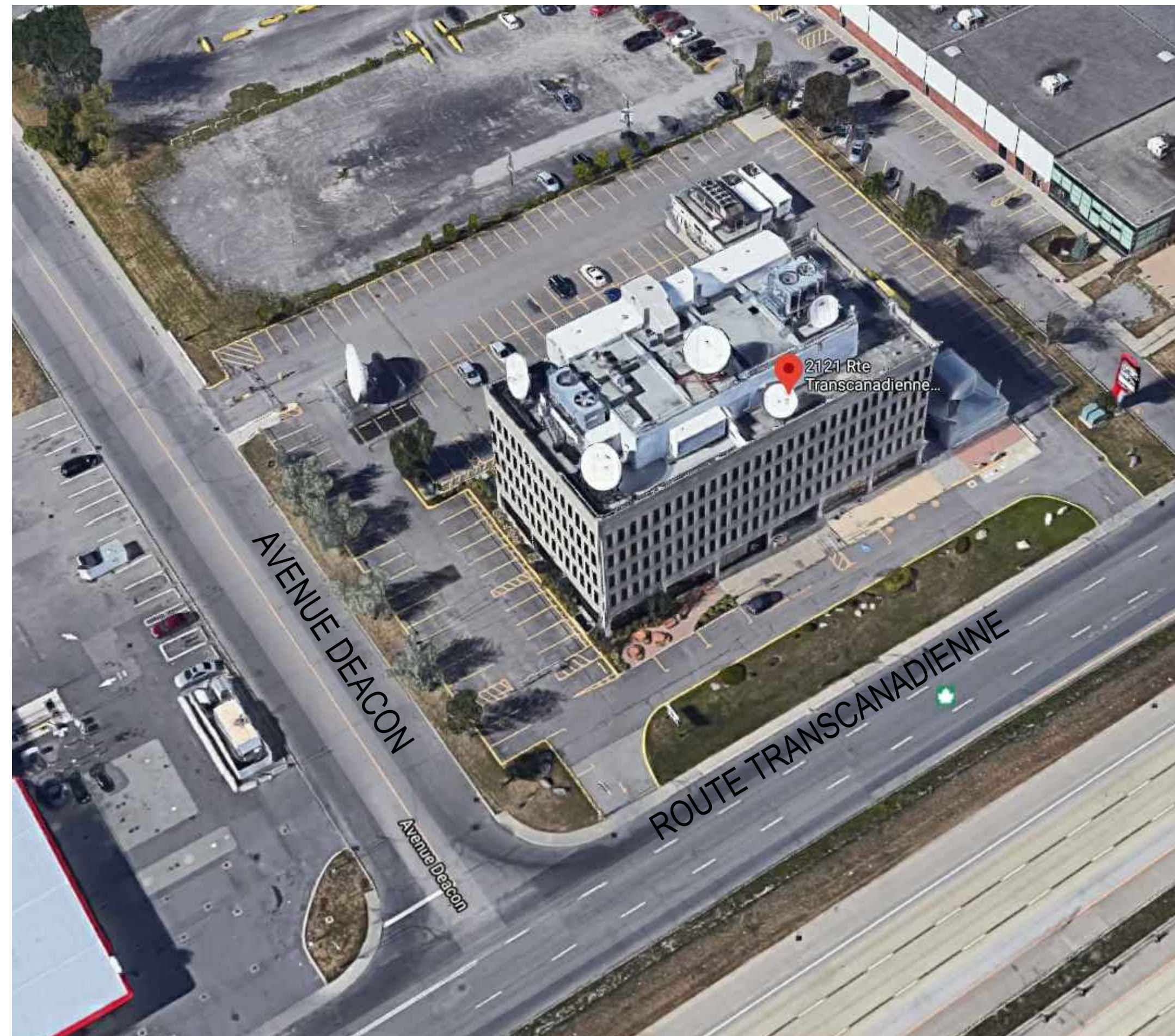
List of Drawings and Specifications

No	Title	Revision latest Date
Drawings:	Re-Roofing Work AT CMC Dorval :	2020/09/21
A000	Title page, general notes, lists of drawings	
A001	Roof plan, note and legend	
A102	Plan of field 4- Demolition and Construction	
A110	Photos of existing conditions	
A501	Typical Details	
Specifications: ENV-21-3112	Project Technical Specifications	2021/05/18

2121 ROUTE TRANSCANADIENNE

RE-ROOFING WORK - PHASE 1

2121, Route Transcanadienne, Dorval (Québec) H9P 1J3

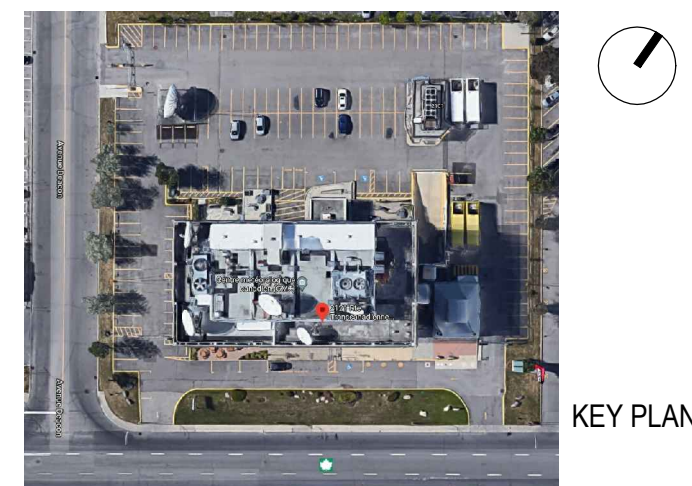


LIST OF DRAWINGS

- A000 - TITLE PAGE, GENERAL NOTES, LIST OF DRAWINGS
- A001 - ROOF PLAN, NOTES AND LEGEND
- A101 - PLAN OF FIELD 4 - DEMOLITION AND CONSTRUCTION
- A102 - PLANS OF FIELDS 6 and 9 - DEMOLITION AND CONSTRUCTION
- A110 - PHOTOS OF EXISTING CONDITIONS
- A501 - TYPICAL DETAILS

GENERAL NOTES	
1. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNTIL IT HAS BEEN ISSUED AND SIGNED FOR SUCH PURPOSE BY THE CONSULTANTS.	11. THE CONTRACTOR MUST CHECK ALL DRAINS AND CERTIFY THEIR PROPER OPERATION. CLEAN EXISTING DRAINS AND DRAIN STACKS TO ENSURE PROPER WATER FLOW. UNLESS OTHERWISE SPECIFIED REPLACE ALL EXISTING DRAINS WITH NEW COPPER DRAINS (SEE SPECIFICATIONS) AND CONNECT TO EXISTING PIPING. INSULATE THE NEW CONDUIT; IF THE CONDUITS ARE EXPOSED FROM THE INTERIOR OF THE BUILDING, PAINT ALL EXPOSED SYSTEM AS PER ADJACENT COLOR.
2. THE LOCATION, SHAPE AND DIMENSIONS OF ROOFTOP MECHANICAL DEVICES, DRAINS, ACCESS HATCHES, VENTS, VENTILATORS, ETC., ARE FOR ILLUSTRATIVE PURPOSES ONLY.	12. ALL NEW SLOPES MUST BE OF A MINIMUM OF 2%, CALCULATED FROM THE DRAINS.
3. BY SUBMITTING A BID, IT IS UNDERSTOOD THAT THE CONTRACTOR HAS TAKEN COGNIZANCE OF THE SITE AND LOCAL CONDITIONS AFFECTING HIS WORK, AND THAT HE IS CONFIDENT THAT HE CAN PERFORM THE WORK IN ACCORDANCE WITH THE EXISTING CONDITIONS. NO ADDITIONAL COSTS WILL BE PAID IN RESPECT TO THE LIMITATIONS ESTABLISHED BY THE EXISTING CONDITIONS OR BECAUSE OF FAILURE TO EXAMINE THE SITE AND ANALYZE THE EXISTING CONDITIONS.	13. IN ACCORDANCE WITH THE NEW ROOF LEVELS, EXTEND OR MODIFY ALL EXISTING DUCTS, PIPING, VENTS, ELECTRICAL CONNECTIONS, DRAINS, ADAPT THEM TO THE EXISTING CONDITIONS WITH SIMILAR MATERIALS.
4. THE CONTRACTOR SHALL, WITHOUT LIMITATION, REMOVE OR DEMOLISH ALL PORTIONS OF THE WORK NECESSARY TO COMPLETE THE PROJECT AS DESCRIBED ON THE PLANS. WITHOUT LIMITATION, PATCH AND REPAIR ALL DAMAGED SURFACES (EXISTING OR NEW); CLEAN, PREPARE, AND FINISH ALL SURFACES TO MATCH ADJACENT ELEMENTS.	14. NEW PRE-PAINTED GALVANIZED STEEL FLASHINGS AND CHANNELS SHALL BE COLORED TO MATCH THE ADJACENT EXISTING FLASHING.
5. UNLESS OTHERWISE SPECIFIED, REMOVE ALL MATERIALS TO THE EXISTING OFFSET DECK TO ENSURE PROPER CONTINUITY OF ALL EXISTING ROOF ELEMENTS. REPAIR EXISTING SURFACES, PREPARE TO ENSURE AN ADEQUATE BASE SURFACE TO RECEIVE THE NEW ROOFING COMPOSITION.	15. ALL ENTRANCES AND EXITS CONSIDERED TO BE EXITS FROM THE WORK AREAS MUST BE PROTECTED FROM FALLING OBJECTS FROM THE ROOF WITH PASSAGEWAYS.
6. REMOVE AND REPLACE ALL PARAPET MATERIALS, CASINGS, FLASHINGS, BITUMINOUS AND METAL COUNTERFLASHING AND VENTS AS SHOWN ON THE PLAN. REPLACE ALL ROTTEN AND/OR DAMAGED WOOD MEMBERS. MODIFY AND REPAIR EXISTING FRAMES AND CASINGS TO PROVIDE AN ADEQUATE BASE SURFACE TO RECEIVE THE NEW MEMBRANE AND METAL COUNTERFLASHING.	16. DURING THE ENTIRE CONSTRUCTION PERIOD, CONTRACTOR SHALL PROVIDE AND INSTALL 2,400mm HIGH PROTECTIVE FENCES AT THE GROUND LEVEL FOLLOWING THE ROOF'S PERIMETER TO DELIMIT A PROTECTION ZONE.
7. SEAL ALL BITUMINOUS AND 24-GAUGE PRE-PAINTED STEEL COUNTERFLASHING, BASES AND/OR SUPPORTS OF MECHANICAL ROOF VENTS.	17. CONTRACTOR MUST COORDINATE THE USE OF LIFTING EQUIPMENT THAT MAY ENCROACH ON THE UNPROTECTED BUILDING AREA AND ENDANGER THE SAFETY OF USERS.
8. FOR ALL OBJECTS, APPLIANCES AND/OR APPLIANCE BASES THAT CONFLICT WITH THE ROOF SLOPES, INSTALL BEVELLED SLOPE INSULATION (CRICKET) WITH A MINIMUM SLOPE OF 4% TO AVOID WATER ACCUMULATION ON THE BASES.	18. DESIGN ALL EXISTING EQUIPMENT BASES AND PARAPETS AS INDICATED IN THE DETAILS. MAINTAIN A MINIMUM HEIGHT BETWEEN THE MEMBRANE AND THE TOP OF THE PERIMETER PARAPETS. RE-SEAL AND RE-FLASH GALVANIZED STEEL ON AND ABOVE THE PARAPETS AND AROUND THE BASES.
9. THE EQUIPMENT TO BE REMOVED WILL BE STORED TEMPORARILY; THE EXISTING FRAMES ARE TO BE STRIPPED, THE FRAMES REDONE AND THE EQUIPMENT REINSTALLED ACCORDING TO THE DRAWINGS; THE CONTRACTOR WILL HAVE TO MOVE AND CONNECT TEMPORARILY THE MECHANICAL OR ELECTRICAL EQUIPMENT IN THE WORK AREA. THE EQUIPMENT SHALL REMAIN IN OPERATION WHILE THE WORK IS IN PROGRESS. THE CONTRACTOR SHALL PROVIDE FOR THE USE OF SKILLED LABOUR AND ADEQUATE EQUIPMENT TO PERFORM THESE TASKS.	

NOTES
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PROJECT

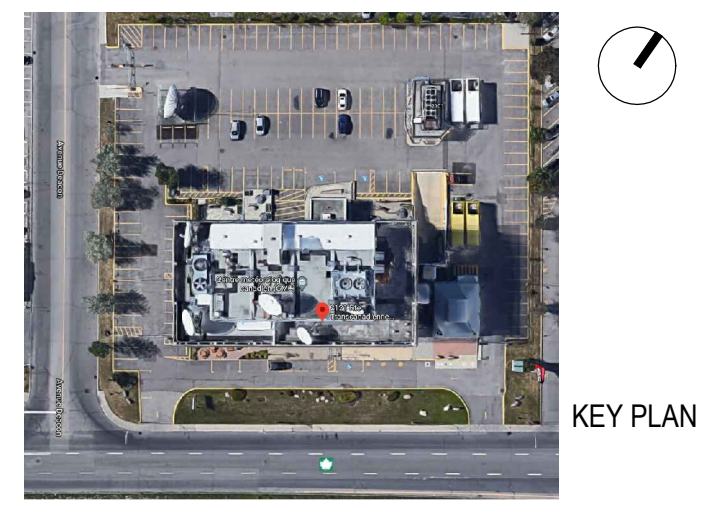
2121 ROUTE TRANSCANADIENNE
 RE-ROOFING WORK - PHASE 1

TITLE

TITLE PAGE
 GENERAL NOTES
 LIST OF DRAWINGS

DATE	2021-02-25	PROJECT NO.	ENV-21-3112
SCALE	AS INDICATED	SHEET NO.	A000
DRAWN BY	J.L.A.		6
VERIFIED BY	A.H.		

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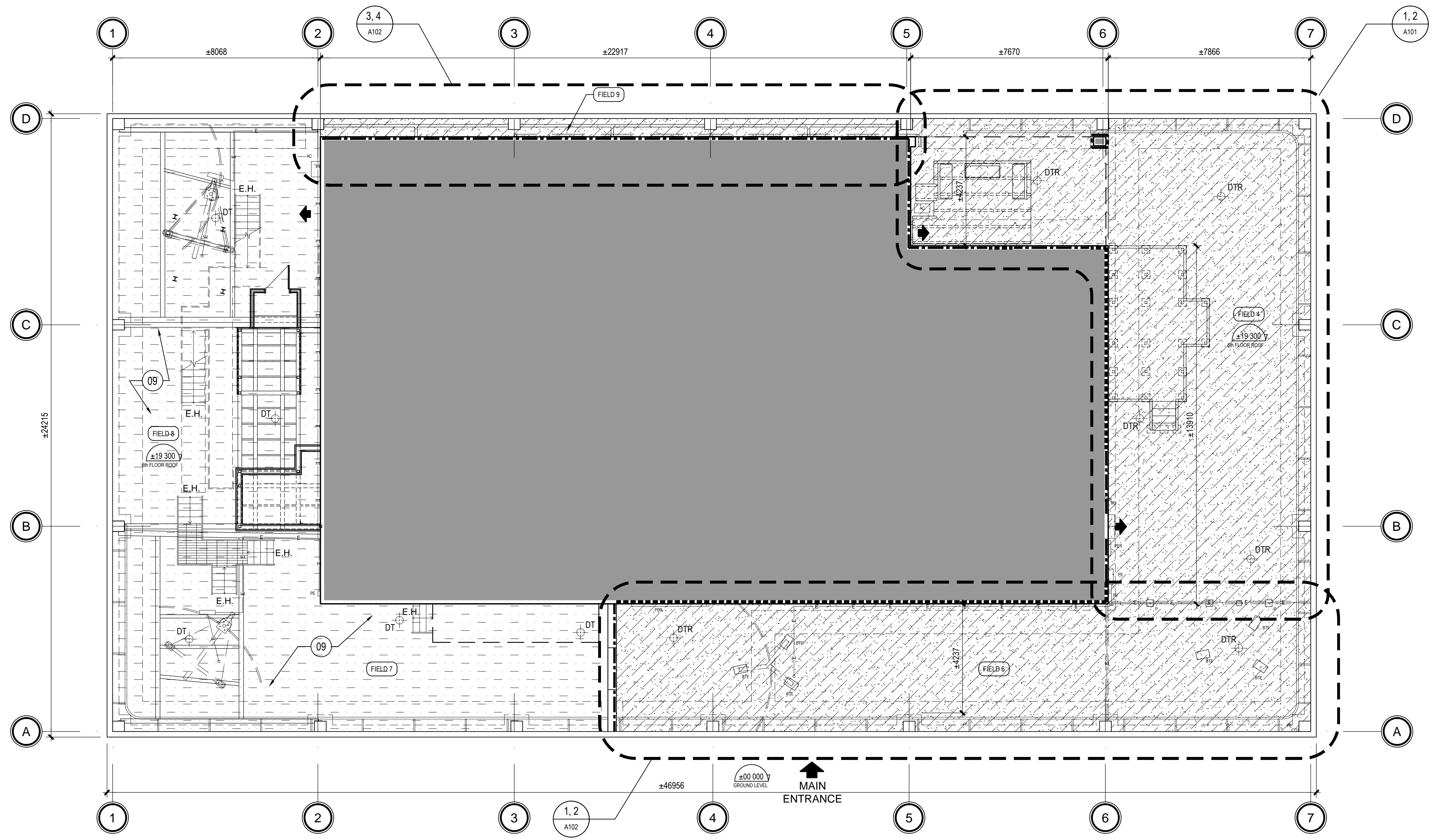
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PROJECT
 1212 ROUTE TRANSCANADIENNE
 RE-ROOFING WORK - PHASE 1

TITLE
 ROOF PLAN
 NOTES AND LEGEND

DATE	2021-02-25	PROJECT NO.	ENV-21-3112
SCALE	AS INDICATED	SHEET NO.	A001
DRAWN BY	J.L.A.		6
VERIFIED BY	A.H.		



PLAN
6th FLOOR ROOF
 1 A001 SCALE: 1:100

LÉGENDE:

- DTR EXISTING ROOF DRAIN TO BE REPLACED KEEP EXISTING LOCATION
- PE ELECTRICAL PANEL
- AC AIR CONDITIONING
- PER LOUVER
- ANCHOR BRACKET
- BTE ROOFTOP BASE
- ROOF FAUCET
- ELECTRICAL DUCTS, TELECOM...
- SECTION OF METAL SHEATING BETWEEN ±300 et 600mm IN HEIGHT TO REMOVE. CAREFULLY REMOVE, IDENTIFY AND REINSTALL AT THEIR INITIAL POSITIONS AT THE END OF WORK (±30LM)
- SECTION OF METAL SHEATING BETWEEN ±1500 et 1800mm IN HEIGHT TO REMOVE. CAREFULLY REMOVE, IDENTIFY AND REINSTALL AT THEIR INITIAL POSITIONS AT THE END OF WORK (±45LM)
- COMPLETE DEMOLITION OF THE ROOF COMPOSITION INCLUDING FLASHINGS, COUNTER FLASHINGS, SUPPORTS, DRAINS, VENTS, GOOSENECKS, OTHERS AND PARTIAL STRIPPING OF JUNCTIONS WITH WALLS, PARAPETS, ROOF OUTLETS AND APPLIANCE BASES. (SEE EXISTING COMPOSITIONS)
- PUNCTUAL REPAIRS TO EXISTING ROOF SEE CONSTRUCTION NOTE No 09
- NEW ELASTOMERIC MEMBRANE ROOF SYSTEM
- NEW SOPRAMAT PROTECTION MAT
- NEW SOPRAWALK WALKWAY MEMBRANE 1000 mm IN WIDTH
- ROOF SLOPE
- FIELD X FIELD IDENTIFICATION
- REFERENCE
- TYPICAL COMPOSITION

GENERAL NOTES - PLANS

ROOF DRAIN SLOPES HAVE BEEN INDICATED FOR INFORMATION PURPOSES ONLY AND SHOULD BE VERIFIED ON SITE.
 THE POSITION OF EACH PIECE OF EQUIPMENT MUST BE VALIDATED ON SITE.
 INSTALL THE NECESSARY PROTECTIONS TO PROTECT BUILDING AND USERS. SEE GENERAL NOTES ON PAGE A000.
 DURING WORK, PROTECT THE INTERIOR FROM POSSIBLE WATER INFILTRATION DURING THE DISMANTLING OF THE MECHANICAL EQUIPMENTS, THE DEMOLITION OF THE ROOF AND THE PARAPETS AS REQUIRED ON THE PLAN.
 SEAL AND ENSURE THE WATERTIGHTNESS AROUND ALL THE PENETRATIONS TO THE ROOF SYSTEM.

TYPICAL WORK FOR FIELDS 7 AND 8
 CONTRACTOR WILL INSPECT THE ENTIRE SURFACE OF BOTH FIELDS AND PROVIDE THE FOLLOWING WORK:
 1. PUNCTUAL RESURFACING WORK 25 M2
 CLEAN, DEGRANULATE THE EXISTING MEMBRANE, PRIME THE SURFACES AND RESURFACE WITH A LAYER OF CAP SHEET MEMBRANE, ALL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
 2. PUNCTUAL REPAIR WORK (IF INFILTRATION PROBLEM REQUIRED) 15 M2
 REMOVE ROOFING SYSTEM DOWN TO THE DECK (SEE EXISTING COMPOSITION) AND REBUILD AS EXISTING.
 3. SEALANT AT THE JUNCTION OF FLASHINGS AND WALLS 25 ML
 PUNCTUALLY, REMOVE THE SECTIONS OF DAMAGED SEALANT, CLEAN AND RE-SEAL (PUNCTUAL WORK).

DESCRIPTION OF EXISTING COMPOSITIONS / ROOF DEMOLITION

TD1 (FIELDS 4 AND 6)

- TWO-LAYER MEMBRANE
- WOOD FIBER PANEL 25mm
- 50mm POLYISOCYANURATE INSULATION LAMINATED TO 12mm WOOD FIBER PANEL
- EXPANDED POLYSTYRENE TAPERED INSULATION
- 2-PLY FELT VAPOUR BARRIER IN ASPHALT
- CONCRETE DECK TO BE KEPT

TD2 (FIELD 9)

- SINGLE LAYER PVC MEMBRANE
- WOOD FIBER PANEL 25mm
- 50mm POLYISOCYANURATE INSULATION LAMINATED TO 12mm WOOD FIBER PANEL
- EXPANDED POLYSTYRENE TAPERED INSULATION
- 2-PLY FELT VAPOUR BARRIER IN ASPHALT
- CONCRETE DECK TO BE KEPT

NEW ROOF SYSTEM LEGEND

TN1

- TWO-LAYER ELASTOMERIC MEMBRANE
- 12.7mm THERMOFUSIBLE SUPPORT PANEL
- 0" TAPERED INSULATION TO DRAIN
- 50mm RIGID INSULATION
- 50mm RIGID INSULATION (STAGGERED)
- HEAT-WELDED ELASTOMERIC VAPOUR BARRIER
- CONCRETE DECK TO BE KEPT

SPECIFIC NOTES - DEMOLITION

01 EQUIPMENT AND CONDUITS TO BE REMOVED AND REINSTALLED AT THE END OF THE WORK BY SPECIALIZED WORKERS.

02 EXISTING WOODEN PATIO AND BENCHES TO BE CAREFULLY REMOVED AND REINSTALLED AT THE END OF THE WORK.

03 EXISTING WOODEN PATIO TO BE CAREFULLY REMOVED AND REINSTALLED AT THE END OF THE WORK.

04 REMOVE OR TEMPORARILY RELOCATE EXISTING ELECTRICAL AND/OR TELECOM CABLES AND PANELS AND REINSTALL AT THE END OF THE WORK, REDO FLASHINGS AND SEALS AROUND THE PANELS.

05 ROOF EQUIPMENT TO BE REMOVED AND REINSTALLED AT THE END OF THE WORK BY SPECIALIZED LABOUR.

06 DEMOLISH BASE AND CONDUIT.

07 DEMOLISH BASE, EXISTING CONDUIT TO BE PRESERVED, CLEAN AND PREPARE FOR RE-ROOFING WORK.

08 DEMOLISH BASE AND STRUCTURAL STEEL SUPPORT UNDER BASE.

09 EXISTING GUTTER TO BE CAREFULLY REMOVED, IDENTIFY THE PARTS AND REINSTALL THEM IN THEIR ORIGINAL POSITIONS AT THE END OF THE WORK.

10 EXISTING STAIRCASE TO BE REMOVED AND REINSTALLED AT THE END OF THE WORK.

11 DEMOLISH BASE AND RETAIN THE STRUCTURAL STEEL SUPPORT UNDER THE BASE.

SPECIFIC NOTES - CONSTRUCTION

01 EXISTING STAIRCASE TO BE REINSTALLED AT THE END OF THE WORK.

02 EXISTING WOOD PATIO AND BENCHES TO BE REINSTALLED UPON COMPLETION OF WORK, REPLACE ROTTEN WOOD SECTIONS, INSTALL 25mm THICK, x 150mm WIDE FULL LENGTH PROTECTION MATS ON A FULL LENGTH SACRIFICIAL MEMBRANE UNDER EACH SUPPORT.

03 EXISTING WOOD PATIO TO BE REINSTALLED AT THE END OF THE WORK, COMPLETE AND LEVEL. REMOVE THE EXISTING PL WOOD AND INSULATION BASES UNDER THE LEGS, CUT THE LEGS TO FIT THE STAIRCASE CONFIGURATION, INSTALL ON THE EXISTING LEGS 44 BLACK PYLEX ADJUSTABLE PATIO SUPPORTS ON PERMACON DEK-BLOCK CONCRETE DECK BASE. INSTALL 300 x 300 x 25mm THICK PROTECTION MATS ON A 600mm MIN. WIDE SACRIFICIAL MEMBRANE UNDER EACH SUPPORT LEG.

04 NEW SOPRAMAT PROTECTION MAT FIXED ON A SACRIFICIAL MEMBRANE.

05 NEW SOPRAWALK WALKWAY MEMBRANE.

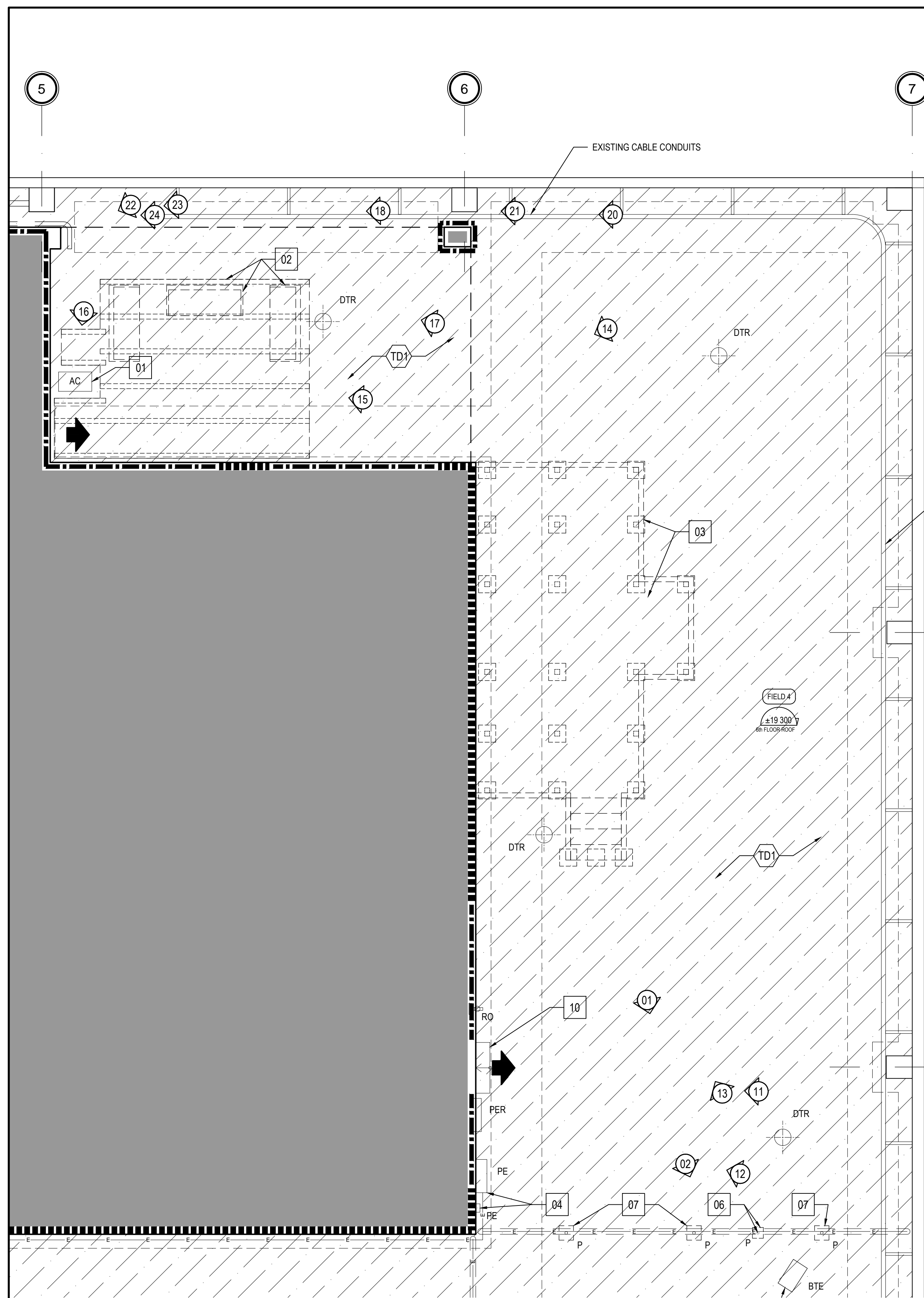
06 REMOVE EXISTING SEALANT AND FLASHING CLEAN, PREPARE AND INSTALL NEW ONES AROUND THE UNIT

07 REMOVE THE EXISTING SEALANT, CLEAN PREPARE AND INSTALL A NEW ONE (±7JM / COLUMN).

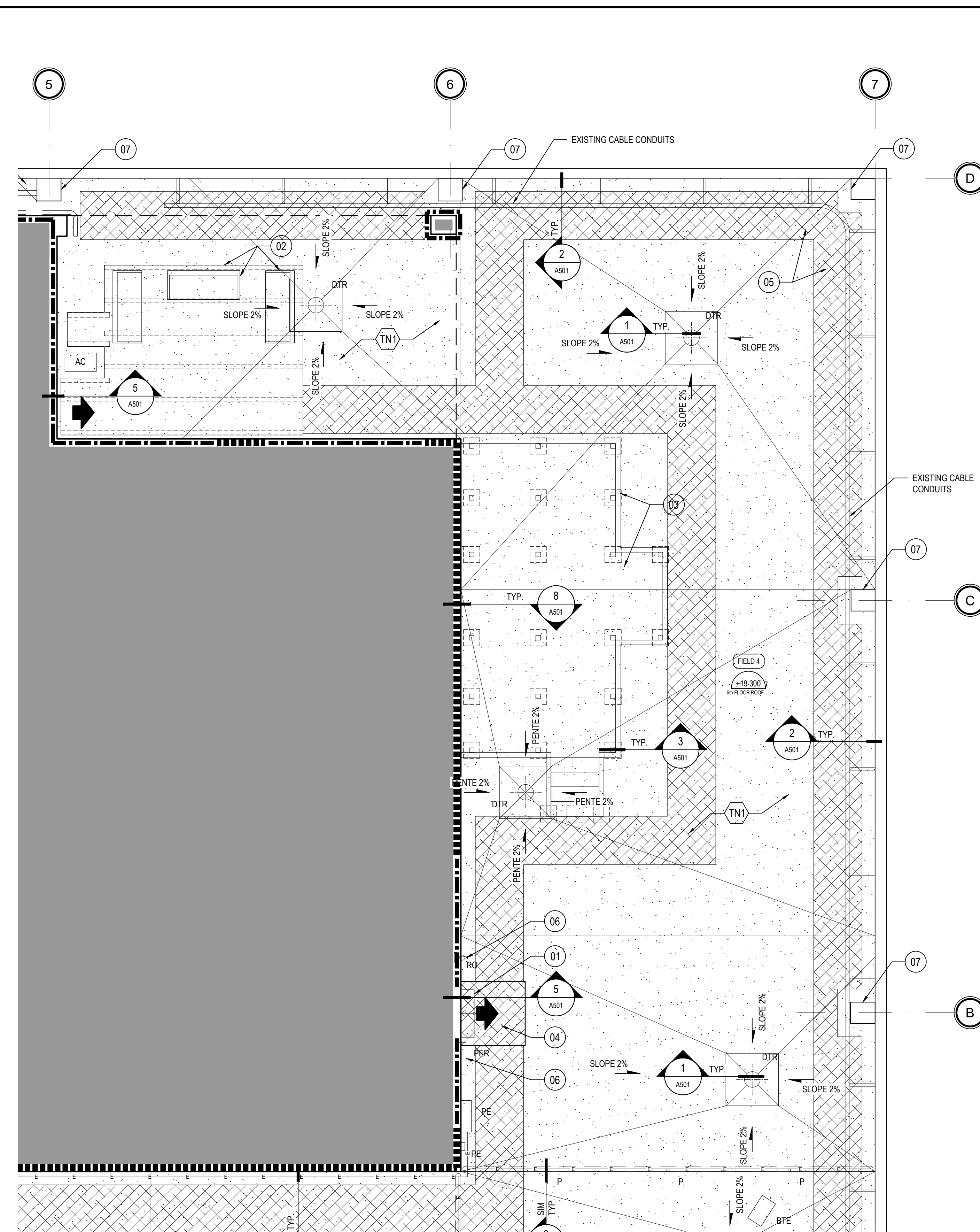
08 NEW BASE AROUND THE STRUCTURAL STEEL SUPPORT.

09 TYPICAL WORK FOR FIELDS 7 AND 8 CONTRACTOR WILL INSPECT THE ENTIRE SURFACE OF BOTH FIELDS AND PROVIDE THE FOLLOWING WORK:
 1. PUNCTUAL RESURFACING WORK 25 M2
 CLEAN, DEGRANULATE THE EXISTING MEMBRANE, PRIME THE SURFACES AND RESURFACE WITH A LAYER OF CAP SHEET MEMBRANE, ALL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
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 3. SEALANT AT THE JUNCTION OF FLASHINGS AND WALLS 25 ML
 PUNCTUALLY, REMOVE THE SECTIONS OF DAMAGED SEALANT, CLEAN AND RE-SEAL (PUNCTUAL WORK).

10 INSTALL COUNTERSLOPE IN SLOPE INSULATION (CRICKET)

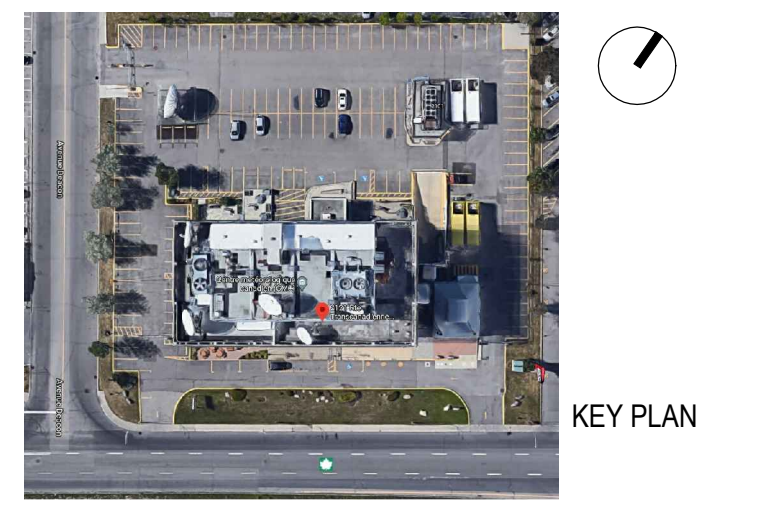


1
DEMOLITION PLAN
ROOF - FIELD 4
A101 SCALE: 1:50



2
CONSTRUCTION PLAN
ROOF - FIELD 4
A101 SCALE: 1:50

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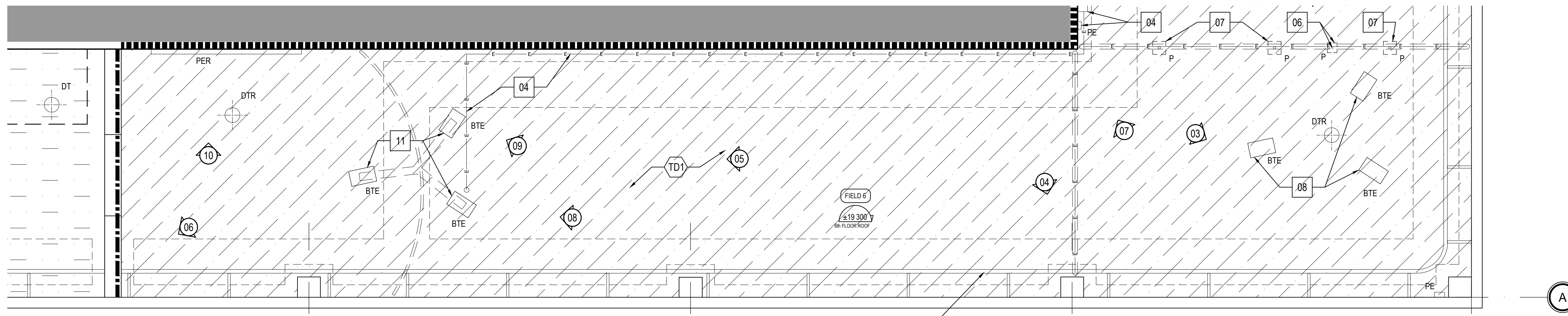
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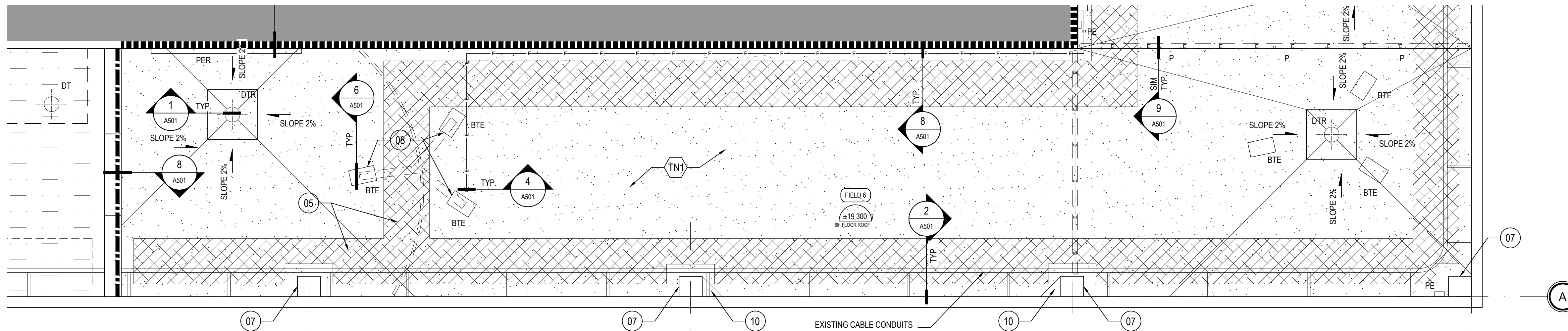
PROJECT
2121 ROUTE TRANSCANADIENNE
RE-ROOFING WORK - PHASE 1

TITLE
PLAN OF FIELD 4
DEMOLITION AND CONSTRUCTION

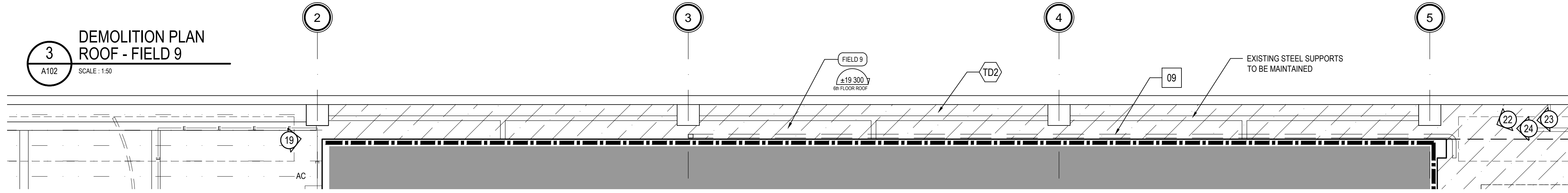
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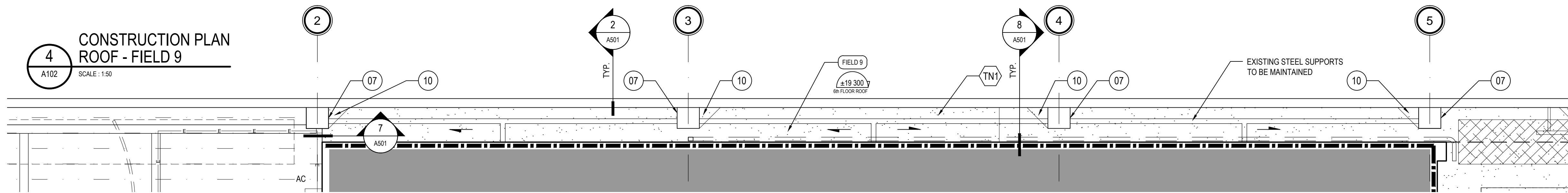
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DEMOLITION PLAN
ROOF - FIELD 6
A102 SCALE: 1:50



2
CONSTRUCTION PLAN
ROOF - FIELD 6
A102 SCALE: 1:50

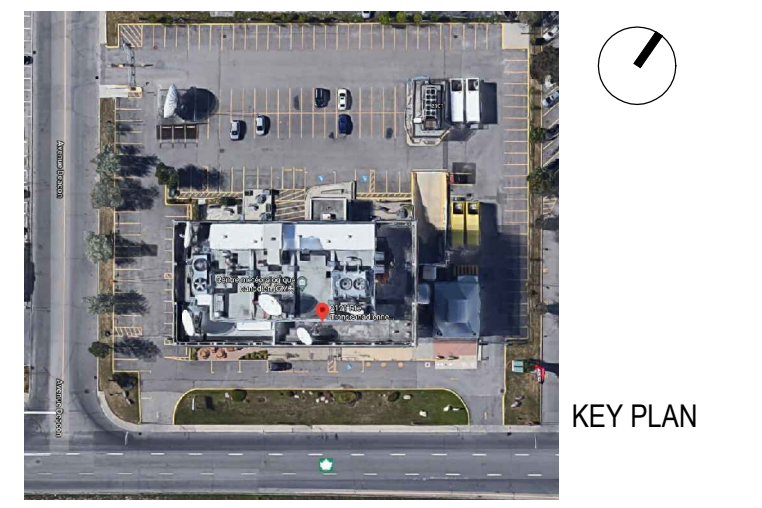


3
DEMOLITION PLAN
ROOF - FIELD 9
A102 SCALE: 1:50



4
CONSTRUCTION PLAN
ROOF - FIELD 9
A102 SCALE: 1:50

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PROJECT
 2121 ROUTE TRANSCANADIENNE
 RE-ROOFING WORK - PHASE 1

TITLE
 PLANS OF FIELDS 6 and 9
 DEMOLITION ET CONSTRUCTION

DATE	2021-02-25	PROJECT NO.	ENV-21-3112
SCALE	AS INDICATED	SHEET NO.	A102
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01



02



03



04



05



06



07



08



09



10



11



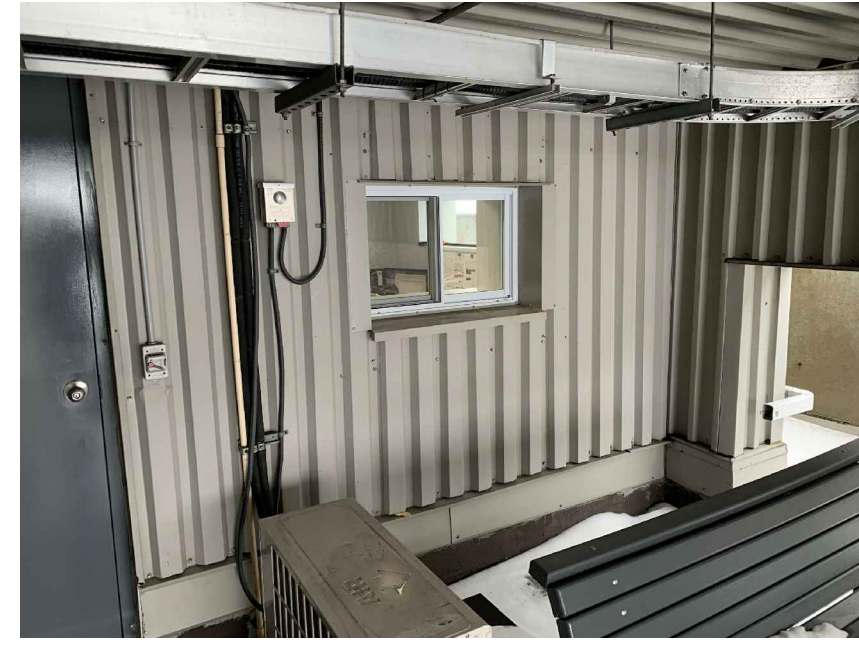
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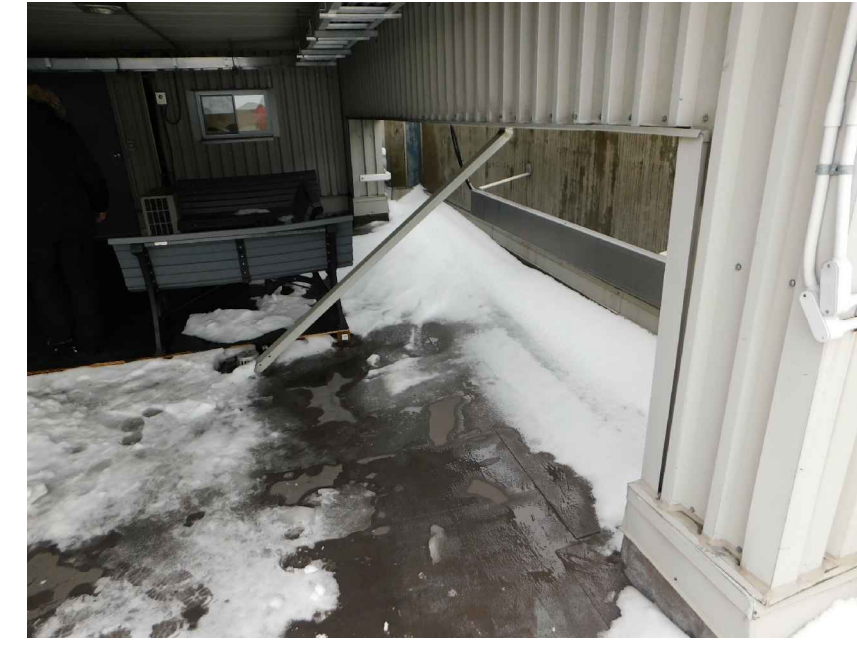
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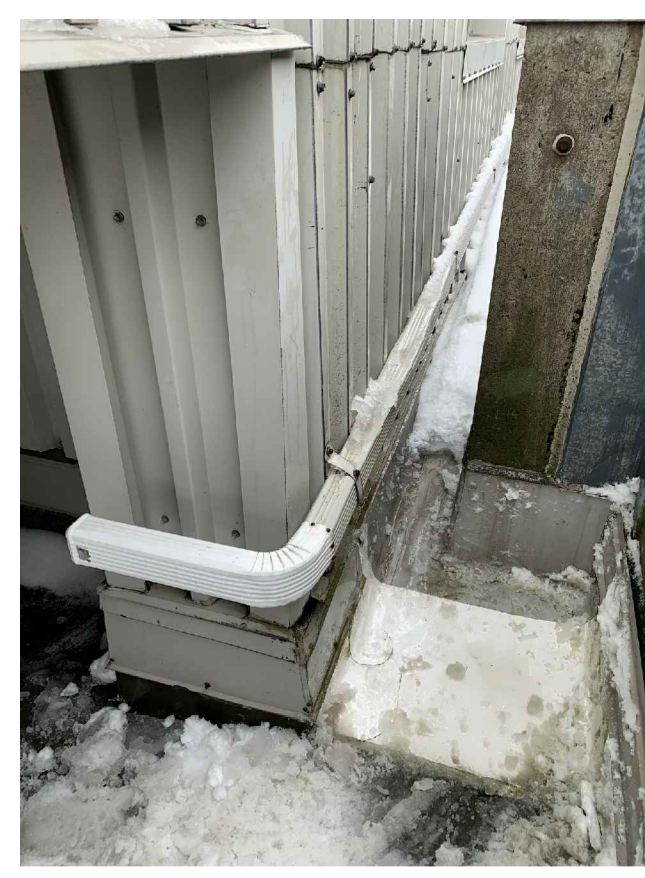
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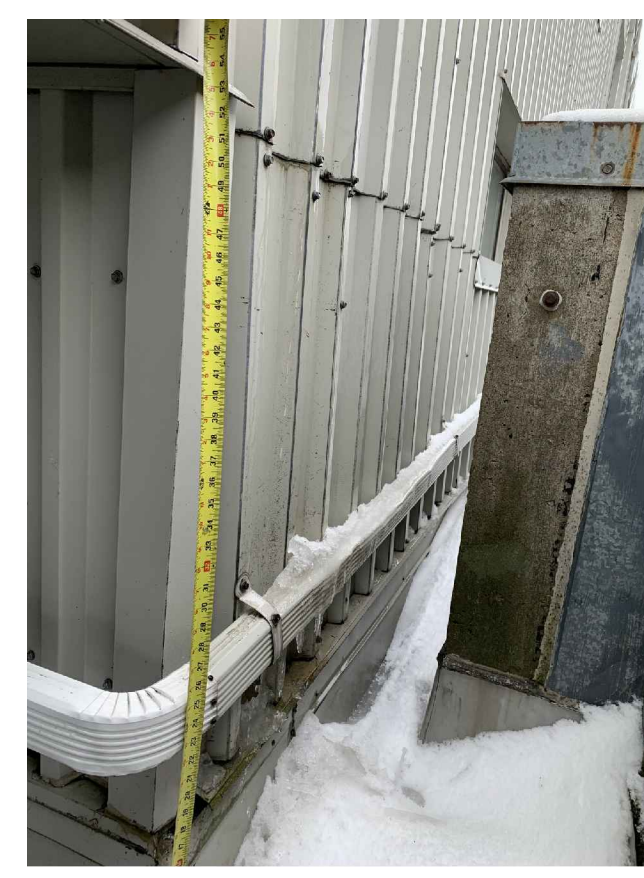
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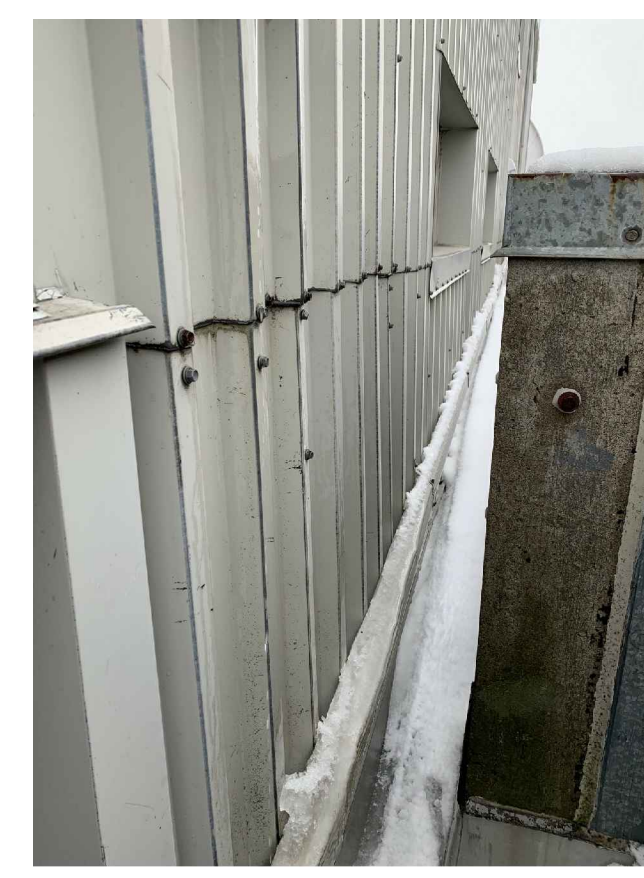
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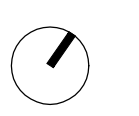
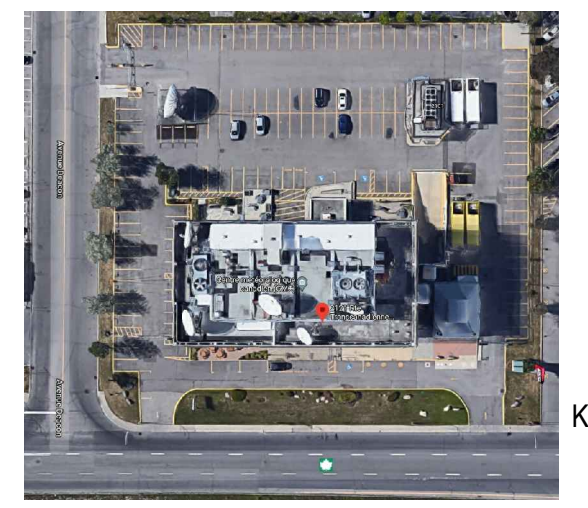


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24

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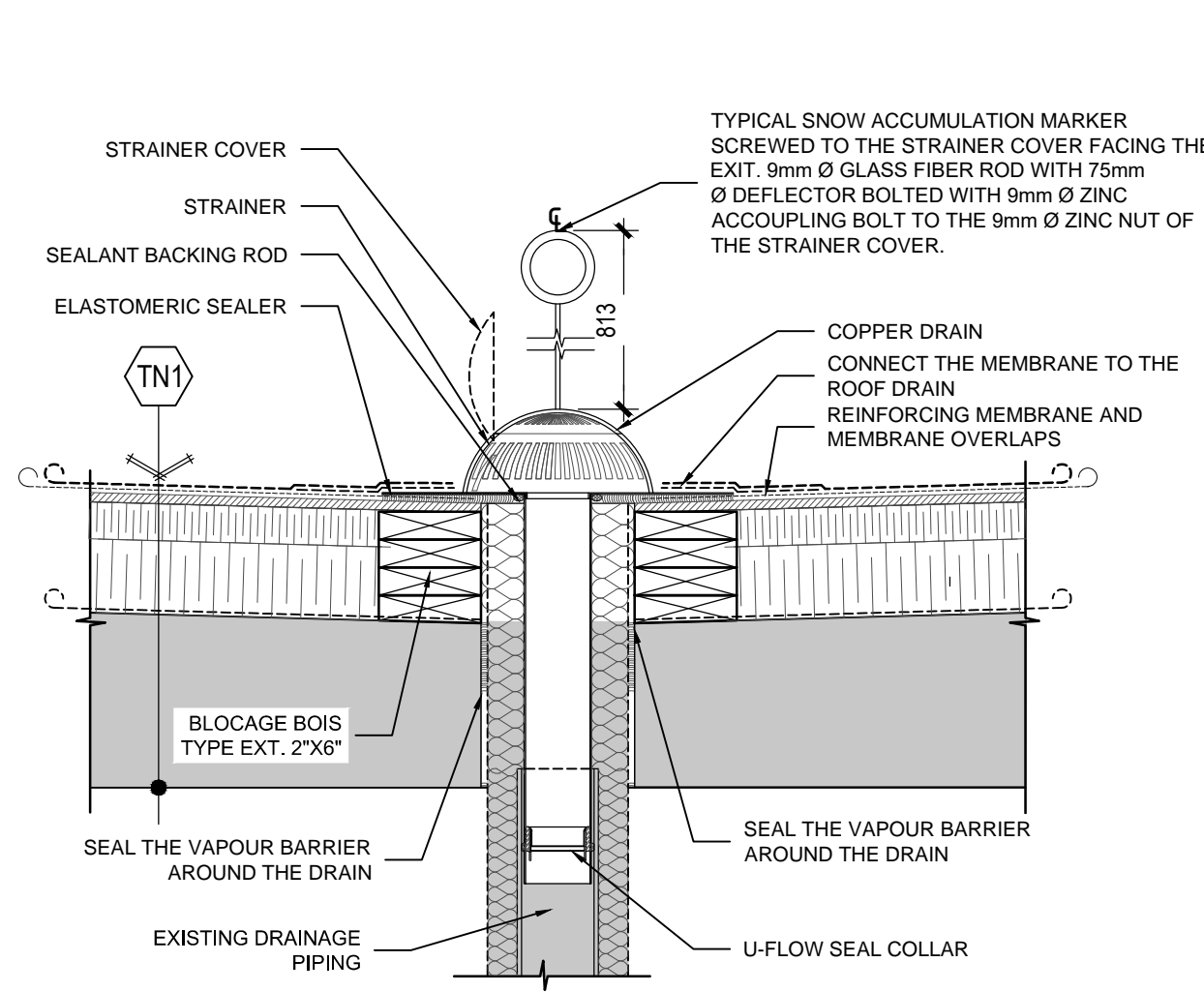
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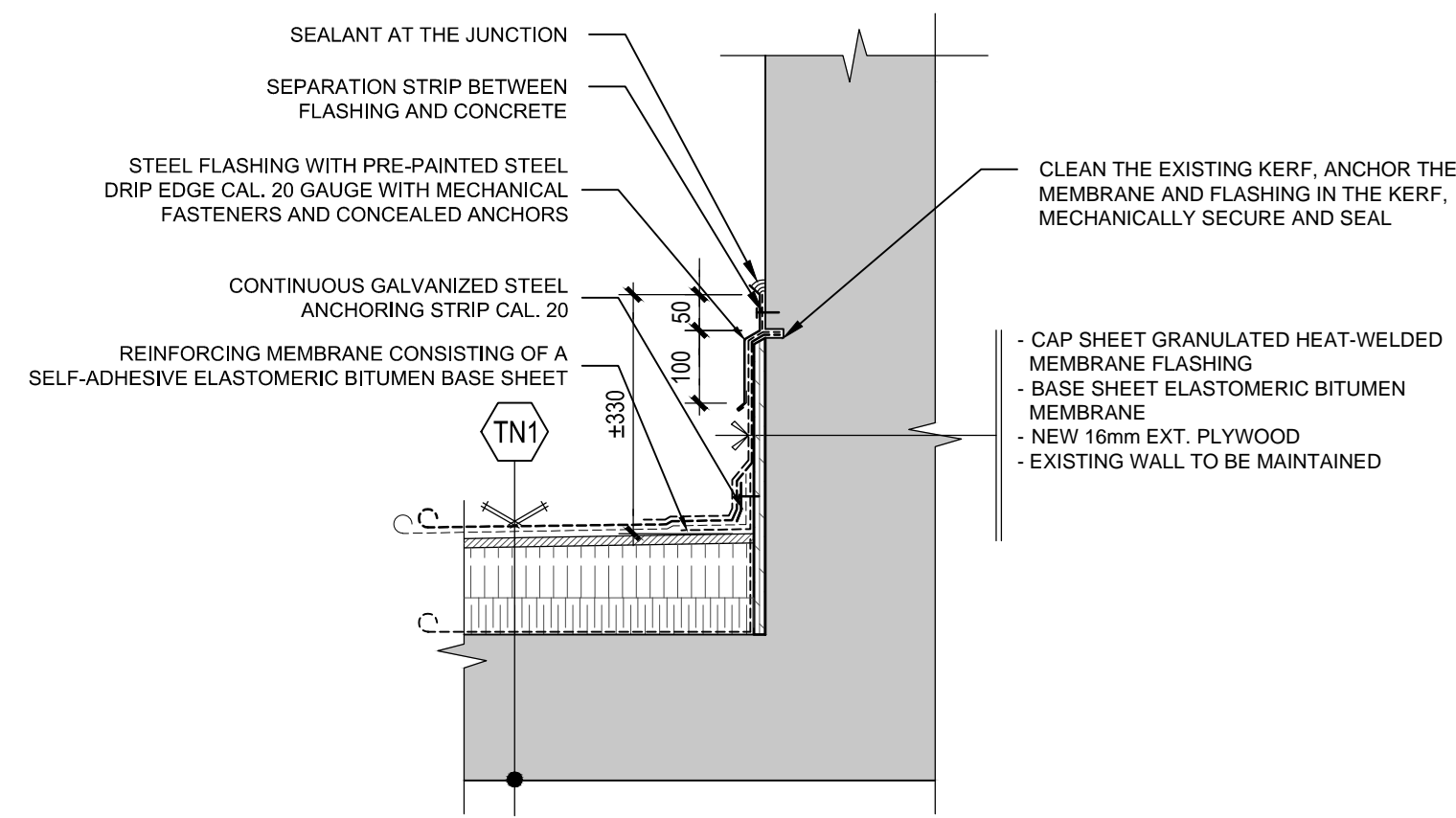
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RE-ROOFING WORK - PHASE 1

TITLE
PHOTOS OF EXISTING CONDITIONS

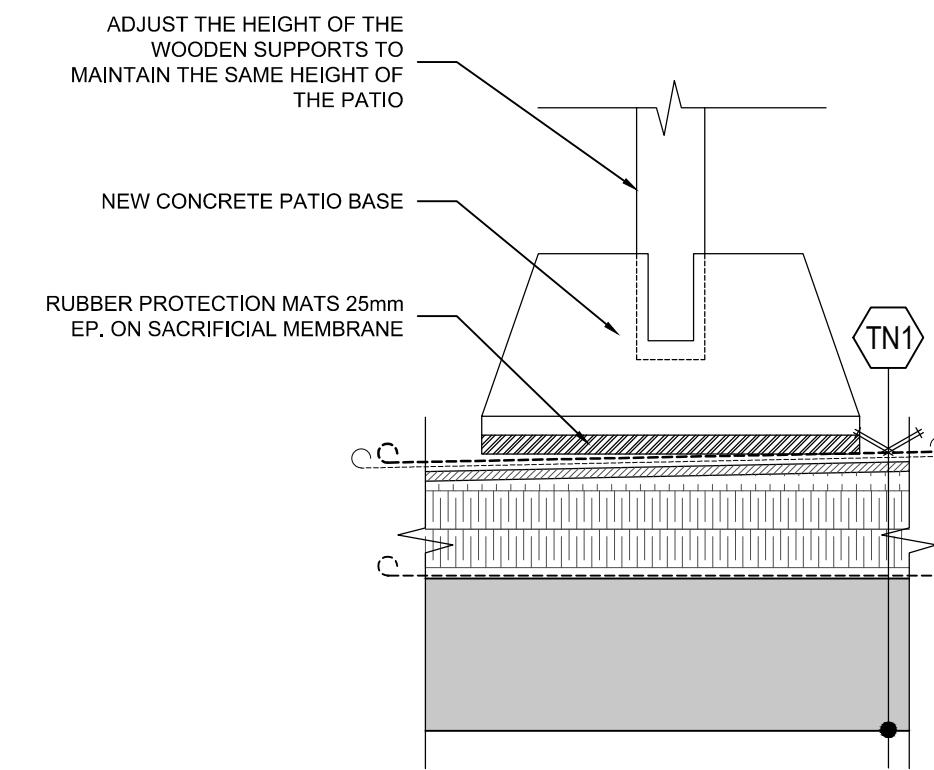
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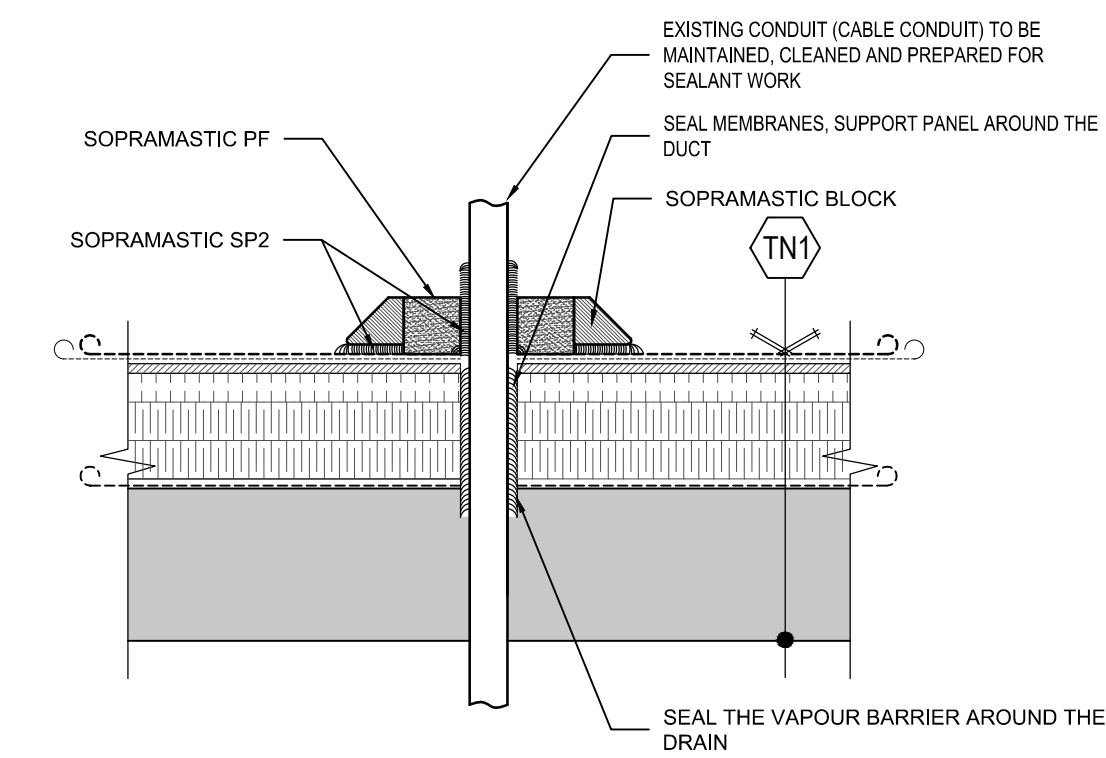
1 ROOF DRAIN DETAIL
A501 SCALE: 1:10



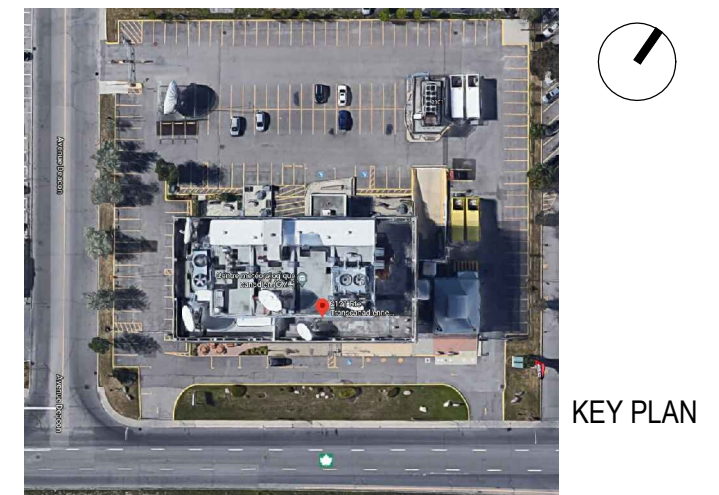
2 CONCRETE PERIMETER WALL
TYPICAL DETAIL - MEMBRANE FLASHING
A501 SCALE: 1:10



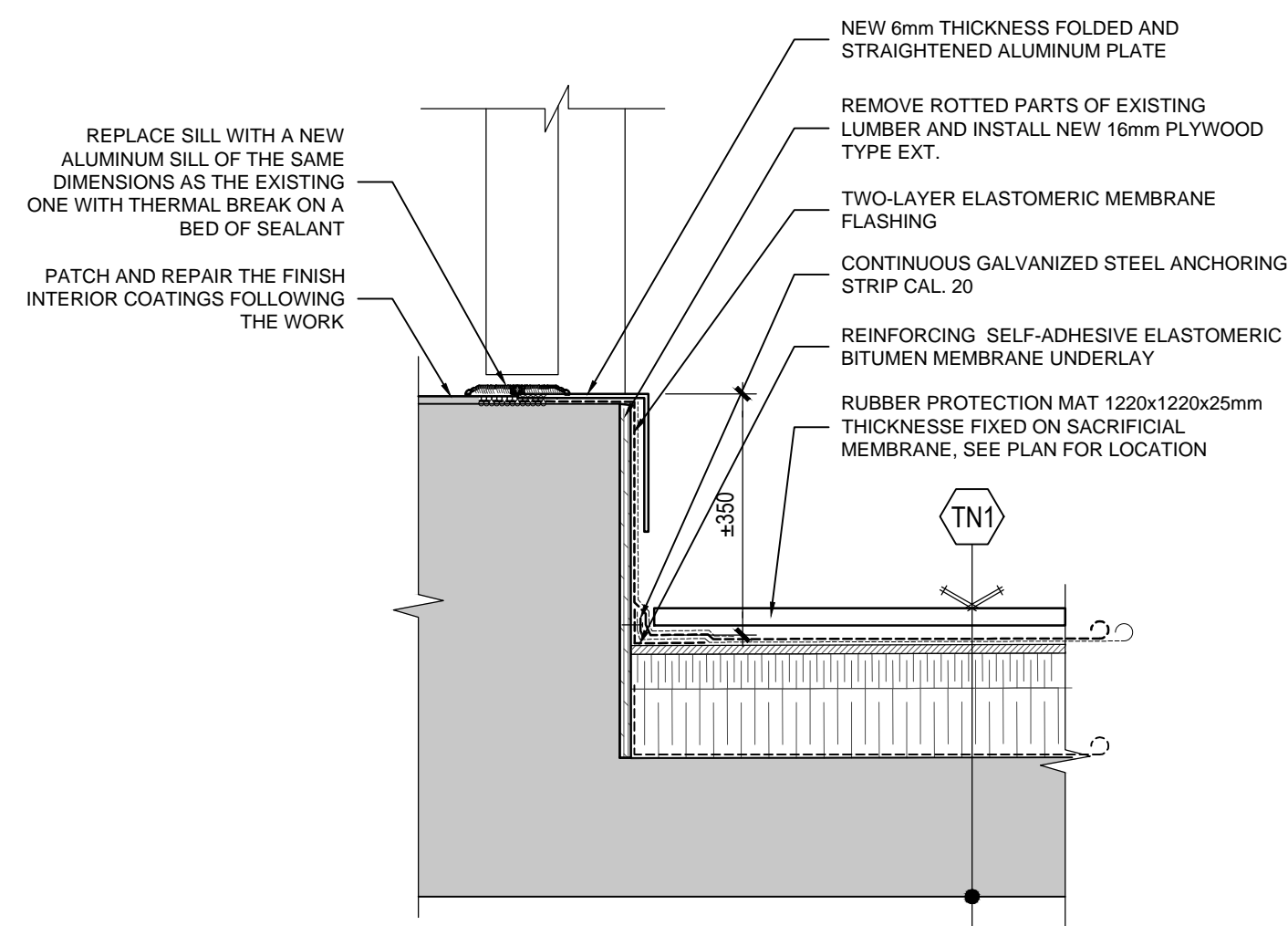
3 TYPICAL DETAIL
TERRASSE SUPPORTS
A501 SCALE: 1:10



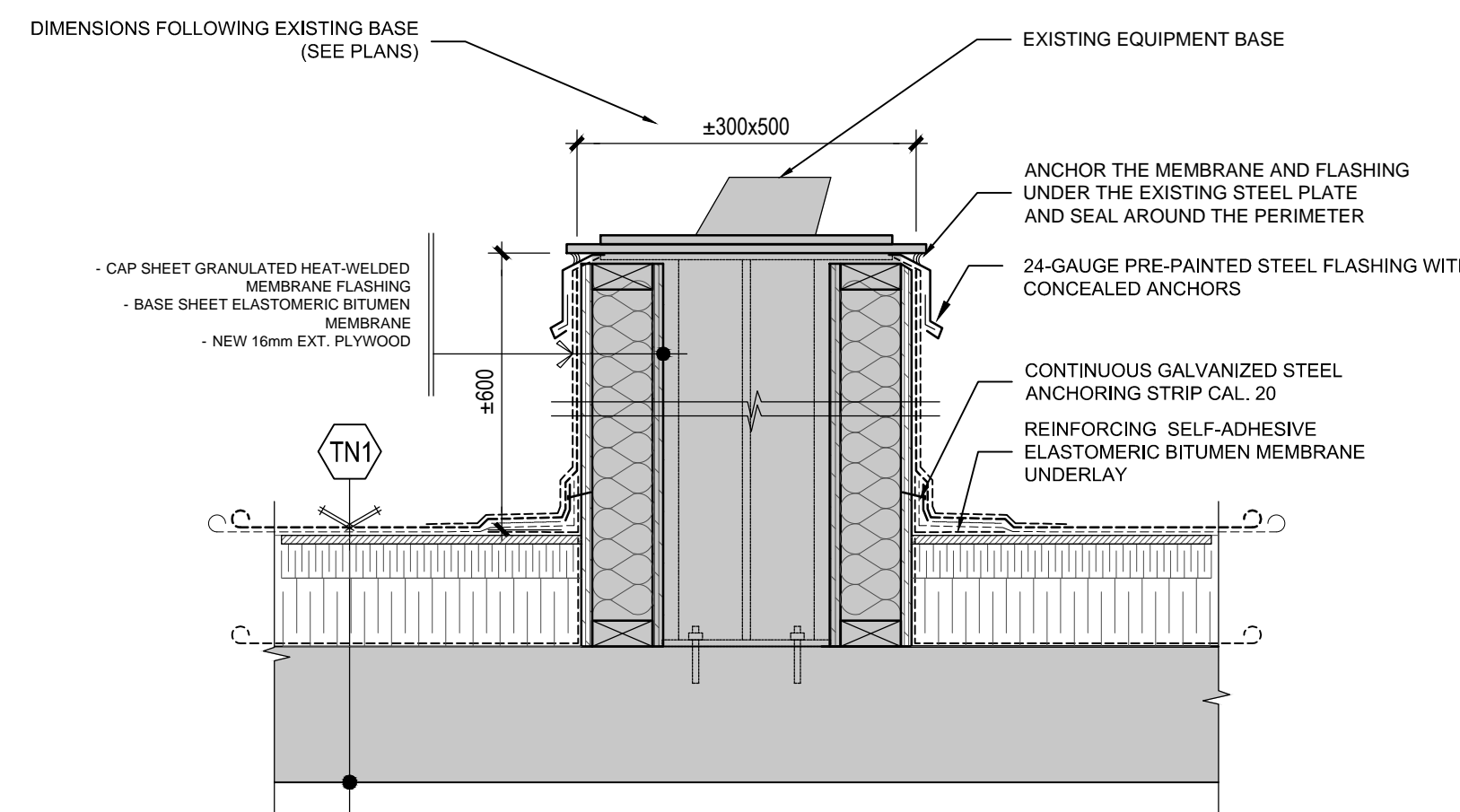
4 TYPICAL DETAIL
ROOF CONDUIT PENETRATION
A501 SCALE: 1:10



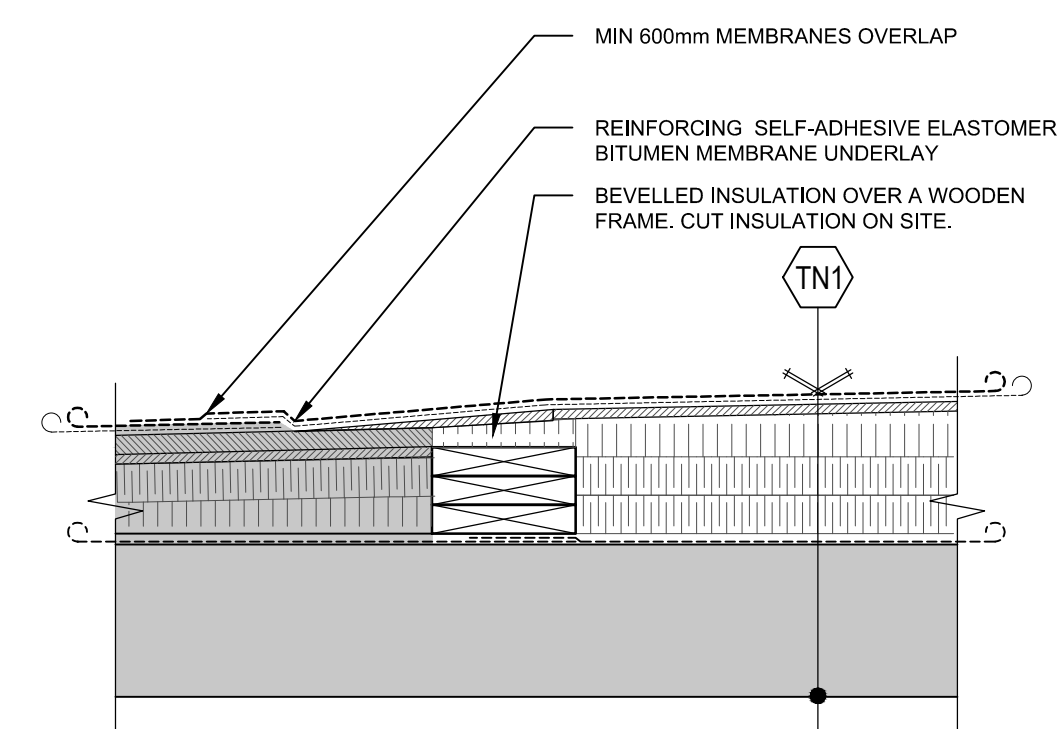
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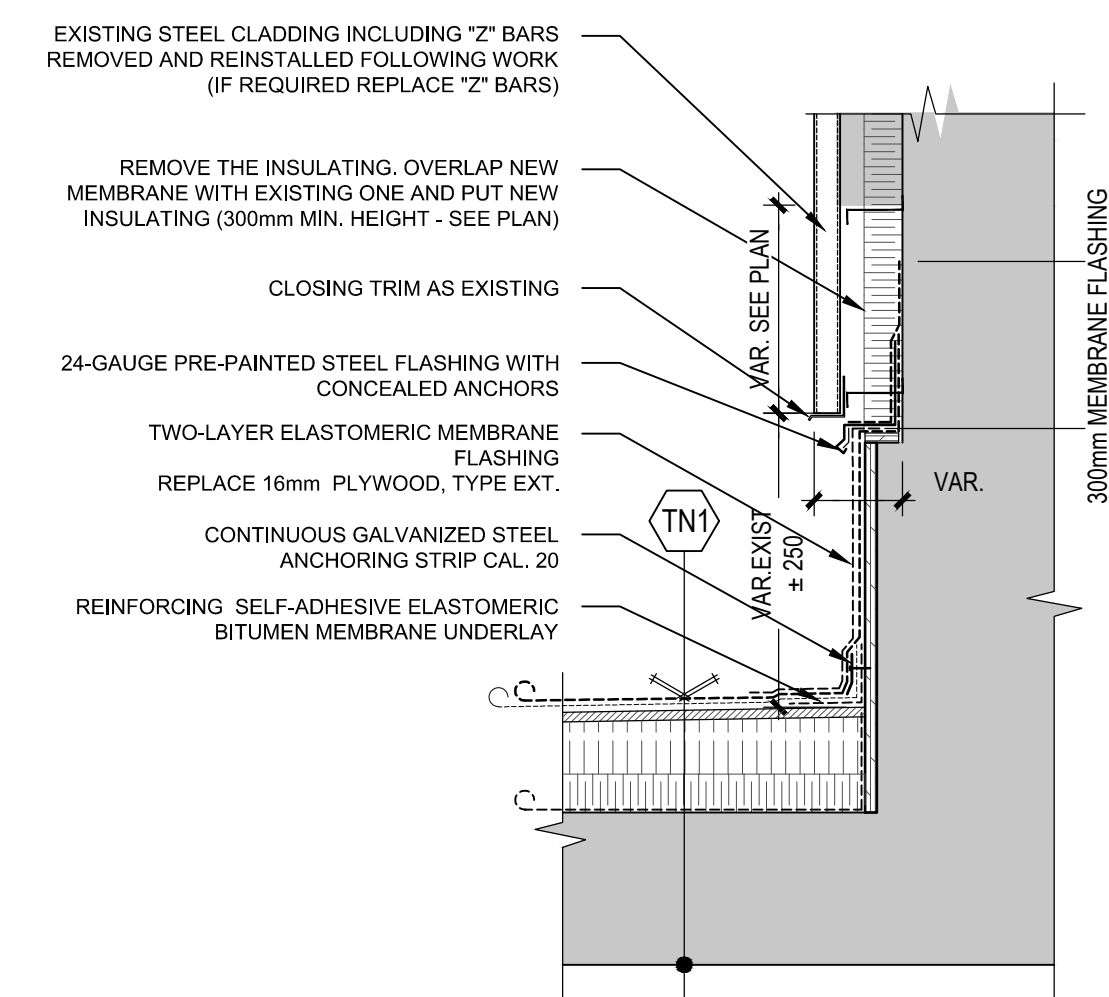
5 DOOR SILL JUNCTION DETAIL
A501 SCALE: 1:10



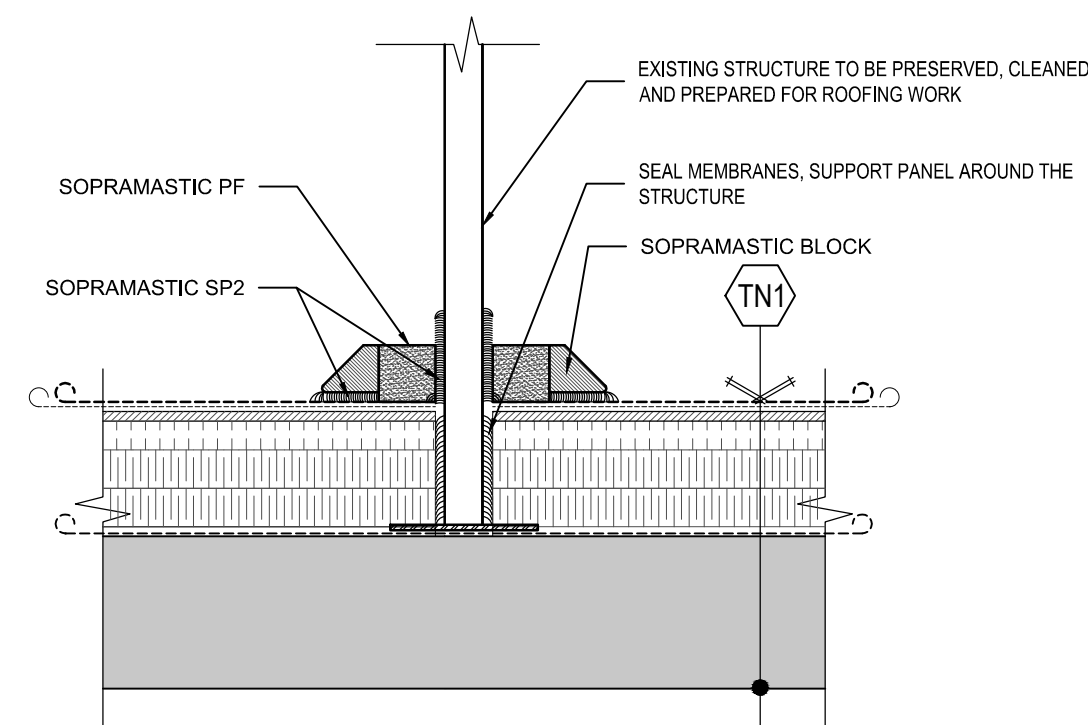
6 EXISTING AND NEW
MEMBRANE JUNCTION
A501 SCALE: 1:10



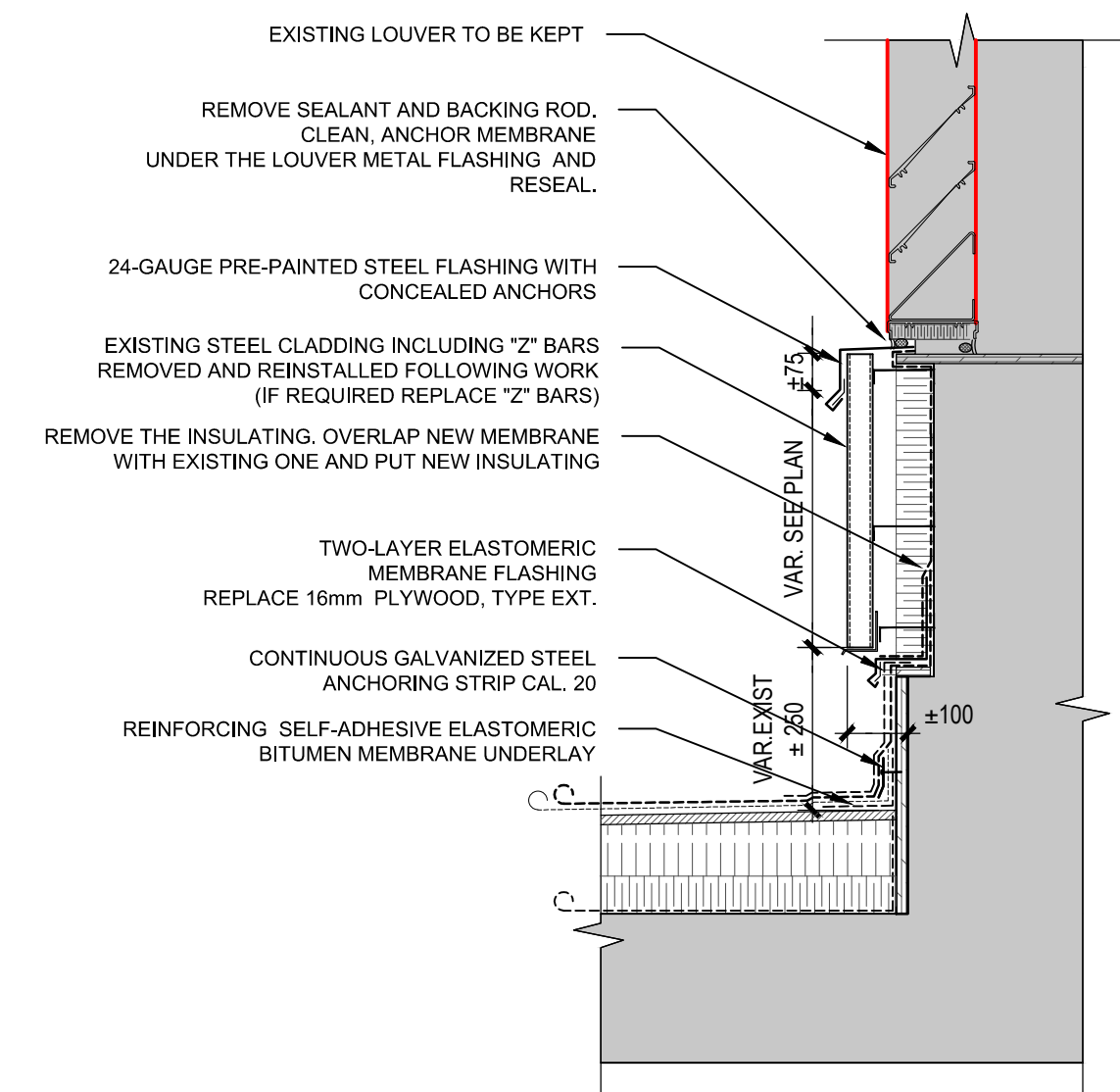
7 TYPICAL DETAIL
ROOF SYSTEM JUNCTION
A501 SCALE: 1:10



8 TYPICAL DETAIL
METAL SHEATHING AND MEMBRANE FLASHING
A501 SCALE: 1:10



9 TYPICAL ROOF STRUCTURE DETAIL
A501 SCALE: 1:10



10 TYPICAL DETAIL
LOUVER MEMBRANE FLASHING
A501 SCALE: 1:10

DO NOT USE FOR CONSTRUCTION

ARCHITECTS

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ENGINEERS

ENGINEERS

ENGINEERS

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Environment and Climate Change Canada
Government of Canada
Meteorological Center Canada

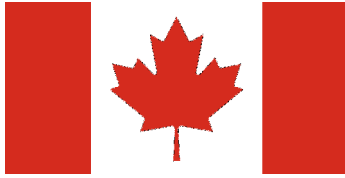
PROJECT

2121 ROUTE TRANSCANADIENNE
RE-ROOFING WORK - PHASE 1

TITLE

TYPICAL DETAILS

DATE	2021-02-25	PROJECT NO.	ENV-21-3112
SCALE	AS INDICATED	SHEET NO.	A501
DRAWN BY	J.L.A.		6
VERIFIED BY	A.H.		



ENVIRONMENT AND CLIMATE CHANGE CANADA
GOVERNMENT OF CANADA
METEOROLOGICAL CENTER CANADA

RE-ROOFING WORK

2121, Voie de service nord route
Transcanadienne
Dorval (Québec) H9P 1J3
Project no. ENV-21-3112

SPECIFICATIONS



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Issued for tender
May 18th, 2021

DIVISIONS	SECTIONS	NUMBER OF PAGES
DIVISION 01	General Requirements	
Section 01 00 10	General Requirements - complementary.....	16
Section 01 33 00	Submittal Procedures.....	3
Section 01 35 29	Health and Safety Requirements.....	2
Section 01 35 43	Environmental Procedures.....	3
Section 01 45 00	Quality Control.....	3
Section 01 51 00	Temporary Utilities.....	2
Section 01 52 00	Construction Facilities.....	4
Section 01 56 00	Temporary Barriers and Enclosures.....	3
Section 01 73 00	Execution.....	3
DIVISION 02	Existing Conditions	
Section 02 41 99	Demolition.....	7
DIVISION 06	Wood, Plastics and Composites	
Section 06 10 00	Carpentry.....	4
DIVISION 07	Thermal and Moisture Protection	
Section 07 52 00	Modified Bituminous Membrane Roofing.....	22
Section 07 62 00	Sheet Metal Flashing and Trim.....	5
Section 07 92 10	Joint Sealants.....	5

END OF SECTION



PART 1 - GENERAL

1.1. APPLICATION

1. This section must be read in conjunction with each of the other sections of the Contract Documents and must apply to the entire Work.
2. Complementarity of Documents: Some items are specified on the Drawings and others in these Specifications. The documents are complementary.
3. Complementary general requirements supplement the information in the Owner's bid documents and, in particular, the "General Conditions." For a subject covered in either of these documents, the more stringent requirement applies.
4. Reference Standards:
 1. The entire Work must conform to the applicable requirements of the Canadian Government Specifications Board (CGSB), Canadian Standards Association (CSA), National Building Code of Canada (NBCC), American Society for Testing and Materials (ASTM) standards (latest edition) and other standards, organizations and codes specified in the plans and specifications.
 2. Notwithstanding the revision years indicated in the specification in the designation of a standard, refer to the most recent edition of the dated and listed standards as re-stated or revised at the date of the specification. Standards or codes not bearing the date must be considered to be current editions as of the date of the specification.
 3. Perform the work in accordance with *Chapitre 1, Bâtiment du Code de Construction du Québec* and the 2010 National Building Code of Canada (as amended) and any other applicable provincial or local codes. In the event of omissions or contradiction between these standards, the more stringent requirements must apply.
 4. Applicable requirements of standards on drawings and specifications must never be reduced on the grounds that provincial and local regulations are less stringent. During installation work, when there is a conflict between different regulations or requirements, the highest standards will take precedence.
 5. Comply with the municipal by-law concerning noise, nuisance, environmental protection and access roads.

1.2. SCOPE OF WORK

1. Title of work :
ENVIRONMENT AND CLIMATE CHANGE CANADA
RE-ROOFING WORK
2121 North Service Road
Trans-Canada Highway
Dorval, Quebec H9P 1J3
2. Description of Work :
 1. Work consists of the complete rehabilitation of fields 04, 06, 09 and punctual repairs to fields 07 and 08.
3. General scope of work:
 1. Work under this contract includes the supply of all labor, tools and equipment, and all materials necessary to complete the work as specified in the professionals' drawings and specifications.

2. Included in this scope of work are all incidental and minor items of work which, although not all shown on the drawings or described in the specifications but necessary to complete the work or consistent with the intent and spirit of the contract, must be performed as if shown or described therein. The performance of such work must conform in all respects to referenced and/or recognized industry standards of quality and to the best of the art.

4. The defined work includes but is not limited to:
 1. All work related to the re-roofing and related work of Environment and Climate Change Canada at 2121 North Service Road Trans-Canada Highway.
 2. Removal of existing roofing components (regardless of their position in the material assembly); i.e. sheet metal, membrane, support panels, insulation, vapour barrier, sheathing, parapets, flashings and all other necessary parts; (where applicable, the Contractor must remove, at his expense, all successive layers of existing membranes). At no additional cost, the Contractor must remove all existing insulation (flat or tapered), regardless of type: fiberglass, wool, polystyrene, polyisocyanurate, or other types. The Contractor must expose the existing decking, in order to evaluate the condition of the latter.
 3. All work must be done from the exterior of the building, no work must be done from the interior. If the Contractor requires access to interior areas of the building, the Contractor must notify the owner 48 hours in advance and coordinate such access with the owner.
 4. Carpentry required for proper execution of Work: control and expansion joints, blocking, plywood, vent boxes, raising or modifying equipment bases and parapets, etc., as well as all other necessary carpentry work.
 5. Roof waterproofing and insulation system including preparation of base deck, leveling of existing deck surfaces, primer, vapour barrier, thermal insulation, cover board, modified bitumen two-ply membrane, flashings, etc;
 6. Refer to drawings, details and legends, specifications for type of decking and type of membrane.
 7. Base sheet and cap sheet membranes for the field surface and flashings and parapets of bitumen-elastomeric roofs.
 8. Nailing strips for slopes greater than 1:12 as per AMCQ recommendations for insulated decks, if required.
 9. Disconnect, remove, raise mechanical units, fans and other appliances, if required, for sheet metal and roofing work, complete reinstallation on new bases.
 10. New sheet metal work, metal cladding or to be completed, flashings, counter flashings, rejoinings, connections, etc., if required, protection of existing flashings to be retained.
 11. All other work such as caulking, interior patching, painting, etc., to ensure watertightness of all parts of the roofs, its resistance to weather, and the aesthetics of exposed interior surfaces.
 12. All work and materials required to comply with the fire prevention program during installation of bitumen-elastomeric membranes.
 13. Metal cladding removal and reinstallation including insulation replacement and z-bar replacement or reinstallation.
 14. Maintain field surfaces in a dry condition at all times.

15. Installation and removal of scaffolding and any other temporary support required to ensure the safety of the structure, workers and users of the building.
16. Replacement of roofing equipment as indicated on the drawings and specifications.
17. Repair existing decking when required by the condition of the materials (rusted or damaged).
18. Install intra-wall flashings where indicated.
19. Installation of guards over exit doors adjacent to the field surface affected by the work, including covered egress passageways where required, and removal of these installations following the work.
20. All demolition and clearing required to permit the work of this contract.
21. Restoration of landscaping, grading and turf damaged during the performance of the Work.
22. All temporary facilities, safety and coordination measures required to perform the Work of this Contract.
23. All coordination of the phasing of the Work with the Owner so as not to interrupt the use of the building.
24. Heating and snow removal as required by the weather during the performance of the contract (if required).
25. Survey existing conditions including: floor levels, roof configuration and condition, drains, and any other items.
26. Protection of retained landscaped areas, protection of all vegetated areas, existing trees and their root systems located in the work and mobilization area;
27. All necessary facilities for the entry and removal of materials and/or waste, including public domain occupation permits for mobilization;
28. All safety, mobilization and coordination measures required to perform the work of this contract and to permit occupancy of the premises.
29. All protective measures and temporary partitions for the protection of the premises and equipment against breakage, dust and other hazards;
30. All arrangements and preventive measures in relation to Covid-19, in accordance with CNESST requirements.

1.3. DEFINITIONS

1. General Conditions refers to all documents including Instructions to Bidders, General Conditions of Contract and Special Conditions of Contract.

1.4. NOTICE TO CONTRACTOR

1. The Roofing Contractor must be a member of the Association des Maîtres Couvresseurs du Québec (AMCQ) at the time of tender and for the duration of the Work.

2. The Roofing Contractor and his subcontractors must possess a valid license from the RBQ (Régie du Bâtiment du Québec) authorizing them to perform all work related to the present work.
3. The Roofing Contractor must be qualified to install the types of roofing and various materials mentioned in these specifications. If a specific manufacturer's qualification is required, it is also required for all workers called upon to perform the work in question.
4. The General Requirements – complementary is applicable to all sections of the specifications. The Contractor and all subcontractors must review the contents of the drawings, specifications and all other contract documents in their entirety.
5. The work of each subcontractor must be in complete harmony with that of the other trades.
6. All errors, omissions, discrepancies, contradictions, inaccuracies or other must be identified and reported in a timely manner for immediate correction, if necessary.
7. Do not justify errors, omissions or imperfections in the work of the various trades by errors, omissions or imperfections committed by one or more parties. This applies to the Contractor, subcontractors, manufacturers and suppliers, if any.
8. The Contractor and his subcontractors must include all costs related to provisions made necessary because of existing restrictions or constraints, as listed below and without limitation:
 1. Continued use of pedestrian and vehicular traffic routes at the perimeter of the site.
 2. Additional work period upon approval of the Owner.
 3. Safety measures, temporary facilities and site installations.
 4. Temporary security, maintenance and protections of exit access and site.
 5. Special site constraints.
 6. Winter conditions required to meet the delivery schedule.
 7. Site fencing
9. A list of all personnel under the direct (employees) or indirect (subcontractors) responsibility of the General Contractor must be provided to the Owner no later than the project start-up meeting and the Contractor must ensure that it is kept up to date throughout the duration of Work. Execution of the work must be coordinated by the Contractor with the Owner's Project Manager and his representatives.
10. The General Contractor must maintain a clean and safe work site throughout the duration of the work. Noise disturbances must be kept to a minimum. In the event that the Contractor refuses to follow the safety instructions in a satisfactory manner, Owner may suspend the Contractor's work and ask the Contractor to resume it without incurring additional costs for the Owner.
11. The General Contractor must notify the Owner and the Architect of the date of all tests or trials necessary for the proper performance of the work.
12. The Contractor must avoid all toxic products or noxious vapors, including those generated by tools (e.g. gasoline tools).
13. The Contractor must ensure that equipment generating noise for the neighbourhood is turned off when leaving the work site and during the hours when work is prohibited by the municipality.
14. Clean the internal and external areas of the work site daily.
15. The Contractor is responsible for applying the C.N.E.S.S.T. safety measures to his workers.

16. The Contractor is responsible for applying all preventive measures related to Covid-19, in accordance with the requirements of the CNESST.

1.5. TRAFFIC MANAGEMENT AROUND THE SITE AND MANAGEMENT OF ACCESS TO THE SITE

1. Contractor will be responsible for the effective management of heavy traffic at and around the job site at all times. All soft spots created by heavy vehicle traffic on and off the job site must be corrected by the Contractor, and the Contractor must be responsible for the associated costs.
2. Authorized site access will be:
 1. To be defined with the Owner
 2. Access to the interior of the building will be kept to a minimum
3. Traffic on the site will be restricted to a strict minimum when users are present.
4. Contractor is responsible for taking the necessary steps with the borough to obtain or maintain the necessary authorizations for access to the work site, prior to the construction of any access.
5. A minimum of one flagman must be assigned to ensure the safety of the public around the work site during all entry and exit manoeuvres.
6. Contractor is responsible for making all employees, subcontractors and suppliers aware of the safety of the area around the work site, both in terms of access maneuvers and respecting the speed limits of the area.

1.6. OWNER'S OCCUPANCY OF SITE

1. Contractor will be allowed to place trash containers on the Park property at the location designated by the Owner. Do not accumulate materials or equipment in a manner that would clutter the site. Perform daily cleaning of the premises.
2. Unless it is to perform work, the presence of the Contractor outside the limits of the work areas will not be tolerated, except in an emergency situation threatening the safety of the public or the building.
3. Contractor must provide, coordinate and install temporary site signage to circumscribe the work area, to direct residents in the vicinity of the work site, and to direct workers.
4. Contractor must assume full responsibility for the protection and custody of materials and equipment necessary for the performance of this contract.
5. During the execution of the work, the Contractor must take all necessary measures to avoid damage to existing trees, neighbouring properties and all nearby public utilities and to ensure the safety of passers-by and the cleanliness of the site at all times. Any damage to property or injury to persons caused by the Contractor, his subcontractors and employees must be repaired or made good immediately to the satisfaction of the Architect at no additional cost to the owner.
6. Contractor will be responsible at all times for any damage or loss that may be caused by the work of this contract, for the duration of Work.
7. Contractor will plan his work and take all necessary measures to provide adequate protection in areas where the work is not completed, in the event of a suspension of activities between work periods (e.g. overnight, construction vacations, ...).

8. Contractor is responsible for the accesses he will use for the execution of the work, in coordination with the municipality and the Owner.
9. When the Contractor undertakes demolition work causing dust, dirt, noise or any kind of inconvenience to the exterior and surrounding environment, the Contractor must make every effort to remedy the problem to the satisfaction of the Owner and in accordance with municipal regulations.
10. The Contractor must be fully responsible for the work site. His superintendent must be on site at all times during the execution of the work of his subcontractors and during the transportation and delivery of materials.
11. The General Contractor and his subcontractors must be fully responsible for temporary protection.
12. Use the roadways as directed by the Owner and the Municipality. Maintain traffic lanes free of obstruction at all times. Use flagmen as required in the event of a temporary obstruction. Coordinate with the owner and the Municipality at least forty-eight (48) hours in advance of exceptional obstruction conditions.
13. The location of the waste container(s), crane if required, construction trailer, toilet, storage and any other major installation or equipment must be coordinated with the Owner and the Architect.
14. No storage of equipment, materials or products will be permitted on the site or in the building outside of the mobilization areas.

1.7. INSURANCE

1. Contractor shall provide all insurance required by the Owner's General Conditions.

1.8. HEALTH AND SAFETY

1. Without limiting the Contractor's obligations under the Owner's General Conditions, the Contractor shall act as a *Maître d'œuvre* as defined by the C.N.E.S.S.T., and as such, shall assume the costs and responsibilities thereof. Refer to the General Conditions for a description of the responsibilities and requirements requested by the Owner.
2. Contractor shall prepare a prevention program specific to this project and adapted to its particularities.
3. Prior to the start of work, the Contractor shall provide the owner with an employer's certificate in good standing with the C.N.E.S.S.T.
4. Without limiting the Contractor's obligations under the general conditions, the Contractor agrees to indemnify and save harmless the Owner from any inspection report, notice of correction, notice of violation, prior notice, the Contractor shall indemnify and save harmless the Owner from and against any inspection report, correction notice, notice of violation, prior notice, suit or judgment in any matter relating to a violation of any provision of any Act or regulation relating to occupational health and safety for which the Owner may be held liable under any provision of any Act or regulation relating to occupational health and safety. In such a case, the Contractor agrees that the owner may withhold monies and, if applicable, set-off.
5. The Contractor shall comply with C.N.E.S.S.T. and S.I.M.D.U.T. regulations by providing the owner with Material Safety Data Sheets (MSDS) for any products that may be hazardous to human health.

1.9. PRELIMINARY EXAMINATION

1. At the time of contract award, all persons involved in the work shall be deemed to have examined the contract documents, visited the site of the work, including existing structures, assessed the extent of the obligations set forth in the contract documents, including the characteristics of the site of the work, and obtained all information and clarifications necessary for the proper performance of the work, all to their satisfaction.
2. Contractor shall have taken cognizance of the location of the work, the physical constraints of the site, and the scope of work prescribed in the drawings and specifications of the professionals, architects, engineers, and industrial and environmental health consultants.

1.10. PRESENCE AND RESPONSIBILITIES

1. The Contractor shall, **prior to submission of his bid**, be responsible for pointing out to the Owner, as soon as he discovers them, any ambiguities, discrepancies in the documents or contradictions that may exist in the contract documents and for requesting any instructions or rulings that he may need to properly perform the work. The Contractor shall email requests for clarification to the Owner. The owner will issue an addendum if required.
2. Following the site visit, the Contractor shall, **prior to submission of his bid**, be responsible for pointing out to the owner all existing conditions that involve an ambiguity, discrepancy or contradiction in relation to the contract documents and for requesting any instruction or decision that he may need in order to properly perform the work and complete his bid. He shall transmit by e-mail the requests for clarification to the owner. The latter will issue an addendum if required.
3. Any work performed by the Contractor prior to the Contractor's receipt of such clarification shall be at the Contractor's risk. The Contractor shall be fully responsible for all costs and expenses arising from his failure to obtain timely and appropriate instructions or decisions from the owner.
4. The Owner and its professionals shall have no responsibility for or control over the means, methods, techniques, sequences or processes of construction, nor for the protective and safety measures and programs necessary for the work or for general construction practices. The Owner and its professionals shall have neither responsibility nor control over the actions or omissions of the Contractor, its subcontractors or their agents, employees or any other person performing any part of the Work.

1.11. TAXES AND PERMITS

1. Contractor must pay all required federal, state and municipal taxes.
2. Owner shall obtain and pay for any building permit required by the municipality for the work.
3. All other permits and approvals are the responsibility and at the expense of the Contractor.

1.12. DRAWINGS, SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS

1. The Owner will furnish the Contractor with the drawings and specifications, and/or other documents that are part of such documents, as specified in the Contract Documents.
2. The deadline for delivery to the Contractor of the documents described in Section 1.12.1 shall be set by the Owner.

1.13. OTHER DRAWINGS

1. The Architect may, for clarification purposes only, provide the Contractor with additional drawings to ensure proper execution of the Work. Such drawings shall have the same meaning and scope as if they were included with the drawings referred to in the Contract Documents.

1.14. AS-BUILT DRAWINGS

1. After award of the contract, the Owner will provide a set of reproducible drawings as a copy set for the project file. Contractor must carefully and accurately note **in red** any deviations from the Contract Documents caused by site conditions and changes required by the professionals.
 1. Note the location of concealed mechanical and electrical components.
 2. Draw on the plans the changes made to the drawings by the various directives or conditions in place.
 3. Mark drawings as "Project File Copy", maintain as new and ensure that they are available at the job site for professional review.
 4. Upon completion of Work and prior to final inspection, submit to the professionals the documents to be placed in the "Project File".

1.15. COORDINATION AND COOPERATION

1. Contractor will coordinate the progress of the work, schedules, submittals, use of the work site, temporary interruption of utilities, temporary utilities, site layout.
2. Contractor will keep a copy of the Contract Documents on the job site in good order, such as: plans and specifications, addendums or other change orders.
3. Contractor will maintain a close coordinating relationship with the Owner's Representative and the professionals, and will keep them informed on a daily basis of the progress of the work and the next day's work program. Contractor shall schedule weekly site meetings throughout the duration of the work. The Contractor shall comply with any reasonable requirements of the Owner, even if the Contractor has to change his work program at short notice.
4. Contractor is fully responsible for the proper coordination of the work of all trades. Subcontractors are required to cooperate fully with the Contractor.
5. In addition to the above meetings, Contractor will be required to have a weekly coordination meeting of all his subcontractors.
6. Contractor will be responsible for interpreting the relationship between the work of the various sections. The coordination and control of this work, including related work, is the sole responsibility of the Contractor. He will be the one and only person responsible and authorized to designate the trade or trades responsible for the supply and installation of the required materials and items.
7. The specifications are presented in sections for convenience only. The sections of the specifications do not define the scope of responsibilities, obligations and work of each subcontractor's contract. The scope of responsibilities, obligations and work breakdowns of the subcontract are the sole responsibility of the Contractor.

8. Contractor shall make inquiries of his subcontractors as to their responsibility and the limits of their tender, and shall supplement the requirements of the plans and specifications by his own work. The Contractor shall be the sole judge of the allocation of work to be awarded to any subcontractor, but shall also be fully responsible for all work to be performed. The General Contractor's subcontractors and suppliers must be aware of the scope of work of their discipline and ensure that they have the skills, availability, capabilities, tools and manpower necessary to perform the work according to the plans and specifications of the professionals, while respecting the contractual schedule.
9. Prior to commencing any part of the work, previously completed work, including existing work intended to remain in place and work performed by other Contractors, must be examined. No work shall be commenced until all defects in the work previously performed, which may affect the quality and performance of the work to be performed, have been corrected and the condition of the site is suitable for such performance. The commencement of any work shall mean, without equivocation, that the work previously done has been examined and found satisfactory, after making corrections, and that the condition of the premises is suitable for the performance of the work to be done.
10. Any extra work caused by lack of coordination or cooperation will be performed without any additional expense to the contract amount and without any change in the construction time for completion of Work.
11. **Preparatory work that the General Contractor must carry out and coordinate with the owner:** Before the beginning of the work, at the beginning of each stage, as well as during the entire course of the work, the Contractor must coordinate with the owner the preparatory work relating to temporary partitions, the work of modification to the mobilization, the work that affects the interior or could affect the holding of activities in the building or in the areas near it, the demolition and/or construction that have an impact on the existing services of the municipality and the Owner. Such coordination shall primarily be with the owner particularly in connection with:
 1. Contractor shall coordinate with the Owner for access to the premises for demolition work, as well as construction work prescribed in the Professional's drawings and specifications.
 2. Contractor shall be responsible for coordinating with the Owner's central monitoring station to turn on and off the alarm system.
 3. Contractor shall pay particular attention to the protection of smoke/heat detectors so that they are not accidentally triggered.
 4. Contractor shall be responsible for the cost of any false alarm caused by his activities.

1.16. ROLE OF THE PROFESSIONAL

1. The Professional shall administer the contract in accordance with the contract documents.
2. The Professional shall visit the site of Work at intervals appropriate to the progress of Work, in order to keep himself well informed of its progress and quality and to determine whether, in general, the construction of the Work is progressing in accordance with the Documents.
3. The Professional shall have no authority, responsibility or supervisory function with respect to the means, methods, techniques, sequences or processes of construction, or with respect to the protective and safety measures and programs required for the Work in accordance with the relevant legal provisions relating to construction safety, other regulations or good construction practice. The Contractor shall have no responsibility or control over the actions or omissions of the Contractor, subcontractors and suppliers or any other person performing any part of the Work.

4. The Professional will have the authority to reject any work which, in his opinion, does not conform to the Contract Documents. Whenever he deems it necessary or expedient, he may require a special inspection or test of any part of the work, whether or not such part is fabricated, placed or completed.

1.17. SUPERVISION OF THE WORK AND INSPECTION

1. Contractor shall maintain at the job site at all times the services of a competent superintendent who can make the decisions and take the actions required to ensure the proper conduct of the work. The Superintendent shall be the Contractor's official representative on the job site and shall ensure the proper coordination of all employees and subcontractors.
2. The Superintendent shall be readily available at all times until final acceptance of the work. The Contractor shall provide the Superintendent with a cellular telephone for this purpose.
3. Contractor shall take all necessary steps to ensure adequate supervision during the performance of the work and during non-working hours, of the materials and works forming part of this contract.
4. The Owner and the Professional shall have free access to the Work at all times. The Contractor shall make suitable and safe facilities available at all times for the Professional to perform his supervision.
5. In the event that Work is to be subjected to special tests, inspections, approvals prescribed by the Architect and/or Consultants or required at the job site, make application for inspection within a reasonable time.
6. In the event that the Contractor has covered or allowed Work to be covered before it has been subjected to the prescribed inspections, approvals or tests, uncover Work in question, cause the tests or inspection to be performed to the satisfaction of the authorities, and then restore Work to its original condition.
7. The Professional may direct that a special inspection of one or more portions of the Work be made to confirm that such Work is in accordance with the Contract Documents. The Contractor shall pay the cost of any tests or inspections required to do so.
8. Defective Work:
 1. The Contractor shall promptly remove from the job site defective materials which the Professional rejects for noncompliance with the Contract Documents, whether or not such materials were incorporated into the Work. Defective materials and work shall be immediately replaced or repaired at the Contractor's expense.
 2. If as a result of such replacements, another Contractor's work is destroyed or damaged, the Contractor shall repair it at his own expense.
 3. If, after consultation with the Owner, the Professional advises the Contractor that it is not necessary to correct defective work or work not in accordance with the Contract Documents, the Owner shall deduct from the contract price the difference in value between the as-built and contracted work, the amount of such difference to be determined by the Professional with the consultants involved.

1.18. ORDERS

1. All orders must be placed in a timely manner to ensure that the work schedule is fully met. Any claim made by the Contractor for additional payment or for extension of the duration of the work, having as its original cause a delay in the placement of orders, will be denied.

2. Contractor shall require copies of purchase orders from subcontractors in order to control the timely delivery of the various materials and equipment to be installed or incorporated in the building.
3. Contractor shall provide, upon request of the Professional, copies of purchase orders for all materials or equipment whose delivery date is critical to the schedule of work.

1.19. SUBMITTALS

1. Administrative Tasks:
Contractor shall submit to the Professional for verification the required documents in the time and order specified in the Work Schedule.
2. Work covered by the submittals shall not be started until all submittals have been verified.
3. Contractor must review the submittals before submitting them to the Professional. Such review means that the necessary requirements have been identified and verified, or will be verified, and that each submittal has been reviewed and meets the requirements of the Work and the Contract Documents.
4. Contractor shall verify the dimensions taken on the job site and ensure that work on adjacent structures is coordinated.

1.20. WORK SCHEDULE

1. Refer to the special administrative clauses.
2. **Preparation of Work Schedules:** Within the parameters described in this section, the Contractor shall be responsible for preparing the schedule to provide for the shifts required to complete the Work as specified in the Drawings and Specifications. Unless otherwise specified and/or directed by the professionals, no additional time will be allowed for any changes to the drawings and specifications and/or any work that involves an amendment to the contract documents (site directive / change order / change request). To this end, the Contractor shall provide all materials and labor necessary to meet the contractual construction time.
 1. Submittal of Work Schedule:
 1. All work must conform to and be in accordance with the construction schedule.
 2. Submit a Work Schedule within the parameters described in this section and the Owner's General Conditions.
 3. The Owner and Architect will review the proposed schedule and return a revised copy, if required, within three (3) working days of receipt.
 4. Submit, if required, a final version of the schedule within three (3) business days of the revised copy receipt.
 2. Work Schedules to be Submitted:
 1. Contractor shall indicate on two separate schedules, one detailed weekly schedule for the next two weeks and one long-range schedule, the details of his work schedule, to be revised as the work progresses each week.
 2. Each request for payment must be accompanied by an updated schedule, in accordance with the requirements of the tender documents, showing the progress of the work, including any changes made to the work in accordance with the change orders issued and also taking into account any other event that may significantly affect the progress and schedule of the work.
 3. Contractor shall detail and explain the steps taken or intended to be taken to meet its revised schedule.

3. Presentation of Work Schedule:
 1. Prepare schedules in horizontal bar chart format, in chronological order of work sequences.
 2. Assign a separate bar to each operation or trade.
 3. Show time on a horizontal linear scale identifying the first working day of each work week.

3. Following an initial inspection of the work for provisional acceptance, the professionals will issue an initial list of deficiencies for a portion and/or all of the work at that time. A second inspection will be performed to verify the deficiency list(s) and new lists will be issued if necessary, following this second inspection. Thereafter, any further issuance of deficiency list(s) and/or visit(s) required subsequent to this description will include professional fees to be retained from payments due the Contractor.

4. The dates listed in the Owner's General Conditions are important and unavoidable dates in the Owner's occupancy schedule. Failure of the General Contractor to comply with these dates will result in significant costs and damages to the Owner:
 1. The Contractor will therefore be held responsible for costs incurred by the Owner that result from completion of the Work beyond the scheduled dates listed in the construction contract.
 2. The date of final acceptance of the work implies that the Contractor will have corrected all items indicated in the professional deficiency lists.
 3. The Owner will notify the Contractor in writing of the nature of the deficiencies and the costs incurred.

1.21. SITE CLEANLINESS AND CLEANING

1. Contractor shall maintain the job site in a neat and clean condition and free of accumulated waste materials and debris.
2. The job site shall be free of more than one day's accumulation of trash, debris and discarded materials at all times. Contractor shall collect waste materials and debris, place them in regulation containers provided by the Contractor, and remove them from the job site at the end of each work day. Contractor shall seal the work site after cleanup.
3. Contractor shall remove dust daily from all areas of work specified in the drawings and specifications, as well as from the site office and any other space or location occupied by the Contractor during the Work period.
4. During the construction period, the Contractor shall clean the work areas to the satisfaction of the Architect and keep the premises free of dust and other contaminants.

1.22. SITE LAYOUT

1. Refer to Section 01 52 00 - Construction Facilities.

1.23. MATERIALS AND EQUIPMENT

1. In the event of a dispute as to the quality or suitability of products, the matter shall be determined solely by the Contractor, based on the requirements of the Contract Documents.
2. Storage, Handling and Protection of Products:
Move and store products in a manner that avoids damage, alteration, or soiling and follows the manufacturer's instructions where applicable.

3. Manufacturer's Instructions:
Unless otherwise specified in the specifications, install or set up products according to the manufacturer's instructions. Do not rely on labels and containers provided with products. Request a copy of the instructions in writing directly from the manufacturer.
4. Notify the professional in writing of any discrepancies between the specification requirements and the manufacturer's instructions so that appropriate action can be taken.
5. Failure to give the above required notice may result in the Professional requiring the removal and reinstallation, without an increase in the contract price, of products that have been improperly placed or installed.
6. Execution:
Execution shall be of the highest quality possible and the work shall be performed by tradesmen, qualified in their respective disciplines. Notify the professional immediately if the nature of the work to be performed is such that the desired results could not reasonably be obtained.
7. Contractor will not employ persons who are unqualified or unprepared to perform the work assigned to them.

1.24. EQUIVALENT PRODUCTS

1. Contractor must comply with the Owner's general conditions.

1.25. CERTIFICATION OF SUBCONTRACTORS

1. Certain sections in the specifications require that references be produced by subcontractors prior to contract award. The Contractor shall pay special attention to these requirements and ensure that these documents are provided in a timely manner.

1.26. GENERAL NOTES FOR ALL PLANS

1. Contractor must execute the work in accordance with the :
 2. National Building Code 2010 Quebec version (C.C.Q.);
 3. Fire Prevention Code;
 4. Energy conservation code;
 5. Canadian Electrical Code;
 6. Quebec Plumbing Code;
 7. Other codes and regulations applicable to the project.
2. Contractor shall verify all dimensions, levels and conditions on the site before commencing work and shall report to the professionals any errors, omissions and discrepancies with the drawings and specifications.
3. These drawings, specifications and other tender documents serve to define the general and specific technical requirements for the work involved and do not constitute a warranty that the work shown or specified is complete and accurate. The Contractor shall remain responsible for performing all minor work required, not specifically mentioned on the drawings, in order to deliver complete and functional facilities for their intended use.

1.27. WASTE MANAGEMENT AND DISPOSAL

1. Prior to the start of work, meet with the Owner's Project Manager to review the waste management plan and objectives.
2. Remove all packaging materials from the job site and direct them to appropriate recycling facilities.
3. Place all paper, plastic, polystyrene, corrugated and other packaging materials in appropriate dumpsters installed on site for recycling in accordance with the waste management plan.
4. Place substances that meet the definition of toxic or hazardous waste in designated containers.

1.28. SURVEYS AND EXISTING CONDITIONS STATUS

1. Prior to the commencement of Work on the site and as required during the course of the work, a photographic survey of the condition of the site shall be made by the Contractor. A report will be prepared by the Contractor showing the photographic survey with the room number or location on the elevations and site plan, any discrepancies found and any pertinent comments.
2. Should any unidentified facilities be discovered during the course of the work, immediately notify the Owner and Architect and provide them with a written report of the findings.
3. Contractor must patch all ground surfaces damaged by the work (turf, asphalt surfaces, paint). Turf repair includes, but is not limited to, the following:
 1. Surface preparation, finish grading, complete supply of topsoil, amendments and fertilizers, sod, anchor stakes and accessories, transportation and placement.
 2. A 12-month warranty.
 3. Supply and installation of topsoil consisting of a mixture of particles, micro-organisms and organic matter to provide a favourable environment for grass growth. Bring the topsoil layer to 15mm from the final soil level
 4. Turf: Kentucky bluegrass / number one fescue type turf:
 1. Grown only from seed mixtures of Kentucky bluegrass cultivars and turf or creeping red fescues and containing at least 40% Kentucky bluegrass cultivars and 30% turf or creeping red fescues
 2. Number one named cultivars: turf grown from certified seed
 3. Containing no more than 2 broadleaf seeds or 10 other seeds per 40 square meter area
 4. Of such density that the soil remains invisible, 1500mm high, after mowing at a height of 60mm
 5. Sod shall be professionally cut using equipment designed for such work, according to the manufacturer's dimensions plus or minus 12mm in width and plus or minus 5% in length
 6. In 15mm thick sod
 7. At least 12 months old, with roots that can support the weight of the sheet, without tearing when hung vertically by the 2 upper corners.
 5. The following maintenance work from the date of installation of the turf until the date of provisional acceptance of the work:
 1. Water the turf areas in sufficient quantity and frequency to maintain optimum moisture content in the turf, to a depth of 75 to 100 mm.
 2. Repair and re-turf bare areas and areas of dead turf to the satisfaction of the Owner.
 3. Mow the grass to 60mm in height when it reaches 80mm or earlier and remove mowing debris that may smother the grassed areas.
 4. Keep turf areas 98% weed free.

1.29. PROJECT FILE RECORD

1. Upon provisional acceptance of the Work, the Contractor is required to submit to the Professionals for approval, in three hard copies collected in ring binders, the Project Completion Manual including, in addition to the requirements cited in the Owner's General Conditions:
 1. One copy of each of the submittals and verified documents and documents prepared by subcontractors, suppliers and manufacturers and approved by the Professional;
 2. One copy of "As-Built" drawings annotated with changes accurately reflecting the work performed, as described in 1.14 of this section;
 3. One copy of the list of subcontractors (names, addresses, phones).

1.30. CLOSING OF THE CONTRACT

1. **Final Cleaning :**
 1. Upon substantial completion of the Work, remove surplus materials, tools, and construction equipment and materials no longer required for the remainder of the Work.
 2. Remove debris and scrap materials and leave the site clean and ready for occupancy.
 3. Evacuate waste materials from the site at predetermined intervals or dispose of them as directed by the Professional. Waste materials shall not be burned on the job site.
 4. Arrange for and obtain permits from authorities having jurisdiction for disposal of debris and waste materials.
 5. Clean and polish glazing, hardware, wall tiles, chrome or enamel surfaces, laminate surfaces, stainless steel or porcelain enamel components, and mechanical and electrical appliances. Replace any broken, scratched or damaged glass.
 6. Remove dust, stains, marks and scratches from decorative work, mechanical and electrical appliances, furniture, walls and floors and all equipment.
 7. Clean reflectors, diffusers and other lighting surfaces.
 8. Dust and vacuum interior building surfaces, including cleaning behind grills, louvers, shutters, dampers and screens.
 9. Examine finishes, fixtures and equipment to ensure that they meet prescribed requirements for function and workmanship.
 10. Sweep and clean hard surfaced areas as recommended by the manufacturer.
 11. Clean equipment and appliances to make them sanitary, and clean or replace filters on mechanical appliances.
 12. Clear accessible voids and other concealed spaces of debris or excess materials.
 13. Sweep and wash walkways and exterior surfaces.
 14. Remove dirt or other defects from walkways and exterior surfaces.
 15. In the event of partial acceptance of the work, the finished and cleaned areas shall be maintained in that condition until final acceptance. The Contractor shall be responsible for erecting temporary protection to keep the area clean. Additional cleaning shall be required if temporary protection is found to be deficient.
 16. Clean all window cavities, grooves and mechanisms.
2. **Thorough cleaning**
 1. **Background:**

In the event that site enclosures are not adequate and allow dust to pass to areas not affected by the work, a thorough cleaning will be required for all such contaminated areas. If the work enclosures are adequate, a thorough cleaning will be required in the work area only. In both cases, deep cleaning is required in the affected areas to remove all dust accumulations, including areas that are difficult to access and not covered by regular building maintenance. This work is part of a complete building clean-up. The Contractor shall be thorough and performance oriented.

2. Scope:

All deposition surfaces in all affected spaces shall be subject to cleaning and particularly but not limited to:

1. heaters including the walls and baseboards behind them;
2. the tops of cabinets, file cabinets, bookcases and shelves, including the shelves and their contents;
3. frames;
4. floors;
5. cupboards and storage rooms including all shelves and their contents
6. tops of counters, tables and desks
7. window sills;
8. vanities including their interior surfaces;
9. the tops of light fixtures, ventilation ducts and piping;
10. if not adequately protected, the interior of ventilation ducts, grilles and diffusers;
11. all surfaces in washrooms.

The work shall be performed by a specialized cleaning company.

3. Method :

1. Dust cleaning must be performed by vacuuming and brushing with dust collection at the source. The vacuum cleaners must be equipped with HEPA filters and each of them must be certified with a recent D.O.P. test. Surfaces must then be manually cleaned with a slightly damp cloth and a detergent (soap).
2. The use of air or water blasting is absolutely prohibited unless performed under tight containment, the work area shall also be cleaned before dismantling.
3. Personnel must perform cleanup work wearing a respirator equipped with HEPA filter cartridges (type P-100)
4. Dust contained in the vacuum cleaners must be transferred to garbage bags outside the building.
5. The Contractor shall include this work in the general schedule of work included in this contract.

4. Products:

1. Floor stripper: ATTAC, Diversey brand;
2. Acid neutralizer: INO eko 5 from INO Solutions;
3. Sealer: IRON STONE from Diversey;
4. Topcoat: INO GLOSS 2 PRESTIGE by INO Solutions;
5. Scrubbing walls: INO Bano 6 degreasing cleaner from INO Solutions.

END OF SECTION

PART 1 - GENERAL

1.1. SECTION CONTENTS

1. Administrative Considerations
2. Shop Drawings and Data Sheets
3. Product Samples
4. Hazardous Materials

1.2. RELATED SECTIONS

1. Section 01 45 00 - Quality Control

1.3. ADMINISTRATIVE CONSIDERATIONS

1. Within a reasonable time and in a predetermined sequence so as not to delay the performance of the Work, submit the required documents and samples to the Professionals for approval. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
2. Do not proceed with Work affected by submittal until review is complete
3. Specifications shown on shop drawings, data sheets, and samples of products and work shall be expressed in imperial units.
4. When items are not produced or manufactured in imperial units, converted values may be accepted.
5. Review submittals prior to submission to Consultants. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
6. Notify Consultants, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
7. Verify field measurements and affected adjacent Work are co-ordinated.
8. Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Consultants' review.
9. Keep one reviewed copy of each submission on site.

1.4. SHOP DRAWINGS AND PRODUCT DATA

1. Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where

articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

2. Allow five (5) working days for the Professionals to review each set of documents submitted.
3. Changes made to the shop drawings by the Professionals are not intended to vary the contract price. If they do, however, notify the Professionals in writing prior to commencing work.
4. Make changes in shop drawings as Consultants may require, consistent with Contract Documents. When resubmitting, notify Consultants in writing of revisions other than those requested.
5. Submitted documents shall bear or indicate the following:
 1. date of preparation and dates of revision;
 2. project name and number;
 3. name and address of the following: subcontractor, supplier and manufacturer;
 4. Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 5. Details of appropriate portions of Work as applicable:
 1. Fabrication;
 2. Layout, showing dimensions, including identified field dimensions, and clearances;
 3. Setting or erection details;
 4. Performance characteristics;
 5. Standards;
 6. Relationship to adjacent work.
6. The Contractor is responsible for issuing sufficient copies and distributing shop drawings and data sheets after the Professional has completed verification. In addition, the Contractor shall be responsible for retaining copies necessary to assemble the project completion manuals.
7. Submit shop drawings as prescribed in the technical sections of the specifications and as required by the Professionals.
8. If no shop drawings are required due to the use of a standard manufactured product, submit the manufacturer's data sheets or documentation prescribed in the technical sections of the specifications and required by the Professionals.
9. Delete information that is not applicable to the work.
10. In addition to the standard information, provide any additional details that apply to the Work.
11. When the shop drawings have been checked by the Professionals and no errors or omissions are found or only minor corrections are made, the prints shall be returned and the fabrication and installation work may proceed. If the shop drawings are rejected, the marked-up copy(ies) shall be returned and the corrected shop drawings shall be resubmitted as specified above before fabrication and installation work can be undertaken.
12. When the requirements of the technical sections of the specifications require that the documents be verified and calculated by an Engineer, they shall bear the seal and signature of an Engineer who is a member in good standing of the *Ordre des Ingénieurs du Québec* and who is qualified to validate this type of work.
13. Maintain and update a schedule showing the processing of all shop drawings and data sheets

required by the contract.

14. Submit all required shop drawings and data sheets within two (2) weeks of contract award.

1.5. PRODUCT SAMPLES

1. Submit a minimum of two (2) product samples for verification as specified in the technical sections of the specifications. Label samples with origin and intended destination.
2. Ship samples freight prepaid to the Professionals' business office.
3. Notify the Professionals in writing at the time of submission of product samples of deviations from the requirements of the contract documents.
4. When color, pattern or texture is specified, submit the full range of samples required.
5. Changes in samples made by the Professionals are not intended to vary the contract price. If they do, however, notify the Professionals in writing before proceeding with the work.
6. Make such changes in the samples as may be requested by the Professionals while complying with the requirements of the Contract Documents.
7. The reviewed and approved samples shall become the standard against which the quality of materials and workmanship of the finished and installed work shall be evaluated.

1.6. HAZARDOUS MATERIALS

1. Submit current Material Safety Data Sheets (MSDS) for each hazardous material required on the job site, prior to its being brought to the job site.
2. Submit a Hazardous Materials Management Plan, indicating the names of all hazardous materials, their use, location, required personal protective equipment and disposal arrangements.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

Not applicable.

END OF SECTION

PART 1 - GENERAL

1.1. CONTENTS OF THE SECTION

1. Safety measures during Work
2. Standards for scaffolding and temporary structures

1.2. RELATED SECTIONS

1. Not applicable.

1.3. REFERENCES

1. Canada Labour Code, Part II, Canada Occupational Safety and Health Regulations
2. Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 1. Material Safety Data Sheets (MSDS).
3. Act respecting occupational health and safety, R.S.Q. 1997 (updated July 26, 2005).
4. Adopt and enforce safety measures for construction work as required by the *Code de Construction du Québec, Chapitre 1 – Bâtiment, et Code national du bâtiment – Canada 2010 (modifié)*, and the National Building Code of Canada 2010 (amended) and the National Fire Code of Canada 2010, by municipal ordinances and by-laws, by the Quebec Occupational Health and Safety Act, Code and Regulations, as enforced by the Commission des normes de l'équité de la Santé et de la Sécurité du Travail (CSST).
5. In the event of a conflict between the requirements of the above-mentioned codes and organizations, the most stringent shall prevail.

1.4. GENERAL REQUIREMENTS

1. Prepare a site-specific health and safety plan based on the pre-assessment of risks/hazards prior to commencing Work. Implement the plan and ensure compliance at all times until all site personnel have been discharged. The health and safety plan must take into account the specifics of the project.
2. The Architect may comment in writing if there are any deficiencies or concerns with the plan and may require submission of a revised plan that will correct the deficiencies or eliminate the concerns.
3. All demolition of asbestos-containing parts of structures shall be carried out in accordance with the Health and Safety Regulations.
4. Contractor is responsible for coordinating with the owner's central monitoring station to turn the alarm system on and off.
5. The Owner will provide security guards per their protocol. The Contractor shall coordinate with the owner's project manager a minimum of 48 hours in advance to determine the required surveillance coverage.

6. Contractor will pay special attention to the protection of smoke/heat detectors so that they are not accidentally triggered.
7. The Contractor shall be responsible for the cost incurred by any false alarm caused by his activities.

1.5. FIRE SAFETY MEASURES

1. Comply with the requirements of CI No. 301 "Construction Work" and CI No. 302 "Welding and Cutting", issued by the Fire Commissioner of Canada (CI), as well as Section 5 of the 2005 National Fire Code.
2. Contractors and their employees shall be familiar with and know how to report the start of a fire.

1.6. MEASURES FOR SILICA DUST

1. Take all necessary measures recommended by Owner and workplace safety organizations for the control and spread of silica dust.

1.7. OVERLOADING

1. No part of the work shall be loaded in a manner that will endanger its safety or cause permanent deformation.

1.8. RESPONSIBILITY

1. Be responsible for the health and safety of persons on the work site and for the protection of property on the work site, and for the protection of persons and the environment in areas adjacent to the work site insofar as they are affected by the work.
2. Comply with, and have employees comply with, the safety requirements set out in the applicable local, territorial, provincial and federal contract documents, ordinances, laws and regulations, and in the health and safety plan prepared for the work site.

PART 2 - PRODUCTS

Not applicable.

PARTIE 3 - EXÉCUTION

Not applicable.

END OF SECTION

PART 1 - GENERAL

1.1. APPLICATION

1. This section must be read in conjunction with each of the other sections of the Contract Documents and shall apply to the entire Work.
2. Complementarity of Documents: Some items are specified on the Drawings and others in these Specifications. The documents are complementary.
3. The requirements in this section supplement the information in the CSMB standard bid document (Regs, Bid Form and Contract). For a subject covered in either of these documents, the more stringent requirement applies.

1.2. FIRE

1. Fires and burning of waste materials on the job site are not permitted.

1.3. OFF-SITE WASTE AND SOLID WASTE DISPOSAL

1. No waste or scrap material shall be buried on the job site.

1.4. DRAINAGE

1. Provide temporary drainage and pumping as required to keep the work site dry.
2. Pumping of water containing suspended particulate material into streams, sewer systems, or drainage systems is prohibited.
3. Control the disposal of water containing suspended particulate matter or any other deleterious substance in accordance with local agency requirements.

1.5. POLLUTION PREVENTION

1. Maintain temporary erosion and pollution prevention facilities established under this contract.
2. Provide control of gases and emissions from materials, equipment, tools and facilities as required by local agencies.
3. Prevent blasting materials and other foreign matter from contaminating the air and waterways beyond the application area by constructing temporary shelters.
4. Water down dry materials and cover waste to prevent wind from kicking up dust or carrying away debris.

1.6. PROTECTION AND PRESERVATION OF TREES AND SHRUBS

1. Ensure protection of trees and shrubs on the work site and adjacent properties as required by the Work.
2. The protection of trees and shrubs applies to the root system as well as the trunk and branches. In the event that the minimum protection area cannot be respected, immediately notify the Architect before proceeding with the work and establish with the professionals the measures and procedures to follow.
3. Wrap burlap around trees and shrubs adjacent to the demolition site, storage areas and truck lanes. Provide trees and shrubs with a protective wooden cage 2 m high from ground level.
4. No machinery should be used in the tree protection zone at any time to avoid soil compaction, which would force the soil to aerate and moisten. The roots will then suffer from slow asphyxiation.
5. Avoid unnecessary traffic and unloading or storage of materials above the root zone of protected trees.
6. In the event that this minimum area cannot be met, and with the approval of the Architect, the following technique should be applied to minimize soil compaction and thus the harmful effects on the health of the trees. It consists of spreading a geotextile membrane on the surface used and placing a 20mm net stone cushion on top.

The natural soil is then compacted to about the same extent as the second soil horizon would be under these circumstances. The whole thing can be easily removed without damaging the surface soil and therefore the rootlets.

7. When a portion of the root system is cut into the tree protection zone, which is only observed during the execution of the work, it must be cut cleanly with tools approved by the Architect and, as the case may be, have an equal portion of branches pruned. Indeed, the pruning of branches and the choice of the period to do it, depending on the species of trees, remain delicate in order to avoid the installation of cryptogamic diseases.

For these trees, the growth of branches and leaves implies the consumption of nutrients and water by the roots. Therefore, when the number of roots decreases, or when they are rendered unusable by soil compaction, the remaining ones do not supply the aerial foliage sufficiently. The result is a gradual decline of the tree, visible several months and even years after the end of the work. This is why it is necessary that a specialist sees to the necessary spreading and care during the work.

8. REPAIRS

1. Contractor is responsible for any damage to trees and shrubs located on the contract site, including trees on the public road.
2. In performing the Work, the Contractor must take every precaution to avoid damaging or endangering the life of the trees to be maintained.
3. Any damage that may be caused to the trees to be preserved located inside and outside the limit of the Work shall be repaired as indicated and to the satisfaction of the Architect, at the expense of the Contractor.
4. If irreparable damage or loss of trees to be preserved located inside and outside the limits of the Work is caused by the negligence of the Contractor to comply with these conditions of the specifications and the indications given by the owner's representative, the Contractor will be required to plant equivalent trees for each irreparable or lost tree.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

Not applicable.

END OF SECTION

PART 1 - GENERAL

1.1. SECTION CONTENTS

1. Inspections and testing, administrative and operational requirements.
2. Site Access.
3. Procedures.
4. Reports.
5. Testing and dosage formulas.
6. Mock-ups.

1.2. RELATED SECTIONS

1. Section 01 33 00 – Submittal Procedures.

1.3. INSPECTION

1. The Professionals shall have access to the Work. If any part of Work or Work is performed off-site, access to that area shall also be provided for the duration of such Work.
2. In the event that special inspections, approvals or tests of the Work are required by the Professionals or by local by-laws affecting the site, request them within a reasonable time.
3. If Contractor has covered or permitted the covering of any Work before it has been subjected to the required special inspections, approvals or tests, the Contractor shall uncover the Work, cause the required inspections or tests to be made to the satisfaction of the authorities having jurisdiction, and restore the Work to its original condition and pay for the same.
4. The Professionals may order an inspection of any part of the Work where compliance with the Contract Documents is in doubt. If, upon examination, the Work in question is found not to conform to the requirements of the Contract Documents, the Contractor shall take such action as may be necessary to bring the Work into conformity with the specified requirements, and shall bear the cost of inspection and repair. If the Work in question is found to be in compliance with the requirements of the Contract Documents, the Owner shall bear the cost of inspection and repair so incurred.

1.4. INDEPENDENT TESTING AND INSPECTION AGENCIES

1. The Professionals shall be responsible for retaining the services of independent testing and inspection agencies. The cost of such services shall be borne by the Owner.
2. Provide equipment required by the designated agencies for the performance of tests and inspections.
3. The use of testing and inspection agencies shall in no way relieve the Contractor of responsibility for the performance of the Work in accordance with the requirements of the Contract Documents.
4. If defects are found during testing and/or inspection, the designated agency will require further inspection and/or additional testing to accurately define the nature and extent of such defects. The Contractor will correct the defects and imperfections as directed by the Professionals at no additional

cost to the Owner, and shall bear the cost of the tests and inspections to be performed after such corrections.

1.5. SITE ACCESS

1. Allow testing and inspection agencies access to the job site and to fabrication and shaping shops located off the job site.
2. Cooperate with these agencies and take all reasonable steps to ensure that they are provided with appropriate access.

1.6. PROCEDURES

1. Notify the appropriate agency and the Professional in advance when testing is required so that all parties involved can be present.
2. Submit samples and/or equipment and materials required for testing as specified in the specifications in a timely manner and in a predetermined order so as not to delay the performance of the work.
3. Provide manpower and facilities to collect and handle samples and materials on the job site. Also provide space for storage and curing of samples.

1.7. REPORTS

1. Provide three (3) copies of test and inspection reports to Professionals.
2. Provide copies of such reports to subcontractors responsible for the Work inspected or tested.

1.8. TESTS AND DOSAGE FORMULAS

1. Provide three (3) copies of required test reports and proportioning formulas.
2. The cost of tests and mix designs not specifically required by the Contract Documents or local regulations for the job site shall be subject to approval by the Professionals and may be subject to subsequent reimbursement.

1.9. MOCK-UPS

1. Prepare mock-ups specifically required in the Specifications. The requirements of this section apply to all sections of the specifications in which mock-ups are requested.
2. Construct mock-ups at the various locations approved by the Professionals and designated in the applicable section.
3. Prepare mock-up for approval by the Professionals within a reasonable time and in a predetermined

sequence so as not to delay the execution of the Work.

4. Delay in the preparation of mock-ups shall not constitute a sufficient reason for an extension of time to complete the Work and no such request shall be granted.
5. If necessary, the Professionals will assist the Contractor in establishing a schedule for the mock-ups' preparation.
6. Each section of the specifications that refers to mock-ups shall specify whether or not the mock-ups may be part of the finished Work and when they are to be removed, if at all.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

Not applicable.

END OF SECTION

PART 1 - GENERAL

1.1. SECTION CONTENTS

1. Temporary Utilities.

1.2. RELATED SECTIONS

1. Section 01 52 00 – Construction Facilities
2. Section 01 56 00 - Temporary Barriers and Enclosures

1.3. MATERIAL PLACEMENT AND REMOVAL

1. Provide the necessary temporary utilities to allow Work to be performed in a timely manner.
2. Dismantle and remove equipment from the site when no longer required.

1.4. WATER SUPPLY

1. Refer to the special administrative clauses.

1.5. HEATING AND VENTILATION

1. Provide temporary heating equipment required for the period of Work, ensure its operation and maintenance, and supply the necessary fuel.
2. Provide appropriate climate control (heating and ventilation) in confined spaces for the following purposes:
 1. promote progress of Work;
 2. protect Work and products from moisture and cold;
 3. prevent condensation from forming on surfaces;
 4. provide appropriate ambient temperatures and humidity levels for storage, installation and curing of materials;
 5. meet the requirements of the Occupational Safety Measures Regulations.
3. Where work is in progress, maintain temperature at a minimum of 10 degrees Celsius.
4. Ventilation :
 1. prevent accumulation of dust, fumes, gases, and fogging in areas that remain occupied during construction;
 2. provide local exhaust ventilation to prevent the accumulation of substances in the environment that may be hazardous to the health of occupants;
 3. ensure that combustion gases are vented in a safe manner and to a location where they will not present a health hazard to persons;
 4. provide ventilation to storage areas for hazardous or volatile materials;
 5. operate ventilation and exhaust equipment for a period of time after completion of Work to

completely remove from the environment any contaminants that may have been generated during the various construction activities.

5. Provide strict monitoring of the operation of heating and ventilation equipment at all times, ensuring that the following requirements are met:
 1. comply with applicable codes and standards;
 2. practice safe operating practices;
 3. prevent waste;
 4. prevent damage to finishes;
 5. vent flue gases from direct fired appliances to the outdoors.
6. Assume full responsibility for damage to the Work due to improper heating or protective conditions maintained during the Work.

1.6. POWER AND LIGHTING

1. Refer to the Special Conditions of Contract.

1.7. TELECOMMUNICATIONS

1. Contractor shall provide temporary telecommunication facilities, including telephones, fax machines, data processing systems, including necessary lines and equipment, for his own use, and shall connect such facilities to the main networks and pay for all such services.

1.8. FIRE PROTECTION

1. Provide and maintain fire protection equipment as required by applicable insurance companies, codes and regulations.
2. Burning of waste materials and construction waste on the site is prohibited.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

Not applicable.

END OF SECTION

PART 1 – GENERAL

1.1. SECTION CONTENTS

1. Construction Aids.
2. Offices and Sheds.
3. Storage.

1.2. RELATED SECTIONS

1. Section 01 51 00 - Temporary Utilities
2. Section 01 56 00 - Temporary Barriers and Enclosures

1.3. REFERENCE STANDARDS

1. CSA-0121, Douglas Fir Plywood.
2. CAN/CSA-S269.2, Scaffolding.
3. CAN/CSA-Z321, Workplace Signs and Symbols.

1.4. INSTALLATION AND REMOVAL OF MATERIAL

1. Provide, set up or arrange all site facilities necessary to allow Work to be performed in a timely manner.
2. Dismantle equipment and remove it from the job site when no longer needed.

1.5. SCAFFOLDING

1. Provide and maintain scaffolds, ramps, ladders, flying scaffolds, platforms, and temporary stairs necessary for the performance of the Work.
2. Design and construct scaffolds in accordance with CAN/CSA-S269.2-M87 (R2003).
3. Design and construct temporary structures in accordance with CSA S269.1-1975 (R2003).

1.6. LIFTING EQUIPMENT

1. Supply, install, maintain and operate hoists and/or cranes required to move workers, materials/materials and equipment. Make necessary financial arrangements with subcontractors for the use of hoisting equipment.
2. Hoists and/or cranes shall be operated by qualified workers.

1.7. ON-SITE STORAGE / ALLOWABLE LOADS

1. Ensure that the work is performed within the limits specified in the contract documents. Do not unreasonably encumber the site with equipment and materials.

2. Do not overload or allow overloading of any part of the Work so as not to compromise its integrity.

1.8. PARKING

1. During the period of Work, Contractor will establish his parking area within the work area indicated by the Owner. However, this area shall be used initially for:
 1. Waste and storage containers;
 2. Site office;
 3. Sanitary facilities;
 4. Delivery and storage of equipment, materials and tools.
2. Only vehicles used for delivery or transportation of tools will be tolerated within the perimeter of the work site. These must be identified with a logo or the name of a construction company.
3. Contractor shall maintain the area within the work zone indicated in the mobilization plan during the work period and repair at his own expense any damage that may result from its use.
4. If no parking is provided on the work site for construction workers, the Contractor shall provide an alternative and shall be responsible for the cost of making such arrangements to comply with the provisions of the collective agreements.
5. The Contractor is responsible for making all request for occupation of the public domain and for providing the required parking space for his construction vehicles.

1.9. SAFETY MEASURES

1. Hire and pay for reliable security personnel to provide after-hours and off-duty surveillance of the work site and materials/equipment thereon.

1.10. OFFICES

1. Not required.

1.11. STORAGE OF EQUIPMENT, MATERIALS AND TOOLS

1. Provide lockable, weatherproof sheds for the storage of equipment, materials and tools and keep them clean and tidy.
2. Leave equipment and materials not required to be weatherproofed on the job site, but ensure that they interfere as little as possible with the progress of the work.

1.12. SANITARY FACILITIES

1. Provide sanitary facilities in accordance with applicable regulations and ordinances.
2. Coordinate location with Owner and Architect.

3. Post notices and take precautions as required by local public health authorities. Maintain sanitary conditions of the premises at all times.

1.13. WORK SITE SIGNAGE

1. Provide and install signs and posters for temporary signage, protection of persons, instructions, access and egress. Only such signs and posters are permitted on the work site.
2. The format, location and quantity of signs and posters shall be approved by the Architect.
3. Directional signs and posters shall be written in French or bear the standard graphic symbols in accordance with CAN/CSA-Z321-96 (R2006).
4. Signs shall comply with municipal and provincial regulations governing their location and size.

1.14. PROTECTION AND MAINTENANCE OF TRAFFIC

1. Where required, provide access roads and temporary detour routes to maintain traffic flow.
2. Maintain and protect traffic on affected roadways during construction unless otherwise specifically directed by the Architect.
3. Provide measures for the protection and detour of traffic, including the services of supervisors and flagmen, installation of barricades, installation of lighting around and in front of equipment and work area, placement and maintenance of appropriate warning signs, hazard signs and directional signs.
4. Protect the traveling public from damage to persons and property.
5. The Contractor's rolling stock used to transport materials/materials into and out of the work site shall cause the least possible interference with road traffic.
6. Ensure that existing lanes and the load limits allowed on them are adequate. The Contractor shall be responsible for repairing damaged lanes as a result of construction.
7. Construct necessary access roads and site trails.
8. Construct construction roads with adequate grade and width; avoid sharp curves, blind turns, and any hazardous intersections.
9. Provide lighting, signs, barricades and markings necessary for safe traffic flow.
10. Provide dust control measures to ensure safe operation at all times.
11. The location, grade, width and alignment of access roads and site trails are subject to the approval of the Architect.
12. Lighting shall be provided to ensure full visibility across the full width of the construction site trails and work areas during evening and night shifts.
13. Provide for snow removal during the period of work.

14. Upon completion of work, dismantle construction roads and trails.

1.15. CLEANUP

1. Remove debris, trash, and packing materials from construction site daily.
2. Remove dust and mud from hard surfaced pavements.
3. Store materials/materials recovered during demolition work.
4. Do not store new or salvaged materials/materials in the site facilities.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

Not applicable.

END OF SECTION

PART 1 – GENERAL

1.1. RELATED SECTIONS

1. Section 01 35 29 - Health and Safety Requirements
2. Section 01 35 43 - Environmental Procedures
3. Section 01 45 00 - Quality Control
4. Section 01 51 00 - Temporary Utilities
5. Subpart 01 52 00 - Construction Facilities
6. Section 01 73 00 - Execution

1.2. REFERENCES

1. CSA-O121-M1978(R2003), Douglas Fir Plywood.

1.3. MATERIAL PLACEMENT AND REMOVAL

1. Provide, erect or arrange for temporary access and protection works necessary to permit the work to be carried out as soon as possible.

1.4. ACCESS AND SITE ENCLOSURE

1. Entrance to the work site will be as indicated on the drawings and in coordination with the Owner:
 1. Maintain entrance and clean access roads to the work site according to their use, repair any damage to the access roads according to their use.
 2. Any damage that may occur as a result of use shall be repaired at the Contractor's expense. At all times allow for the circulation of vehicles at the perimeter of the building.

1.5. TEMPORARY BARRIERS AND ENCLOSURES

1. As indicated on the drawings, install temporary barriers and enclosures from the floor to the concrete slab made of wood studs and waterproof cloths in order to isolate the work area in all rooms. These partitions must be watertight, have an access door and must be installed before the work begins.

1.6. COVERED PASSAGEWAYS

1. Provide covered passageways serving all exits within the mobilization area or located below a work area.
2. These covered passageways shall be well delineated by construction fencing, secure and lighted.
3. All passageways shall be designed by a structural engineer and therefore have shop drawings signed and sealed by a structural engineer and inspected by that engineer following installation.

1.7. SHELTERS AND WEATHER ENCLOSURES

1. Provide temporary weatherproof protective enclosures at building openings until permanent

elements are demolished. Execute temporary barriers and structures, including lockable doors as required.

2. Enclosures must be constructed to facilitate the installation of materials and work within the site.
3. Enclosures must be designed to withstand wind and snow loads.
4. During the entire execution of Work, protect equipment and fully or partially finished surfaces of the work.
5. Provide necessary screens, tarps and barriers.
6. Assume full responsibility for damage to Work due to lack of or inadequate protection.

1.8. DUST BARRIERS

1. Provide dust barriers or insulated barriers to enclose areas where dust generating activities are performed to protect workers, the public and finished surfaces or areas of the Work.
2. Maintain these barriers and relocate them as necessary until such activities are completed.

1.9. SITE ACCESS ROADS

1. Provide lanes, paths, ramps and pedestrian crossings necessary to access the work site.

1.10. ROAD TRAFFIC

1. Where necessary, arrange for the services of qualified traffic control flagmen and provide traffic control devices and flares, barriers, lights and fixtures necessary for the performance of the work and the protection of the public.

1.11. ACCESS ROUTES FOR EMERGENCY VEHICLES

1. Provide access to the work site for emergency vehicles and provide adequate overhead clearance.

1.12. PROTECTION OF NEIGHBORING PUBLIC AND PRIVATE PROPERTY

1. Protect adjacent public and private property from damage resulting from Work.
2. If necessary, assume full responsibility for any damage caused.

1.13. PROTECTION OF FINISHED BUILDING SURFACES

1. During the entire period of execution of the work, protect the material as well as the completely or partially finished surfaces of Work.
2. Provide necessary shields, tarps, and barriers.

3. Three (3) days prior to installation of protective elements, confirm with the Architect and Owner the location of each and the installation schedule.
4. Assume full responsibility for damage to the Work due to lack of or improper protection.

1.14. WASTE MANAGEMENT AND DISPOSAL

1. Sort waste for reuse and/or recycling.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

Not applicable.

END OF SECTION

PART 1 - GENERAL

1.1. SECTION CONTENTS

1. Requirements and restrictions for cutting and patching work.

1.2. RELATED SECTIONS

1. Section 01 00 10 – General Requirement – complementary.
2. Section 01 33 00 – Submittal Procedures.
3. The appropriate technical sections of the specifications for cutting and patching work related to the subject work. Advance notice should be given to other trades involved.

1.3. APPLICATION FOR CUTTING AND PATCHING WORK

1. Submit a written request prior to performing any cutting and patching work that may affect the following:
 1. the structural integrity of any element of the work;
 2. the integrity of weathered or waterproofed elements; and
 3. the effectiveness, maintenance or safety of any functional element;
 4. the aesthetic qualities of exposed elements;
 5. the work of the *Maître de l'ouvrage* or other contractor.
2. The application shall specify or include the following:
 1. project designation;
 2. the location and description of the affected elements;
 3. a statement of why the requested cutting and patching work is necessary;
 4. a description of the proposed work and the products to be used;
 5. alternatives to the cutting and patching work;
 6. the date and time the work will be performed.

1.4. MATERIALS

1. Materials to achieve a like-for-like (identical as existing) installation.
2. Any changes in materials shall be submitted for substitution in accordance with the requirements of Section 01 33 00 – Submittal Procedures.

1.5. PREPARATORY WORK

1. Inspect the job site to examine existing conditions and to identify items that may be damaged or displaced during cutting and patching operations.
2. After exposing the items, inspect them to identify any conditions that may affect the execution of the work.
3. Commencement of cutting and patching work signifies acceptance of existing conditions.
4. Provide and install supports to ensure structural integrity of adjacent elements. Provide devices and

consider methods designed to protect other elements of the work from damage.

5. Provide protection for surfaces that may be exposed to the weather as a result of the exposure of the Work.

1.6. EXECUTION OF THE WORK

1. Unless otherwise specified in the contract documents, the Contractor shall be responsible for the execution of all cutting, drilling, patching and repair operations and shall coordinate the execution thereof so as to minimize the extent thereof. He shall include in his bid, the price for all work required for the complete execution of the Work, even those required in addition to those indicated on the drawings.
2. These operations of cutting, piercing, patching and repairing shall be performed by qualified workers, respecting the solidity and appearance of the Work, providing the same degree of fire resistance as the surrounding materials. Perform drilling, cutting and patching in accordance with existing conditions, perform renovation work accordingly.
3. Perform cutting, adjusting and patching as necessary to complete the work.
4. Perform drilling, adjusting and sealing work necessary to ensure that work to be connected and bonded to others is done accurately and without play.
5. Use materials similar to existing materials. For any change in materials, submit a request for substitution to the Architect.
6. When components or fixtures are moved or removed, repair or refinish finished surfaces with materials similar to existing.
7. Fit individual elements together so that they blend well with the rest of the work.
8. Uncover to allow for work that, for one reason or another, should have been done at another time.
9. Remove or replace defective or non-conforming elements, the connecting edges between various elements shall be straight, smooth, level and ensure that any sealing joints are as little visible as possible.
10. Provide openings in non-load-bearing members of the structure for mechanical and electrical penetrations.
11. Use methods that will not damage other elements of the work and that will result in surfaces suitable for patching and finishing.
12. Cut rigid materials with a masonry saw or drill bit. Pneumatic or impact tools shall not be used on masonry work without prior approval.
13. Drill holes so that the edges are clean and smooth and so that the sealing joints are as little visible as possible.
14. Restore work with new products as required by the Contract Documents.
15. Fit work tightly around pipes, sleeves, air and electrical ducts, and other penetrations.

16. At penetrations of fire rated walls, ceilings or floors, completely seal voids around openings with a 2-hour fire rated material to the full thickness of the penetrated element.
17. Finish surfaces to be consistent with adjacent finishes. For continuous surfaces, finish to the nearest intersection between two elements; for an assembly of elements, finish throughout.
18. Unless otherwise specified, conceal ductwork, air ducts and wiring in walls, ceilings and floors of finished rooms and areas.

PART 2 – PRODUCTS

Not applicable.

PARTIE 3 – EXÉCUTION

Not applicable.

END OF SECTION

PART 1 - GENERAL

1.1. SCOPE OF WORK

1. Provide all materials, labor, supervision, tools, scaffolding, equipment, and all services necessary for the performance of all demolition work required to complete the work shown on the drawings and described in the plans and specifications for the various specialties:
 1. Architecture
2. Coordinate the demolition work with the work of the related specialties.

1.2. RELATED SECTIONS

1. Section 01 00 10 – General Requirements - complementary
2. Section 01 73 00 - Execution

1.3. REFERENCES

1. Canadian Standards Association (CSA)/CSA International
 1. CSA S350 M1980 (R2003), Code of Practice for Safety in Demolition of Structures.
2. Canadian Environmental Protection Act (CEPA)
 1. CCME PN 1327-2008, Code of Practice for Storage Tank System containing petroleum and allied products.
3. Department of Justice Canada (Jus)
 1. Canadian Environmental Assessment Act (CEAA), c. 37, 1995.
 2. Canadian Environmental Protection Act (CEPA), c. 33, 1999.
 1. On-Road Vehicle and Engine Emission Regulations, SOR/2003-2.
 2. Regulations Amending the On-Road Vehicle and Engine Emission Regulations, SOR/2006-268.
 3. Transportation of Dangerous Goods Act, 1992 (TDGA), c. 34.
4. Underwriters' Laboratories of Canada (ULC)
 1. CAN/ULC-S660-[08], Standard for Nonmetallic Underground Piping for Flammable and Combustible Liquids.
 2. ULC/ORD-C58.15-[1992], Overfill Protection Devices for Flammable Liquid Storage Tanks.
 3. ULC/ORD-C58.19-[1992], Spill Containment Devices for Underground Tanks.
5. U.S. Environmental Protection Agency (EPA)
 1. EPA CFR 86.098-10, Emission standards for 1998 and later model year Otto-cycle heavy-duty engines and vehicles.
 2. EPA CFR 86.098-11, Emission standards for 1998 and later model year diesel heavy-duty engines and vehicles.
 3. EPA 832/R-92-005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

1.4. APPLICATIONS

1. The requirements of this section apply to all demolition work to be performed at the construction site that may be required by this section or other related sections. These requirements shall be coordinated with those of all other disciplines. For any given job, the more stringent requirements shall prevail at all times.

1.5. PROTECTIVE MEASURES

1. Take all necessary measures to protect and prevent any displacement or collapse of the immediate environment of the elements to be demolished or removed (bus shelters, public roads, sidewalks, services, etc.) in order to avoid damage. Supply and install parts necessary for reinforcement and shoring. Repair any damage to the immediate environment caused by the Contractor's fault. Assume responsibility for damage and injury to workers, occupants, and any other person resulting from the demolition work.
2. Properly shore up the works and, if it appears that the demolition work may constitute a danger to adjacent works, services; stop it and notify the Architect and Engineer.
3. Protect existing structures and materials to be salvaged.
4. Ensure that demolitions do not obstruct electrical and mechanical systems which must remain in working order.
5. Ensure that demolitions do not obstruct surface water drains and outlets.

1.6. SUBMITTALS

1. Submit shop drawings as required by the General Conditions.
2. Submit, for review and approval, drawings, diagrams, or details showing the sequence of demolition work.
3. Upon request, submit shoring and bracing drawings for approval by the Consultant prior to commencing demolition work.
4. Shop drawings of the submitted demolition work shall bear the seal and signature of a qualified engineer recognized and licensed to practice in Canada, in the Province of Quebec.

1.7. EXISTING CONDITIONS

1. Undertake demolition works in the condition in which they are on the day of award of the contract.

2. Verify the inventory of designated hazardous materials and take the necessary measures to preserve the environment.
3. Do not resume work until written direction is received from the Architect or his consultant.
4. Notify the Owner's Project Manager before obstructing access to the building or interrupting services.

1.8. DEMOLITION DRAWINGS

1. Upon request of the Architect and/or Consultants, submit for approval drawings, diagrams or details showing the order of removal of structures, or shoring and protection.
2. Drawings of supporting, structural, bearing and load transfer elements on existing elements shall bear the seal and signature of a qualified Professional Engineer recognized in Quebec.

1.9. RESPONSIBILITIES OF SUBCONTRACTORS

1. The General Contractor's subcontractors and suppliers must become familiar with the scope of work of their discipline, as well as the work schedule. To this end, they shall ensure that they have the necessary skills, availability, capabilities, tools and manpower to perform the work in accordance with the plans and specifications of the professionals, while respecting the contractual schedule.

1.10. MATERIALS AND EQUIPMENT

1. Shut down equipment, tools, machinery and materials when not in use, except where extreme temperature conditions require uninterrupted operation.
2. Demonstrate that tools, equipment, and machinery are operated in a manner that allows for the recovery of materials in the best possible condition.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.1 PREPARATORY WORK

1. Inspect the site with the owner's representative and professionals and verify the location and extent of items to be removed, disposed of, reclaimed, recycled, salvaged, and those to remain in place.
2. Obtain from the Architect or Engineer, as appropriate, and any other authority having jurisdiction, all information necessary for such work.
3. Locate and protect utility systems and buildings. Protect and ensure that those still in service that cross the work site are kept in good condition so as to keep them functional.
4. Notify and obtain approvals from utility companies prior to commencing demolition work.
5. Immediately notify the owner's representative and the utility company involved of any damage to a utility line intended to be retained.
6. Immediately notify the Engineer of the discovery of any unlisted utility line and await written instructions from the Engineer as to the action to be taken thereon.
7. Material(s), material(s), equipment(s), part(s) of building, etc. unnecessarily demolished will be taken back at the Contractor's expense.

3.2 GENERAL

1. Unless otherwise specified, clear the site of demolition and demolition materials on a daily basis in accordance with the requirements of the authorities having jurisdiction. Dispose of waste materials as demolition work progresses to avoid accumulation at the site.
2. At the end of each work period, clean up the premises occupied by the owner during the work period.
3. No material resulting from the demolition shall be deposited on the public highway (except in the case of necessity recognized by the Architect), and unless a permit is issued by the City and paid for by the Contractor.
4. During the course of the work, keep the public highway in a constant state of cleanliness in the vicinity of the demolitions and in areas that may have been soiled as a result of the work.
5. Use a method of working that will minimize the amount of dust generated and, if necessary, water the debris and waste materials using methods that avoid wasting water. Debris chutes will be closed and receptacles fitted with tight fitting lids if materials must be dumped from any height.
6. No demolition debris or materials shall be sold, burned or buried on the site.

3.3 SAFETY CODE

1. Unless otherwise specified, carry out demolition work in accordance with the requirements of the "*Code québécois de sécurité en construction*", C.S 2.1, r.6, according to the most recent update, of the applicable municipal and provincial codes.

3.4 PROTECTION

1. Carry out all required protection to adjacent works and install all required temporary barriers and opaque fences to control dust.
2. Protect the public and existing structures with temporary partitions or shelters designed to withstand possible accidental falls of materials or other chance events.
3. Construct temporary enclosures in accordance with the requirements found in the Industrial and Environmental Health Consultant's documents.
4. The construction of the temporary enclosures and barriers shall at no time prevent access to the site exits.
5. To ensure, during the whole duration of the demolition works, the presence on the site of a waste container of sufficient dimensions to be able to accept the waste generated by one day of work.
6. Take the necessary measures to prevent the displacement, collapse or any other damage to structures, utility lines, sidewalks, trees and landscaping to be preserved. Provide shoring and bracing of structures as required.
7. Protect asphalt pavement to be left in place, lighting, sidewalks and other structures from damage. If damaged, repair or replace immediately at no cost and to the satisfaction of the Owner and Architect.
8. Minimize dust and noise generated by the work and inconvenience to nearby occupants.
9. Protect appliances, mechanical and electrical installations and utility lines.
10. Provide necessary dust barriers, covers, guards, supports and other protective devices.
11. Perform work in accordance with Section 01 00 10 - General Requirements – complementary and in accordance with applicable safety codes and standards.
12. Maintain temporary partitions as indicated on the plans and specifications.
13. Do not accumulate materials on site.

14. Make provisions to prevent dust, water, or other material resulting from demolition work from spreading beyond the work area.

3.5 DEMOLITION DISPOSAL / WASTE DISPOSAL

1. Dispose of all materials not designated for salvage or reuse daily.
2. Unless otherwise specified, direct residual materials and removed materials to appropriate recycling facilities in accordance with requirements of authorities having jurisdiction.
3. Remove materials defined as contaminated or hazardous by the authorities having jurisdiction, and dispose of them on the job site taking all necessary safety measures to minimize hazards during removal and disposal.
4. Prior to commencing demolition work, remove contaminated or hazardous materials from the site by safe methods and in accordance with applicable standards.
5. The Contractor shall ensure that no waste material is left on the site outside the work area.
6. As often as necessary, the Contractor shall always have the full container replaced with a new one so that the workers have a place to deposit demolition waste.

3.6 DEMOLITION AND REMOVAL

1. The use of dynamite is forbidden in the performance of demolition work.
2. Demolish and remove materials, equipment, and various structures to permit the performance of the work, as indicated on the architectural, structural, mechanical, and electrical drawings and specifications, to permit the performance of the work of this contract.
3. All cuts intended for rework, or to remain after partial demolition work, shall be made by saw or knife, straight, level and square, or as specified, to ensure visually and technically well integrated rework. If necessary, the location and layout of the cuts will be subject to the approval of the Architect.
4. Seal pipe ends of manholes or other retained elements as directed by the Architect and Engineer. Seal penetrations to ensure permanent watertightness.
5. At the end of each day's work, ensure that no work can sag or collapse.
6. Protect all parts adjacent to the work in progress against any damage, i.e. infiltration of rain or dust, etc., and against any accident that could endanger pedestrians, cars, workers, employees, etc.
7. Demolish in such a way as to raise as little dust as possible, and wet the dusty materials.

8. Collect hazardous and/or contaminated materials and remove them from the work site using all necessary safety measures.

3.7 DISMANTLING AND SALVATION

1. Dismantle portions of the existing building whose materials are to be reused/repurposed. Use appropriate methods and tools to minimize damage to materials to be salvaged.
2. Refer to demolition specifications and drawings for materials to be salvaged for reuse/replacement.
3. Store and handle salvaged materials as if they were new materials.

3.8 RECLAMATION WORK

1. Upon completion of the work, remove debris, restore surfaces to their original condition and leave the work site clean.
2. Surfaces and structures outside of demolition areas shall be restored to the condition they were in prior to the start of the work.

3.9 CLEANING

1. Refer to the requirements of the General Conditions, and Section 01 00 10 - General Requirements – complementary.
2. Keep the premises clean and tidy throughout the duration of the Work.
3. Use cleanup solutions and methods that are not harmful to health or vegetation, and that do not endanger wildlife or the groundwater table.

END OF SECTION

PART 1 – GENERAL

SCOPE OF WORK

1. Contractor must furnish all materials, products, materials, tools, equipment, labor, and services required for the complete performance of the work described in this section and/or shown on the drawings, so that the completed work will fully accomplish its intended purpose.
2. Are included all anchors, fasteners, accessories and minor works which, although not necessarily mentioned in these specifications or shown on the drawings, are necessary for the proper and complete execution of the work in accordance with the referenced and/or recognized industry standards of quality and best practices.
3. Also included is all work to prepare the deck and existing structure to allow for the execution of the work.
4. The work in this section includes, but is not limited to, supply and installation:
 1. Timber framing members.
 2. Plywood panels
 3. Fasteners
 4. Any item that can be assigned to this section in the drawings.

1.2. REFERENCES

1. CSA B111-[1974 (R2003)], Wire Nails, Spikes and Staples.
2. CAN/CSA-G164-[FM92 (R2003)], Hot Dip Galvanizing of Irregularly Shaped Articles.
3. CSA O121-[FM1978 (R2003)], Douglas Fir Plywood.
4. CSA O141-[F05], Softwood Lumber.
5. CSA O151-[F04], Canadian Softwood Plywood.
6. CSA O153-[FM1980 (C2003)], Poplar Plywood.
7. CAN/CSA-O325.0-[FM92 (R2003)], Construction Sheathing.
8. Grading Rules for Canadian Lumber (2005).

1.3. QUALITY ASSURANCE

1. Marking of lumber: Classification stamp from an organization recognized by the Canadian Lumber Standards Accreditation Board.
2. Plywood marking: Classification mark in accordance with applicable CSA standards.

PART 2 – PRODUCTS

2.1 WOODEN FRAMING COMPONENTS

1. Unless otherwise specified, structural wood, furring, nailing bottoms, rods and frames used shall be Eastern Spruce, standard grade or better, S4S finish (sanded on four (4) sides), with a moisture content equal to or less than 19% at the time of installation and in compliance with the following standards
 1. CAN/CSA-O141-05 and species groups conforming to CAN 3086 M84;
 2. NLGA Grading Rules for Canadian Lumber.

2.2 PLYWOOD PANELS

1. Canadian softwood plywood, exterior grade to CSA O151-09, unless otherwise specified, 15.9 mm thick, construction grade, sanded on one side, sheathing grade, tongue and groove.

2.3 FASTENERS

1. Except where a specific type is specified, comply with the requirements of Part 9 of the 2005 Building Code and the following requirements:
 1. Galvanized nails and staples: to CSA B111 1974 (R2003).
 2. Galvanized fasteners: galvanization in accordance with CAN/CSA G164-M92 (R2003).

PART 3 – EXECUTION

3.1 WOODEN STRUCTURAL MEMBERS

1. Unless otherwise specified, erect wood members according to Part 9 of NBC 2005.

3.2 ERECTION OF STRUCTURAL MEMBERS

1. Install members according to lines, elevations and as specified.
2. Make continuous elements from two pieces of the longest possible length.
3. Where applicable, the curved or bent face of the elements resting on the structural support points shall be at the top of the structure.
4. Install frames squarely so as to achieve perfect leveling after drying.

3.3 NAILING CLEATS, REPAIRS, FRAMES AND FASCIA

1. Install cleats, nailing bottoms, plywood, frames, casings, chords and other wood roof supports as required for the retrofit, secure with galvanized fasteners.

2. Temporarily protect wood secured in its final location from the weather. Wood shall not be covered until it has been ventilated and dried to the required moisture content.
3. Reinstall appliance bases and parapets using stacked blocking when the height of the wall is equal to or less than 300 mm, with overlapping corners according to details and to respect AMCQ standards. Height according to typical details, 250 mm minimum, 600 mm at fans and/or vents. Walls over 300 mm may be constructed of 400 mm o.c. wood studs, filled with compressed wool batt to avoid possible sagging of insulation.
4. Nail each course to the course below with 100 mm nails at 300 mm o.c.. Base blocks, parapets, control joints, etc. will be laid over the vapour barrier in a bed of sealant. First course installed with stainless TAPCON screws at 600 mm o.c. when wood decking.
5. Construct vent boxes and gooseneck or static fan bases of 19mm treated plywood and 100 wood furring at perimeter to typical detail dimensions. Embed the bases in sealant. These bases shall be installed level. Wooden battens may be omitted on elastomeric bitumen roofs as per standard details.
6. The Contractor will provide all scaffolding, wood protection for materials and openings.
7. All adequate protection shall be provided in accordance with all federal, provincial and municipal ordinances and regulations.
8. Where wood decking is present, make all temporary openings required for various work: installation of drains, attic insulation, etc., and openings for new static ventilators. Install reinforcement around the perimeter of the openings and around the new drains under the decking. Complete level decking with plywood or wood decking (depending on existing decking) at roof drop, goosenecks not required or other items demolished on contract. Also complete dwarf walls and bearing blocks in attic.
9. All woodwork for anchors, parapets, vent box control joints, etc., shall be installed, finished and ready to receive membranes, bituminous flashings and metal overlays. Provide sloped blocking or plywood on top of low walls and parapets, and treated plywood, 19 mm thick, on the back of all concrete or masonry parapets or upstands. Tapcon anti-corrosion screws in concrete or masonry.

3.4 PLYWOOD PANELS

1. Install and mechanically fasten plywood panels, frames, upstands and roof parapets so that joints are located on solid support. Offset end joints of decking panels by a minimum of 800 mm.

3.5 FASTENERS

1. Assemble, anchor, fasten, attach and brace components to provide necessary strength and rigidity.
2. If necessary, countersink holes so that bolt heads do not protrude.

3.6 SURFACE APPLIED WOOD TREATMENTS

1. Surface treat wood components with wood preservative prior to installation.

2. Apply preservative by dipping or brushing. Coat surfaces until saturated and allow to soak for a minimum of 3 minutes for structural members and 1 minute for plywood panels.
3. Before installing components, touch up by brushing a generous amount of preservative on all surfaces that have been sawn, dressed or drilled on site.

END OF SECTION

PART 1 – GENERAL

1.1 Scope of Work

- .1 This section includes all materials, equipment, accessories, tools and labour required for the supply and installation of slabs, any insulated and/or non-insulated modified bitumen two-ply membrane roofing system, with reflective surface, where identified on the drawings and as specified in these specifications.
- .2 It also includes the installation of all metal flashings and caps that are provided by Section 07 62 00 - Sheet Metal Flashings and Accessories.
- .3 Unless otherwise specified, also includes replacement of roof drains.
- .4 Demolition of all existing built-up system, including; modified bitumen membranes, support boards, insulation, vapour barrier, etc. Refer to architectural drawings for all indications regarding existing roof components demolition.

1.2 Related Sections

- .1 Section 06 10 00 – Carpentry
- .2 Section 07 62 00 – Sheet Metal Flashings and Accessories
- .3 Section 07 92 00 – Joint Sealants

1.3 References

- .1 ASTM C726-05e1 – Standard Specification for Mineral Fiber Roof Insulation Board.
- .2 ASTM C1177/C1177M-13 – Standard specification for Glass Mat Gypsum Substrate for Use as Sheathing.
- .3 ASTM D146/D146-04 (2012) e1 – Standard Test Methods for Sampling and Testing Bitumen-Saturated Felts and Woven Fabrics for Roofing and Waterproofing.
- .4 ASTM D6162-00a (2008) Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fibre Reinforcements.
- .5 CAN/CSA-B111-1974 (R2003) Wire Nails, Spikes and Staples.
- .6 CAN/CSA A123.21-F10 Méthode d'essai normalisée de la résistance dynamique à l'arrachement sous l'action du vent des systèmes de couverture à membrane (Test Method of the Dynamic Wind Uplift Resistance of membrane roofing systems).
- .7 CAN/ULC-S107-03 Methods of Fire Tests of Roof Covering.
- .8 CAN/ULC S126-06-FR – Standard Method of Test for Fire Spread Underroof-Deck Assemblies.
- .9 CGSB-37-GP-56M-[80b(A1985)] - Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing.
- .10 Applicable requirements contained in the « Devis Couvertures » of the Association des Maîtres Couvresseurs du Québec (AMCQ).
- .11 Perform piping and connections to existing piping system required for added roof drains in accordance with ANSI B31.1 - 1983 and applicable municipal, provincial and federal codes.

1.4 Submittals

- .1 Submittals in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Technical Literature
 - .1 Submit technical data sheets for each product specified.
- .3 Shop Drawings
 - .1 Submit shop drawings illustrating slope diagrams showing cut and marked modules of the rigid insulation boards and any other pertinent details.
 - .2 Submit shop drawings illustrating installation of the architectural paving in recycled rubber.
 - .3 Actual On-Site Surveys to be submitted to Architect and Owner:
 - .1 After complete removal of the waterproofing system and prior to commencing any work (including insulation fabrication), Contractor shall verify against actual levels surveyed, that the thickness of the insulation and the proposed details are consistent with reality. Contractor must report to the Architect any discrepancies affecting the specified construction details.
 - .2 Contractor must accurately survey and position drains in relation to parapets following demolition. Final drainage slopes shall be as shown on the drawings, notwithstanding any slopes resulting from the structure.
 - .3 Actual roof levels are to be established with a survey instrument around the entire perimeter of the structural portion and the top of the parapets and control joints. In addition, an approved grid shall be made over the entire running portion of the structural roof deck. Draw these surveys and submit to the Architect and Owner for information.
- .4 Certificates
 - .1 Submit a written statement certifying that all components of the roofing system are compatible with each other.
 - .2 Submit a certificate that products meet or exceed specified requirements.
 - .3 Insulation Certificate: Prior to insulation installation, submit the following:
 - .1 Certification of product by a recognized organization accepted by the Standards Council of Canada, confirming the following requirements: Minimum fourteen (14) day curing of product, density of product, maximum water content of product and compressive strength of product.
 - .4 Submit a written statement that the roofing has the dynamic wind uplift resistance in accordance with CAN/CSA A123-21.

1.5 Performance Requirements

- .1 Execute work as to provide complete and uninterrupted moisture, air and vapor barrier, ensuring continuity of protection from walls to roof.
- .2 Flashings and caps shall resist a minimum tensile stress of 223 kg/m.

- .3 Roofing shall meet Class C (ULC) fire resistance (for non-combustible building), in accordance with CAN/ULC-S107.
- .4 Roof shall resist positive and negative wind loads in accordance to NBC and CSA A123-21.
- .5 The assembly of the waterproofing complex will be executed as to resist thermal movements resulting from a temperature differential of 80°C (i.e. -40°C to 40°C).

1.6 Qualifications

- .1 Work must be carried out by a Roofing Contractor who is a member in good standing of the Association de Maîtres Couvreur du Québec (AMCQ) and who has received training from the manufacturers of the prescribed roofing systems and accepted products. This Roofing Contractor must have no less than ten (10) years of experience in the installation of these same roofing systems, with references.
- .2 His foreman shall have a minimum of five (5) years experience and must be present on site at all times. The other workers on the team must have the skills certificates required to perform the roofing work, references to the support.
- .3 The Roofing Contractor shall always maintain a minimum of five (5) workers on the roofs.
- .4 The number of workers, work teams and foremen assigned to the Work must be sufficient to allow the achievement of the quantitative objectives for the substantial completion of the Work.

1.7 Source quality control

- .1 In the event of discrepancies between the manufacturer's recommendations and the requirements of the standards and references prescribed previously, the Contractor must notify the Architect and the Project Manager in writing and confirm the procedure to be followed, before beginning of Work.

1.8 Laboratory tests

- .1 At the request of the Architect, manufacturers of elastomeric bitumen products will provide, at their expense, the results of mechanical tests and chemical analyzes performed on the elastomeric bitumen materials supplied.
- .2 The tests will be carried out in order to verify compliance with the CGSB 37 GP 56M standard.

1.9 On-site Work Quality control

- .1 In-residence monitoring of the present roofing work will be carried out by a specialized firm, determined by the Architect.
- .2 The purpose of this monitoring is to ensure execution compliance with drawings and specifications and includes, among others, the following verifications which must be noted to the supervisor's reports:
 - .1 The cleanliness, solidity and slope of the surfaces to be waterproofed.
 - .2 The nature, thickness, weight and number of waterproof membranes.
 - .3 Overlap and waterproofing of membrane joints.
 - .4 Construction of bituminous and metal flashings on parapets, low walls, walls and / or control or expansion joints.
 - .5 Sealing of the bases of mechanical, electrical or other equipment.
 - .6 Water drainage flow to drains.
 - .7 The installation and quantities of all components of the roofing system.
- .3 It is understood that the representative of the roofing membrane manufacturer must have access to the site throughout the duration of Work. Any observation on the quality of the installation shall be reported in writing to the Architect and the Project Manager as soon as possible.
- .4 In addition, this representative of the roofing membrane manufacturer may provide technical assistance to the applicator and, if necessary, submit recommendations so that the installation of the membrane complies with the manufacturer's requirements in addition to this section. He must advise the Architect of these recommendations.
- .5 In a timely manner and with no less than 48 hours notice, Contractor must notify the Architect and the manufacturer's representative so that they can carry out a preliminary inspection of the roof deck to receive the roofing system as well as of its slopes, its solidity, its cleanliness. This inspection also includes the approval of the construction and preparation of related works such as: walls, parapets, eaves, downspouts, plumbing vents, and any other required work.
- .6 After the installation of the vapor barrier, Contractor and the Subcontractor must check the surfaces and slopes of the existing decking in order to detect any depression that could cause an accumulation of water on the surface of the new roofs. If this occurs, he must notify the Architect and the manufacturer's representative before continuing the work.
- .7 Thus, for the duration of the installation of roofing materials including metal flashings, the Contractor must inform the Architect and the manufacturer's representative of the site's progress to allow them to carry out visits necessary to ensure perfect execution of Work.
- .8 The Contractor must ensure perfect continuity in the execution of the roofing work so that the materials to be inserted in such work are not damaged by any cause whatsoever.

1.10 Handling and Storage

- .1 Safety
 - .1 Comply with the safety requirements of the Workplace Hazardous Materials Information System (WHMIS), with respect to the use, handling, storage and disposal of primers, sealants and caulking.
 - .2 Storage of materials and equipment on the roof is strictly prohibited.
- .2 Storage and Handling
 - .1 Handle and store materials in a manner to prevent damage.
 - .2 Store materials in a dry location, protected from the elements, and in such a way that they are not in contact with the ground. Do not use materials damaged by exposure to moisture or any other cause.
 - .3 All materials shall be stored as recommended by the manufacturer in their original containers or packaging.
 - .4 Store rolls of material upright with the joint edge facing up.
 - .5 Remove from storage room or area only the amount of material that will be used that day.
 - .6 Store adhesives and sealants at temperatures above 5°C, off-ground.
 - .7 Do not expose products other than the membrane to temperatures above 27°C. Where liquid adhesives and sealants are exposed to temperatures below 15°C, they must be conditioned to that temperature before use.

1.11 Preliminary Examination

- .1 Prior to commencing the Work, the Contractor shall visit the site and verify all existing conditions. He shall carefully examine all plans relating to the work to be performed. The Contractor shall report to the Architect any points or defects which may impair or prevent the performance of specified portions of the Work, as well as any ambiguities or inconsistencies which may exist between the drawings, specifications, special conditions, AMCQ Specifications, and the site conditions. If these points are not raised before the beginning of the work, the Contractor shall, during the execution of the work, submit to the interpretation of the Architect.
- .2 Unless otherwise specified, it shall be the responsibility of the tendering Contractor, if he deems it necessary, to make one or more exploratory openings ("cut test") necessary to know the type and condition of the materials making up the existing assembly. No extra charge for removal of wet materials or materials in multiple layers will be allowed.

1.12 Installation conditions

- .1 Adhesive installation of different materials of the roofing system is only allowed at temperatures above 5°C.
- .2 Use only dry materials, and apply only when atmospheric conditions will not cause moisture infiltration in the waterproofing complex.

- .3 When Work involves the disconnection, connection, disassembly, installation of pipes, circuits, appliances, etc., a building representative must be present. The Contractor must take all precautions and coordinate such work with the Owner as appropriate to ensure the availability and presence of the representative.
- .4 Never demolish more roofing than can be sealed by the installation of the vapour barrier or base layer in one working day. Contractor is responsible for any damage caused by water infiltration and must make the required repairs at his own expense to the satisfaction of the Project Manager.
- .5 At the end of the workday, no surface shall remain unsealed, and so, until the inspector is satisfied.

1.13 Warranty

- .1 Manufacturer's Total System Warranty:
 - .1 The roofing system manufacturer and the recycled rubber architectural sealants and pavers will provide a written document, issued on behalf of the Owner and valid for a period of **ten (10) years**, which states that the manufacturers and Contractor will repair any leaks through the membrane to restore the roofing system to a dry, watertight condition.
 - .2 This warranty will cover the total repair expenses during the entire period of said warranty.
 - .3 The warranty includes two (2) inspections to be performed by the same manufacturer in the presence of the roofing contractor and the Owner. They will take place in the 2nd and 4th year of the warranty period. A written report of these visits listing any defects or anomalies shall be provided to the Owner.
 - .4 The warranty shall cover, but not be limited to, the following defects and disorders:
 - .1 Any water infiltration through the membrane of field surfaces and/or flashings and parapets (low walls, walls, control and/or expansion joints, etc);
 - .2 Any deterioration of surfaces including cracking, splitting, delamination, creation of alligator skin, blisters, fishmouths or other defects affecting the durability of the membrane or the course of drainage;
 - .3 Any membrane overlap;
 - .4 Any joint separation or other similar defects;
 - .5 Any deterioration of sealants, adhesives or roof cements;
 - .6 Any underperformance or other defects in seals resulting from other than normal maintenance.
 - .7 Any delamination, deterioration or change in permeability of vapour barrier membranes.
 - .8 Any delamination, deterioration, distortion or change in insulation dimensions or thermal performance;

.9 As per **SOPREMA'S PLATINIUM** warranty or approved equivalent.

1.14 Manufacturer's Representative

- .1 At the beginning of the roofing work and during the duration of work, a representative of the manufacturer of the roofing materials will be present on the site.
- .2 The manufacturer's representative will check the substrates and surfaces before the beginning of the work, during the installation of the membrane and at the end of the work, he will provide technical assistance to the applicator and will help him put the membrane in place properly.
- .3 The Contractor shall allow and facilitate access to the site at all times to any representative of the above mentioned manufacturer.

1.15 Identification and Delivery

- .1 Provide the following information on containers and packaging of materials:
 - .1 manufacturer's name and trademark;
 - .2 compliance of the product or material with the standard applicable to its manufacture.
- .2 Deliver materials in original, sealed containers and packaging with labels intact.
- .3 If requested by the Architect, submit two copies of purchase orders and include the following information or documentation:
 - .1 purchase order number;
 - .2 name and address of supplier;
 - .3 name and address of purchaser;
 - .4 contract and project numbers;
 - .5 name of materials and their characteristics, including type, quality, color, grade, and quantity;
 - .6 liquid bitumen packing slip showing equiviscosity temperature, flash point temperature and final blowing temperature;
 - .7 instructions for shipping the material;
 - .8 delivery location.

1.16 Associated Work

- .1 The Contractor of this section is responsible for ensuring the execution of all necessary related mechanical work: i.e. adjustments and installation of new drains, provision of strainers on all new drains, and electrical work: i.e. removal and relocation, reinstallation and/or modifications of conduits, fixtures and equipment required by this re-roofing, and finally: all other miscellaneous work to complete the work.
- .2 Extend vents, ducts and other services to fit new bases. See drawings' typical details.

- .3 All equipment that had to be removed to perform the work shall be reinstalled as existing or as per drawings.
- .4 Accordingly, the Contractor of this section shall include in his cost all related work described in these specifications or required for the execution of contract.

1.17 Patching

- .1 In all rooms affected by the Work, particularly if new drains are installed, the Contractor shall make all necessary repairs to floors, walls, ceilings and false beams that have been damaged as a result of demolition and installation of drains at the Contractor's expense.
- .2 These repairs will be done at the Contractor's expense and with the same materials as the existing parts: cement plaster, plaster, gypsum, concrete block, acoustic tiles, etc. Match textures, colors and provide all required finish moldings. Complete suspension as needed to match existing. In all cases, surfaces must be approved prior to painting.

1.18 Fire Safety

- .1 Prior to the start of work, conduct a safety audit of the work site and submit proposed procedures and/or changes to minimize fire risks and hazards.
- .2 Follow manufacturer's recommended safety procedures, as well as the requirements contained in the AMCQ Fire Prevention Manual and applicable local authorities.
- .3 At the end of each work day, use a heat detector gun to detect any smoldering or concealed fires.
- .4 Pay close attention to the cleanliness of the work site and ensure that each torch has a charged fire hose and at least one ULC Class A, B and C approved fire extinguisher in good working order at least 6 meters from each torch. Follow the safety guidelines accompanying the sealant data sheets. Ensure that the location where the torch is to be used is not in the vicinity of flammable or combustible materials. In no case shall the torch flame enter an area where it is not visible or cannot be easily controlled.
- .5 The Contractor shall be required to take an infrared reading 1 hour after work involving a torch. This reading shall be taken in the presence of the Inspector and shall also appear in the Inspector's report. This monitoring shall be provided by the Contractor.
- .6 Responsibility for fire watch (one hour after any welding work) as well as fire safety in connection with material installation operations shall be the sole responsibility and at the expense of the Contractor.

1.19 Material Compatibility

- .1 All materials used in the execution of the roofing system must be compatible with each other and with materials with which they come into contact.

1.20 Waste management and disposal

- .1 Remove all construction waste from the job site using a tarp or construction material chute as work progresses. Note that it is forbidden to sell or burn construction waste. Waste material shall be disposed of at a designated location.
- .2 Provide dust covers to be installed between barricades during periods of high winds.

PART 2 – PRODUCTS

2.1 Materials

- .1 Primers and adhesives - Use only products specified by the manufacturers of the membranes concerned:
 - .1 Primer for heat-welded membranes
 - .1 Primer composed of SBS polymer modified bitumen, fast-evaporating solvents and adhesive enhancing additives, used as a primer on metal or concrete substrates to improve the adhesion of torch-applied membranes.
 - .2 Specified products: **Elastocol 500 by Soprema** or approved equivalent.
 - .2 Primer for self-adhesive membranes
 - .1 Primer composed of SBS synthetic rubbers, resins known for their adhesion power and fast-evaporating solvents. It is used on porous substrates such as gypsum with fiberglass coating; it can also be used as a primer on wood, metal or concrete surfaces, in order to improve adhesion of self-adhesive membranes at temperatures above -10°C.
 - .2 Specified products: **Elastocol Stick by Soprema** or approved equivalent.
 - .3 Insulation Board Adhesive
 - .1 Low-rise, two-component, polyurethane based adhesive. Used for cold bonding of polyisocyanurate boards.
 - .2 Specified products: **Duotack by Soprema** or approved equivalent.
- .2 Vapour barrier :
 - .1 Single layer vapour barrier (weldable) :
 - .1 SBS modified bitumen membrane, conforming to CAN/CGSB-37.56-M, 9th draft and ASTM D6163; minimum thickness of 2.2mm with

- fiberglass veil reinforcement. The upper surface is sanded, the lower surface is covered with a thermofusible plastic film.
- .2 Acceptable products or equivalent approved by the Architect: **Elastophene SP 3,5mm by Soprema.**
 - .3 Flat rigid insulation board :
 - .1 Rigid polyisocyanurate insulation board, closed-cell structure, covered on both sides by a fiberglass coating. Bond with adhesive such as Soprema Duotack. Conform to ASTM C1289 type II, Class 2, Grade 2 or Grade 3, and CAN/ULC S704 type II and type III.
 - .2 Acceptable products or equivalent approved by Architect: **SOPRA-ISO by Soprema.**
 - .4 Tapered rigid insulation board for slope :
 - .1 Tapered rigid insulation board for slope in polyisocyanurate, with closed-cell structure, covered on both sides by a fiberglass reinforced felt covering. Bond with an adhesive such as Soprema's Duotack. Conform to ASTM C1289 type II, Class 2, Grade 2 or Grade 3, and CAN/ULC S704 type II and type III:
 - .2 Acceptable products or equivalent approved by Architect: **SOPRA-ISO PENTE by Soprema.**
 - .5 Semi-rigid insulation for parapets :
 - .1 Semi-rigid rock wool batt thermal insulation.
 - .2 Acceptable products or equivalent approved by the Architect: **COMFORTBATT® by ROXUL**
 - .6 Base sheet panel of the field surface laminated with HD polyisocyanurate insulation panel:
 - .1 High performance base sheet panel composed of SBS modified bitumen membrane with a non-woven polyester reinforcement, factory-laminated to a HD polyisocyanurate insulation support panel. The surface is covered with a thermofusible plastic film. Conform to CAN/CGSB-37.56-M 9th draft, ASTM D5601, ASTM E154 and ASTM D994.
 - .2 Acceptable products or equivalent approved by Architect: **Soprasmart Iso HD 180 by Soprema 1/2"**.
 - .7 Gypsum Sheathing boards:
 - .1 1/2" thick fiberglass coated roofing board. Conform to standards: ASTM E 84 and ASTM C 1177.
 - .2 Acceptable products or equivalent approved by Architect: **Securock fiber gypsum board 1/2"**.
 - .8 Base sheet for flashings and parapets:
 - .1 Base sheet membrane composed of SBS modified bitumen and composite reinforcement, conforming to CAN/CGSB-37.56-M Draft 9; minimum thickness of 3.0 mm with glass mat reinforcement. The surface is covered with a thermofusible plastic film, the underface is self-adhesive.
 - .2 Acceptable products or equivalent approved by Architect: **Sopralene Flam Stick by Soprema.**

- .9 Cap sheet for the field surfaces, flashings and parapets:
- .1 White cap sheet consisting of SBS polymer modified bitumen and composite reinforcement. Surface is protected by highly reflective white granules, underface is covered with a thermofusible plastic film. Complies with CAN/CGSB-37.56-M 9th draft, 3.7 mm thick. SRI of 84.
 - .2 Acceptable products or approved equivalent with same characteristics: **SopraStar Flam HD GR FR by Soprema.**
- .10 Reinforcing Membrane :
- .1 Base sheet membrane composed of SBS modified bitumen and composite reinforcement, conforming to CAN/CGSB-37.56-M Draft 9; minimum thickness of 3.0 mm with glass mat reinforcement. Surface is sanded, underface is self-adhesive.
 - .2 Acceptable products or equivalent approved by Architect: **Sopralene Stick HR 20 by Soprema.**
- .11 Sealing products: Use only products prescribed by the manufacturers of the membranes concerned.
- .12 Fasteners
- .1 Mechanical fasteners shall be in accordance with ULD and/or FM#4470 for corrosion and wind uplift resistance.
 - .2 Screws for support panels over steel decking: to CSA B111 and FM standards, galvanized steel (ASTM A792/A792M) at least 25mm longer than panel thickness, Phillips #3 flat head, with galvanized steel plate (ASTM A792/A792M) 75mm diameter round, to ASTM C1002.
 - .3 Screws for membranes: 12 gauge galvanized steel, 32mm long, flat head, with galvanized steel washers, minimum 25mm diameter.
 - .4 Anchor bars for base membrane (to be fixed at the bottom of flashings and parapets):
 - .1 Aluminum profiles (alloy AA-6063) 25mm x 3mm thick, maximum length available, without sharp edges, with a reinforcing angle at its base and oblong screw holes of 6.4mm x 9.6mm at 152mm o.c. to be fastened with galvanized steel screws, 12 gauge, 32mm long.
- .13 Sealant for filling mastic boxes:
- .1 **Sopramastic Block** precast blocks are made with polyester. They are offered in three (3) variable sizes to be adapted to various configurations. Their ends are bevelled. They are designed to hold, contain and protect the **SOPRAMASTIC SP2** sealant and adhesive and the **SOPRAMASTIC PF** sealing mastic around roofing details where penetrations represent a technical challenge. They are used in conjunction with the **SOPRAMASTIC SP2** sealant and adhesive product and the **SOPRAMASTIC PF** sealing mastic on roofs covered with SBS modified bitumen membranes with a granular or sanded surface.
 - .2 Acceptable product or equivalent approved by Architect: **Sopramastic Block by Soprema.**

- .14 Accessory elements
- .1 Roof drain: copper deck (480 mm dia.) and rigid copper sleeve with no joints or vertical soldering, equipped with a cast aluminum vandal resistant strainer with service cover, soldered to the deck; this strainer must be equipped with a threaded hole to screw in the snow accumulation marker (See Appendix No.2 of this specification + drawings). Connection to the downspout using a flexible sleeve of appropriate diameter. 480 mm collar, extension in the drain pipe of ± 400 mm, adapted to existing conditions
- .1 Acceptable product or equivalent approved by Architect: **Murphco Ltd. Ultra Dome Drain with Murphco U-Flow Seal** clamp collar.
- .3 For each new drain, provide and install snow marker as detailed on drawings.
- .4 Drainage Piping
- .1 Supporting elements: Suspended on steel rods with adjustable brackets, conform to NBC requirements, including seismic requirements.
- .2 Preformed fiberglass insulation with vapour barrier, density 80Kg/m³, 25 mm thick.
- .5 Vent sleeve: 450 mm high, one-piece pre-cast aluminum model, insulated and factory caulked, 600 mm thick flange with widened base and support flange, equipped with a mechanically fixed vandal-proof cap also in pre-cast aluminum #1550. Adapted to existing conditions. Contractor to apply required primer on sleeves for two-ply elastomeric membrane.
- .1 Acceptable product or equivalent approved by the Architect: insulated and caulked vent with cap **model CHA of appropriate diameter from Murphco Ltd.**
- .6 Rubber mat made from recycled material of hexagonal relief type (honeycomb). The underside composed of longitudinal grooves at 25 mm c/c to allow water drainage, glued with "Duotack de Soprema" adhesive or approved equivalent.
- .1 Acceptable product or equivalent approved by Architect: **Sopramat by Soprema.**
- .7 Walkway membrane :
- .1 Cap sheet membrane composed of SBS modified bitumen and non-woven polyester reinforcement to protect membranes from pedestrian traffic. Surface is covered with black granules and underface is covered with a thermofusible plastic film.
- .2 Conform to standard: CGSB 37.56-M (9th draft).
- .3 Acceptable product or equivalent approved by Architect: **Soprawalk by Soprema.**

PART 3 – EXECUTION

3.1 Examine and prepare surfaces

- .1 Remove all existing materials up to concrete deck, as indicated on drawings. Before starting work, ensure that:
 - .1 Examination and preparation of surfaces shall be done in accordance with the instructions contained in the manufacturer's technical documentation, particularly with regard to fire safety.
 - .2 Remove to the existing deck (including existing gypsum) the existing membrane layer(s) and membrane flashings. Leave retained areas in a condition suitable for new roofing. Remove roof equipment to allow for replacement, repair or modification of existing appliance bases, vents and ventilators to allow for proper installation of new roofing components, and reinstallation of items indicated to be retained and supply and installation of new items indicated on drawings and in specifications. Repair or replace deteriorated deck areas as required and obtain approval of substrate prior to overlay work.
 - .3 All surfaces shall be clean, sound, free of dust, dirt, oil, grease, film coating, water/snow and any other foreign substances detrimental to the adhesion of the support board.
 - .4 In case of winds at the time of removal, install a 1000 mm (3') in height debris trap around the area. Large voids, cracks (5 mm and more), holes and other damaged surfaces of decks shall be repaired to the satisfaction of the Architect prior to the application of the new support panel and vapour barrier.
 - .5 Expansion joints shall be properly formed, free of loose aggregate or breakage and free of plugging or filling materials to a depth of at least twice the width of the joint.
 - .6 Completely finish carpentry work on all low-walls and parapets, walls and roof edge surfaces before installation of roofing membrane begins. This will allow for the installation of bituminous flashings as the membrane installation progresses.
 - .7 Walls and equipment mounting frames are in place, plumb, level and aligned.
 - .8 Roof drains have been installed at the proper level to the finished roof surface.
 - .9 Plywood nailing plates have been installed on walls and parapets as specified.
 - .10 Support panels are properly installed.
 - .11 The start of roofing work will be considered as unconditional acceptance of the base surfaces for the completion of this work.
 - .12 Do not commence any part of the work until surfaces are smooth, dry, free of waste materials. Deck or work surface shall be free of all debris following demolition.
 - .13 Do not install materials in wet weather.

3.2 Drainage System Inspection and Correction

- .1 Upon start of work, Contractor shall promptly report any major obstructions or flow problems in the existing horizontal and vertical drainage system(s) so that the necessary corrections can be added by amendment to this contract.
- .2 However, it is understood that any minor problem (such as a blocked drain at the mouth, etc.) is part of this contract. The intent of this requirement is to allow the Contractor to deliver a functional unobstructed drainage system at the end of the work, including the existing system.

3.3 Protective Measures

- .1 Protect with non-staining covers exposed surfaces, walls and structures adjacent to areas where materials are to be hoisted and installed. Take full responsibility for any damage.
- .2 Provide and install safety barriers and keep them in good repair until work is completed.
- .3 Prohibit traffic on completed portions of roof except where work is to be performed. Use plywood panels to protect the Work during transportation of materials and other movements. Repair any damage caused by non-compliance with precautions at Contractor's expense.
- .4 At the end of each day's work or when work is interrupted due to inclement weather, protect finished surfaces and materials exposed to the weather from damage.
- .5 Remove drips and spills of bitumen and primer.

3.4 Method of Execution

- .1 Unless otherwise specified, install roofing elements on smooth surfaces in accordance with manufacturer's and AMCQ specifications and recommendations; if there is a conflict between different specifications or recommendations, the most stringent will take precedence. In the case where the conditions in place do not allow to respect the requirements of the AMCQ, the Contractor will be responsible for requesting a derogation from the AMCQ.
- .2 Roofing work shall be done on a continuous basis as surfaces are ready and weather conditions permit.
- .3 Seal all joints in base sheets that are not covered with a cap sheet membrane the same day. Under no circumstances should there be any moisture trapped in joints prior to installation of a second membrane.
- .4 In all cases where the membrane is torched, a continuous bead of molten bitumen of constant thickness must be visible at the front of the rolls during welding.

- .5 Following the installation of the base sheet, a water test will be required, in case of doubt, in order to validate if there is an accumulation of water not in compliance with the AMCQ criteria. A report must be given to the owner. If necessary, corrective specifications will be established by the Architect to which the Contractor shall comply.
- .6 When a field has a slope greater than 10%, blocking devices shall be installed to prevent the membrane from slipping; refer to the manufacturer for recommendations and AMCQ standards.
- .7 Contractor shall ensure adequate drip slope over parapet following flashing work. Any parapet edge designed to be level or with a negative slope towards the exterior will be reworked at the Contractor's expense.

3.5 Material Application Equipment

- .1 Maintain equipment and tools for roofing work in good working order. Clean equipment and materials frequently to ensure they are always in good working order.
- .2 In the event that there are fewer workers than the AMCQ requirement, an Architect's fee will be deducted from the contract amount (\$1000 per day).
- .3 Use type of welding torch as recommended by the manufacturer of elastomeric bitumen membranes.

3.6 Decking and Flashings/Parapets Examination

- .1 After removal of materials up to vapour barrier, examine decking, flashings and parapets and inform Architect of any defects without delay. The start of work will signify acceptance of the base surfaces without condition.

3.7 Application of Asphalt Primer

- .1 Ensure surfaces are smooth, clean and dry prior to priming.
- .2 Field surfaces, flashings, parapets or other supports for roofing membrane and vapour barrier membrane will receive a coat of asphalt primer at a rate of 0.25 l./m².
- .3 All application surfaces must be free of rust, dust or residues that prevent adhesion. Primed surface must be covered with membrane as soon as possible.

3.8 Installation of Mineral Fiber Board Substrate

- .1 On surfaces as indicated on the drawings, install insulation boards in a continuous manner, ensure boards are fully adhered, apply adhesive using the specially designed applicator recommended by the manufacturer; apply adhesive in 2 cm wide strips, 30

cm apart. Reduce spacing between strips to a minimum of 15 cm at the perimeter and 10 cm at the corners, follow manufacturer's recommendations.

- .2 Unless otherwise indicated on the drawings, on the surfaces of existing flashings and frames to be preserved, install semi-rigid panels in a continuous manner using mechanical fasteners with self-locking washers, in accordance with manufacturer's instructions.
- .3 All panels shall be perfectly juxtaposed, shall not show significant unevenness between them and shall be perfectly adhered to the surface.
- .4 All joints between boards and insulation shall be staggered.
- .5 Do not install more panels than can be covered in one day.
- .6 Provide a gentle slope of 0-10 mm for a distance of 600 mm all around the drains.

3.9 Vapour Barrier Installation

- .1 Primer must be dry at time of vapour barrier installation.
- .2 Starting from the bottom of the slope, the vapour barrier shall be adhered to the substrate according to the membrane manufacturer's written recommendations.
- .3 The vapour barrier of the roof will have to join and overlap the air/vapour barrier of the walls in order to ensure a perfect continuity between the two; the continuity of the vapour barrier will also be ensured at the control and expansion joints.
- .4 Install vapour barrier at insulation perimeters and around each element penetrating the insulation to ensure sealed connections with flashing base sheet.

3.10 Flat and tapered insulation boards

- .1 Install flat insulation boards according to manufacturer's instructions, install insulation in a regular pattern to achieve a uniform insulation value over the entire roof area. Ensure optimum contact area between insulation and supporting surface with no air space between faces.
- .2 Install tapered insulation boards according to manufacturer's instructions, install insulation in a regular pattern. Ensure optimum contact area between insulation and supporting surface with adequate drainage slopes to suit existing deck conditions.
- .3 Stagger joints of sloped insulation panels from those of flat insulation to avoid thermal bridging.
- .4 Adhere insulation panels to supporting surfaces and to each other using specially designed applicator recommended by manufacturer; apply adhesive in 2 cm wide

strips, 30 cm apart. Reduce spacing between strips to a minimum of 15 cm at the perimeter and 10 cm at the corners, follow manufacturer's recommendations.

- .5 Butt joints of insulation panels tightly together so that there are no gaps and keep joints free of adhesive.
- .6 Ensure continuity of drainage slopes in the field surface.
- .7 Do not leave insulation unprotected at the end of the workday. Cover insulation boards tightly. Remove temporary protection when work resumes.

3.11 Installation of Reinforcement Gussets

- .1 Install reinforcement gussets at all interior and exterior corners.

3.12 Base Sheet Installation on Field Surface

- .1 Unroll the membrane on the roof 15 minutes before installation to relax it.
- .2 Starting from the drains and perpendicular to the slope, install the base sheet membrane in parallel strips.
- .3 Position the membrane on the surfaces of the support panels and/or insulation panels previously coated with primer, taking care to align the edge of the first edge with the center of the drain (parallel to the edge of the roof).
- .4 Base sheet will be welded with torches recommended by membrane manufacturer. This application will consist of melting the contact surface so that a bead of bitumen appears as the underlayment membrane is rolled out, and to obtain a homogeneous adhesion on the entire surface.
- .5 Make sure to proceed without overheating, in order not to burn the membrane and its respective reinforcement.
- .6 Use maximum size sections of membrane to minimize the number of joints.
- .7 Overlaps shall be 75 mm parallel and 150 mm for butt joints. Check all joints.
- .8 Ensure a complete seal with the supporting surfaces and that no air pockets or wrinkles are left during application.
- .9 After installation of the base sheet membrane, check overlap joints.
- .10 Install fasteners/anchor bars at 300 mm intervals at the toe of flashings and parapets. Ensure that the overlap of the upstand membrane on the field surface exceeds the plates by at least 25 mm, the plates shall not exceed 75 mm from the base of the upstand.

- .11 Seal "T" laps with Colply Grade Trowel adhesive or electric hot air flashlight.
- .12 Seal transition (90°) at foot of parapet with Colply Grade Trowel adhesive or electric hot air flashlight.

3.13 Base Sheet Installation for Flashings and Parapets

- .1 Primer must be dry at the time of application of the base sheet.
- .2 This base sheet will be laid out in 1 meter wide elements overlapping the base sheet of the field surface, so that it extends 150 mm beyond the lower edge of the bevelled strips. The longitudinal overlaps will be 75 mm and will be offset by at least 100 mm from those of the field surface base sheet in order to avoid any overthickness, the butt joints will overlap by 150 mm. At T-joints, cut the corner of the membrane at 45 degrees.
- .3 Cut the membrane to the required dimensions. Install the membrane and remove the separating film over a length of 150 to 300 mm: glue it to the primed surface. Remove the release liner from the rest of the membrane; apply pressure on the membrane by unrolling it to ensure a good adhesion with the primed surface. Overlap 75 mm on the sides and 150 mm on the back.

3.14 Cap Sheet Installation on the field surface

- .1 After applying the base sheet, ensuring that it does not show any deficiencies, proceed with the installation of the cap sheet.
- .2 The cap sheet will be unrolled starting from the drain. Care will be taken to align the first edge (parallel to the edge of the roof), the membrane will be cut flush with the top edge of the bevelled strips.
- .3 This cap sheet will be welded to the base sheet membrane with torches recommended by the membrane manufacturer. This application will consist of simultaneously melting the two surfaces to be in contact so that a bead of bitumen appears as the cap sheet is rolled out, and to obtain a homogeneous adhesion on the entire surface.
- .4 Make sure to proceed without overheating, in order to avoid burning the membranes and their respective reinforcement.
- .5 Use maximum size membrane sections to minimize the number of joints.
- .6 Overlaps of cap sheet shall be 75 mm parallel and 150 mm for butt joints. Check all joints. Prior to welding end laps, soften bitumen in bottom membrane with flashlight and trowel in granules without removing them. Cover all burrs of bitumen at joints with finishing granules to camouflage any exposed bitumen as the installation proceeds.

- .7 Make sure there is a complete weld between the 2 membranes and that no air pockets or folds are left during application.
- .8 After the installation of the cap sheet membrane, check the overlap joints of the cap sheet membrane.
- .9 During installation, special care will be taken to avoid creating bitumen flashing at joints.

3.15 Cap Sheet Installation on Flashings and Parapets

- .1 This cap sheet layer will be placed on the base sheet by elements of one meter in width covering the finishing layer of the running surface, so that it exceeds the lower edge of the bevelled cleats by 250 mm. Longitudinal overlaps will be 75 mm and will be offset by at least 100 mm from those of the underlayment of the upstands and those of the finishing layer of the running surface in order to avoid any overthickness, the joints of abutments will overlap by 150 mm.
- .2 This cap sheet layer will be welded directly on the under layer, by proceeding with a blowtorch. This application will consist in softening the two membranes without overheating them, in order to have a homogeneous weld on the whole surface.
- .3 Make sure to achieve a complete weld between the 2 membranes and not to leave any air pockets or folds during application. Sand the end overlaps in the same way as for the cap sheet of the field surface.
- .4 After the installation of the cap sheet membrane, check the overlap joints of the cap sheet membrane.
- .5 During installation, special care will be taken to avoid creating bitumen flashing at joints.
- .6 Fold down the top layer of the cap sheet membrane on the top face of the frames.

3.16 Roof Drains

- .1 The Contractor shall verify the operation of the existing roof drains of the roofs to be redone. Any defect in the drainage system shall be reported to the Owner's representative, otherwise, the latter will consider the system to be in perfect working order and will be released from all responsibilities resulting from damage sustained during the work.
- .2 The Contractor shall check the diameters of the existing drains and reinstall new drains with the same minimum diameter.
- .3 Supply and install new roof drains, insulation, piping, etc. All new piping shall be insulated.

- .4 Take all necessary precautions when drilling slab for new drains to avoid damage to underlying finishes. Use appropriate size diamond drills, taking care to channel water underneath and support the cut pieces. No pneumatic or percussion tools will be permitted for this work.
- .5 At drains, the cover sheet will be lowered 12.7mm to approximately 915mm x 915mm with tapered filler pieces on all four sides.
- .6 Upon completion of the work, the Contractor will re-test the operation of the drains in the presence of the Owner's representative. Any defects found at this time shall be the responsibility of the Contractor.
- .7 The Contractor shall provide strainers and snow accumulation markers on all roof drains of re-roofed areas. These strainers shall be cast aluminum to fit the drains and screwed to the drains with vandal resistant screws. Provide screwed strainer cover.
- .8 If inaccessibility means the Contractor cannot secure the drain with a steel clamp, then the Contractor shall provide wood blocking at the perimeter of the drain.

3.17 Installation of Membrane Flashings at Roof Drains

- .1 Install drains in accordance with AMCQ guidelines.
- .2 Extend and raise roof drains according to new roof composition. Between the copper drain and the drain pipe, coat the gap with plastic mastic to ensure watertightness at the overlapping junction, install a "U-Flow", check the effectiveness of the roof drainage, and clean the drains as required. Adapt installation and size of drains to existing conditions.
- .3 Carefully apply and trim the underlayment from the running portion to the edge of the drain opening, then caulk the perimeter joint.
- .4 Embed drain flange in 3mm thick sealant as per manufacturer's recommendations.
- .5 After priming, when dry, install a reinforcing strip welded directly to the substrate, overlap the reinforcing strip over the flange and extend it into the depression around the drain and 250 mm beyond the edge of the flange. The application and the membrane used will be the same type as for the base sheet of the flashings and parapets.
- .6 Following installation of reinforcing strip, apply cap sheet up to depression around drain, using same procedure and membrane as for cap sheet installation on field surface.

3.18 Installation of Parapet Insulation

- .1 In frames and parapets, install semi-rigid insulation to fit into voids. Do not compress insulation.

- .2 Do not cover insulation until installation work has been inspected and approved by Architect.

3.19 Installation of rubber protection mats

- .1 Install rubber protection mats as indicated on drawings. An additional walkway membrane must be installed beforehand on zones intended to receive Soprema "Sopramat" or approved equivalent; or as indicated on drawings as protective sidewalks.
- .2 Each section of "Sopramat" must be fully adhered with adhesive at a rate of 1.2 L/m².

3.20 Replacement of roof drains

- .1 Install sealing from roof drain.
- .2 Test piping, correct any leaks at joints and retest.

3.23 Membrane Flashings and Sleeve Installation at vents.

- .1 Install vents in accordance with manufacturer's and AMCQ recommendations, sized appropriately for existing pipe.
- .2 Carefully apply and trim base sheet at perimeter of vent pipe and caulk perimeter joint.
- .3 Install vent sleeve of appropriate size to the vent pipe, embed vent sleeve flange in a 3mm thick sealant layer over the underlayment as per manufacturer's recommendations.
- .4 After priming, when dry, install a reinforcing strip welded directly to the substrate, overlap the reinforcing strip over the vent sleeve flange and extend it 250 mm beyond the edge of the flange. The application and the membrane used will be the same type as for the base sheet of the flashings and parapets.
- .5 Following the installation of the reinforcing strip, apply the cap sheet up to the vent sleeve following the same procedure and membrane used for the cap sheet installation on the field surface.
- .6 Fill gap between vent sleeve and vent pipe with water and vapor tight sealant.

3.24 Cleaning

- .1 Upon completion of the work, Contractor will make a complete inspection of all work in this section and promptly make all necessary adjustments or repairs. Clean all surfaces adjacent to his works that have been soiled during the work.

- .2 Contractor must remove all unused materials, waste or debris from the site and must leave the site and the works in a condition acceptable to the Architect.

3.25 Waterproofing Tests

- .1 The Owner reserves the right to retain the services of a recognized laboratory to monitor the installation of the roofing and to take samples for laboratory analysis.

3.26 Final Inspection and Repairs

- .1 The Architect, the Owner, the membrane manufacturer's representative, the roofing contractor and the general contractor will perform the final inspection upon completion of the work.

End of Section

PART 1 - GENERAL

1.1. RELATED SECTIONS

1. Section 07 92 10 - Joint Sealants.

1.2. SCOPE OF WORK

1. Contractor must furnish all materials, products, materials, tools, equipment, labor, and services required for the complete performance of the work described in this Section and/or shown on the Drawings, so that the completed work will fully accomplish its intended purpose.
2. Included are all accessories and minor works which, although not necessarily mentioned in these specifications or shown on the drawings, are necessary for the proper and complete execution of the work in accordance with the quality standards referenced and/or recognized in the industry and in accordance with the best rules of art.

1.3. REFERENCES

1. ASTM A 653/A 653M-09, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
2. CSA B111-1974(R2003), Wire Nails, Spikes and Staples.
3. AAMA 2605-05. Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
4. ASTM E547-00 (2016) - Standard test method for water penetration of exterior windows.
5. The Aluminum Association Inc. (AAI)
 1. AAI-Aluminum Sheet Metal Work in Building Construction-[2002].
 2. AAI DAF45-[03], Designation System for Aluminum Finishes.
6. Canadian Standards Association (CSA)/CSA International
 1. AAMA/WDMA/CSA 101/I.S.2/A440-08, Standard/Specification for Windows, Doors, and Unit Skylights.

1.4. SHOP DRAWINGS

1. Submit required documents and samples as specified in Section 01 33 00 – Submittal Procedures.
2. Technical Data Sheets
 1. Submit required data sheets for flashing materials, manufacturer's specifications and documentation. Data sheets shall include product characteristics, performance criteria, dimensions, limitations and finish.

3. Samples
 1. Submit one 150 X 150 mm sample of each type of sheet, color and finish in duplicate in accordance with Section 01 33 00.
4. Mock-Up
 1. Construct a mock-up of each type of metal flashing and sill, to a length of 2000mm, including a projecting and re-entrant corner, and butt joints. The area constructed as an accepted sample may be part of the finished work.

1.5. WARRANTY

1. The Contractor shall provide a warranty for the flashing work against loss of waterproofing, deformation, cracking, spalling and discoloration of finishes for a period of five (5) years from the date of provisional acceptance.

PART 2 - PRODUCTS

2.1. SHEET METAL

1. Pre-painted galvanized steel sheet: commercial grade conforming to ASTM A653M, with zinc coating designation Z275. Factory pre-finished 100% ceramic pigmented Colorite HMP high molecular weight polyester in matching color to existing replaced.
 1. Use 0.61 mm thick pre-finished base metal (24 gauge) for flashings and fascia, for fastening strips and clips where required to secure flashings. Color match to existing replaced.

2.2. ACCESSORIES

1. Anchors :
 1. To attach fastening strips and staples to wood or steel structures: Screws with anti-corrosion finish such as Climaseal, Kwik-Cote, Stalgard or equivalent approved by the Architect in sizes and gauges appropriate to the structure.
 2. For fastening in concrete or concrete block work: concrete screws with chromate anti-corrosion finish of type and size appropriate to the work. Such as Hilti Kwik-Con concrete screws or approved equal. Concrete screws must penetrate at least 35 mm into concrete.
2. Protective coating: Alkali resistant bituminous paint conforming to CGSB 1-GP-108C, type 2.
3. Sealant: conforms to CGSB F37-GP-5M, fluxed bitumen plastic sealant, CGSB or adhesive recommended by flashing manufacturer.
4. Underlayment for metal flashing: Perforated bituminous felt, number 15, conforming to CSA Standard A123.3 in its most recent edition.
5. Sealant: Non-staining, low modulus, neutral curing, single component silicone based sealant, color to be selected by the Architect from the colors offered by the manufacturer, conforming to ASTM C920, Type S, Grade NS, CAN/CGSB-19.13 and EIMA 300.01, latest editions, such as Tremco Spectrem 3 or approved equal.
6. Sealant: compatible with roofing membranes; coordinate with roofer.

7. Nailing tabs: same material and temper as the sheet being used, minimum width 50 mm; same thickness as the sheet being installed.
8. Washers: made of the same material as the sheet used, 1 mm thick with rubber gaskets.
9. Touch-up paint: according to the flashing and metal trim manufacturer's recommendations.

2.3 SHEATHING

1. Shape flashings, cap flashings and fascia according to the prescribed profiles with the indicated sheet thickness in accordance with the AMCQ (*Association des Maîtres Couvreur du Québec*).
2. Fabricate pieces up to 2400 mm in length to accommodate expansion.
3. Shape the pieces according to the precise dimensions provided, free of deformation or other defects likely to affect their appearance or their effectiveness.
4. Fold exposed edges to 12 mm on their underside. Assemble the mitered corners and seal them with a sealant. Have the main folding done in factory.
5. Apply protective coating to metal surfaces to be embedded in concrete or mortar.

2.4 METAL FLASHINGS

1. Shape flashings, cap flashings and fascia to specified profiles with pre-finished sheet steel for all exposed members, unless otherwise specified on the Plans.

2.5 FLASHINGS AND COUNTERFLASHING

1. Unless otherwise specified, fabricate surface or recessed reglets and cap counterflashing with sheet metal, which shall be embedded in the concrete or masonry and used as base flashings. Elements shall have ovalized fastening holes and be secured with galvanized steel or plastic washer fasteners. Apply sealant to ends and joints of elements.

2.6 SEALING SLEEVES

1. Unless otherwise specified, form sealing sleeves from sheet metal. They should project at least 300 mm above the finished roof (and at least the height of the parapets) and have a continuous 140 mm flange with no open corners. Weld the joints. Ensure that the sleeves are at least 50 mm wider in the width direction than the elements that pass through the seal.

PART 3 - EXECUTION

3.1. INSTALLATION

1. Install sheet metal structures in accordance with the technical data of the AMCQ and the indications on the drawings. If there is a conflict between the different prescriptions or recommendations, the most stringent will take precedence.
2. Use concealed fasteners; if not, have fasteners approved before installation.
3. Use single or double stapled joints and secure them to the fastening strips.
4. Close end joints and seal with sealant. Weld in and out corner joints of sheet metal counterflashing.
5. Carefully assemble intersecting members, form tightly fitting joints and secure with mechanical fasteners to allow for expansion and contraction. Securely fasten structures to the substrate in the required position, allowing for the necessary clearances for structural deflection, expansion and contraction.
6. Place the surface-mounted rulers in a plumb and level position. Caulk the top of the batten with a sealant.
7. Insert the metal flashing into the batten strips or under the counterflashing to form a watertight seal.
8. Back the top end of the flashing at least 25 mm into the setback or mortar joint. Securely clamp the flashing into the joint and caulk the top of the flashing with a sealant.
9. Install shaped sleeves at the specified locations around the elements passing through the roofing membrane. Fill the sleeves with plastic sealant.
10. Install flashings, starter strips, inset and outset corner pieces and trim, connector profiles and soffit trims.
11. Furnish and install all components, including flashings and caps, screws and fasteners necessary for complete installation of metal flashings and trims.
12. Install plumb, level and properly align perimeter soffits, installed over perimeter moldings, without exposed fasteners.

3.2. INSTALLATION OF ALUMINUM FOIL CLADDING

1. Install folded aluminum sheet overlays, of profile and dimensions adapted to the conditions in place, without apparent fasteners, with a minimum of joints.
2. Precisely cut and bend aluminum sheets, install with concealed anchors, secure overlays firmly to support blocking. Make close, watertight joints.

3.3. CLEANING

1. Upon completion of installation and performance testing, remove excess materials and equipment, waste materials, tools and equipment from the job site.

2. Leave work area clean and free of grease, stains and fingerprints.

END OF SECTION

PART 1 - GENERAL

1.1. SCOPE OF WORK

1. Provide all materials, labor, supervision, tools, scaffolding, equipment, public protection, and all services necessary to perform all work described in these specifications.
2. Included in this scope of work are all incidental and minor items of work which, although not all of them are shown on the drawings or described in the specifications, although they are necessary to complete the work or are within the intent and spirit of the contract, shall be performed as if they were shown or described therein. The performance of such work shall conform in all respects to referenced and/or recognized industry standards of quality and best practice.
3. The work specified in this section includes but is not necessarily limited to the following:
 1. Caulking and sealing of all work where sealants are required on the architectural drawings.
 2. Caulking and sealing at the following locations:
 1. At windows as shown in the details;
 2. Around door frames and openings;
 3. Around equipment;
 4. At expansion and control joints.
 5. Any other location as shown on the drawings.

1.2. RELATED SECTIONS

1. Section 07 62 00 – Sheet Metal Flashing and Trim

1.3. REFERENCES

1. Most recent edition or revision of the following standards:
 1. American Society for Testing and Materials International, (ASTM)
 1. ASTM C919 02, Standard Practice for Use of Sealants in Acoustical Applications.
 2. Canadian General Standards Board (CGSB)
 1. CGSB19-GP-5M, One-Component, Acrylic-Based, Solvent-Evaporation Curing Sealant (April 1976 edition confirmed, incorporating Amendment Number 1).
 2. CAN/CGSB 19.13 M87, Sealing Compound, One-Component, Elastomeric, Chemical-Curing.
 3. CGSB19-GP-14M-76, One-Component, Polyisobutylene Butyl Sealant, Solvent Cured (Confirmed April 1976).
 4. CAN/CGSB-19.17 M90, One-Component, Acrylic Emulsion Base Sealing Compound.
 5. CAN/CGSB-19.24 M90, Multicomponent, Chemical-Curing Sealant Compound.
 3. Department of Justice Canada (Jus)
 1. Canadian Environmental Protection Act (CEPA).
 4. General Services Administration (GSA) Federal Specifications (FS)
 1. FS SS S 200 E(2), Sealants, Joint, Two Component, Jet Blast Resistant, Cold Applied, for Portland Cement Concrete Pavement.
 5. Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 1. Material Safety Data Sheets (MSDS).
 6. Transport Canada (TC)
 7. 1. Transportation of Dangerous Goods Act.

1.4. SUBMITTALS

1. Submit required data sheets in accordance with Section 01 00 10 - General Requirements - complementary.
2. Manufacturer's data sheets must address the following:
 1. Caulking products;
 2. Primers;
 3. Sealants (all types) including their compatibility with each other.
3. Submit manufacturer's instructions.
 1. Instructions must address each of the proposed products.

1.5. TRANSPORTATION, HANDLING AND STORAGE

1. Transport, store and handle equipment and materials in accordance with Section 01 00 10 - General Requirements - complementary.
2. Transport and store materials in original containers and packaging with the manufacturer's pail and label intact. Protect materials from water, moisture and freezing; do not place directly on the ground or floor.

1.6. APPLICATION CONDITIONS

1. Environment
 1. Do not install sealants under the following conditions:
 1. When ambient and substrate temperatures are outside the limits established by the product manufacturer or when they are below 4.4 degrees Celsius.
 2. When the substrate is wet.
2. Joint Width
 1. Do not install sealants where joint widths are less than those established by the product manufacturer for the applications indicated.
3. Substrate
 1. Do not install sealants until the substrate has been cleaned of all contaminants that may prevent adhesion.

1.7. ENVIRONMENTAL REQUIREMENTS

1. Follow manufacturer's recommendations for substrate temperatures, relative humidity and moisture content for application and drying of sealants, as well as special instructions for use of sealants.
2. Provide adequate ventilation during the application of sealants and caulking. Ventilate work areas with approved portable supply and exhaust fans.

1.8. TEST IN SITU

1. For each type of product and each type of substrate, perform adhesion tests by a manufacturer's representative. The sample shall measure a minimum of 1m and may be incorporated into the work once accepted by the professionals.

1.9. QUALITY CONTROL

1. The installation of the various waterproofing products shall be carried out by a reputable firm, approved by the manufacturer of the products, which has at least 5 years of experience in the field, which possesses the necessary equipment and employs qualified workers to carry out the work in a satisfactory manner.

1.10. WARRANTY

1. The Contractor hereby certifies that the products installed are free from defect for a period of **five (5) years** for all caulking products.

PART 2 - PRODUCTS

2.1. SEALING PRODUCTS

1. Caulking products that emit strong odors, contain toxic chemicals, or are not certified as a mold resistant type shall not be used in air handlers.
2. If there is no alternative to using toxic products, restrict their use to areas where the fumes can be exhausted to the outdoors or where they will be confined behind an air sealing system, or apply them several months before the area is occupied so that the fumes can be exhausted over the longest possible period.
3. In the case of sealants approved with a primer, only the primer in question shall be used with the sealant.

2.2. PRODUCT NO 1 - EXTERIOR CAULKING

1. Primer: as recommended by the sealant manufacturer.
2. Color: Architect's choice.
3. Acceptable Products:
 1. Medium modulus silicone, conforming to ASTM C920, Type S, Grade NS, Class 35, Uses NT, M, A and O, with 25% elasticity per ASTM C719, such as Dowsil CWS or approved equal.
4. Typical Applications:
 1. Unless otherwise specified, for use on building exteriors for various masonry units, concrete, door and window frames, curtain wall, sheet metal, exterior gypsum and expansion joints.
 2. Miscellaneous joints required by the drawings but not covered by other sections.

2.3. PRIMARY MATERIALS

1. Primer as specified by manufacturer.

2.4. JOINT CLEANERS

1. Non-corrosive, non-staining cleaning agents compatible with joint materials and sealants and recommended by sealant manufacturer.

2.5. LOCATIONS

1. The failure of the drawings to show all locations to be sealed shall not relieve the Contractor of his responsibility to seal all locations where such sealants are normally required to provide a continuous barrier against air, water, moisture, sound, dust, smoke or noxious gases. This section shall also apply to all other sections which are required to refer to this section for the supply and/or installation of sealants.

PART 3 - EXÉCUTION

3.1 WORK PROTECTION

1. Protect works installed by others from soiling or other contamination.

3.2 SURFACE PREPARATION

1. Check the dimensions of the joints to be made and the condition of the surfaces in order to obtain an adequate width/depth ratio for the application of the jointing compounds and sealants.
2. Remove all undesirable material from joint surfaces, including dust, rust, oil, grease, and other foreign matter that may affect workmanship.
3. Do not apply sealants to joint surfaces that have been treated with a filler, curing compound, water repellent or any other type of coating unless prior testing has confirmed the compatibility of these materials. Remove existing coatings from surfaces as required.
4. Ensure that joint surfaces are dry and not frozen.
5. Prepare surfaces according to manufacturer's instructions.

3.3 PRIMER APPLICATION

1. Before applying primer and caulking, mask adjacent surfaces as necessary to prevent soiling.
2. Apply primer to the side surfaces of joints immediately prior to applying sealant in accordance with sealant manufacturer's instructions.

3.4 DOSAGE

1. Mix components in strict accordance with sealant manufacturer's instructions.

3.5 IMPLEMENTATION

1. Application of the sealant
 1. Apply sealant in accordance with manufacturer's written instructions.
 2. If necessary, apply masking tape to the edges of the surfaces to be sealed in order to create clean joints.
 3. Apply the sealant in a continuous bead.
 4. Apply sealant with a gun equipped with a nozzle of appropriate size.
 5. Supply pressure must be high enough to allow filling of voids and perfect sealing of joints.
 6. Make the joints to form a continuous seal free of edges, wrinkles, sagging, air voids and embedded dirt.
 7. Before skinning of joints occurs, shape exposed surfaces to a slightly concave profile.
 8. Remove excess sealant as work progresses and at completion.
2. Curing
 1. Dry and cure sealants in accordance with sealant manufacturer's instructions.
 2. Do not cover joints made with sealants until they are thoroughly dried and cured.

3.6 CLEANING

1. Immediately clean adjacent surfaces and leave work clean and in perfect condition.
2. As work progresses, remove excess and spilled sealant with recommended cleaners.
3. Remove masking tape at the end of the initial sealant cure period.

END OF SECTION

