

SURVEILLANCE DES TRAVAUX  
CONTRÔLE QUALITÉ  
INGÉNIERIE DES MATÉRIAUX  
ENROBÉS BITUMINEUX  
BÉTON DE CIMENT  
SOLS & GRANULATS  
MÉTAUX  
SCIENCE DU BÂTIMENT  
TOITURE & ÉTANCHÉITÉ  
GÉOTECHNIQUE & GÉOLOGIE  
FORAGES  
ENVIRONNEMENT  
HYDROGÉOLOGIE



## WORK PROCEDURES

Roof Replacement – Building 7  
Project No. 342-92201

Sainte-Anne-des-Plaines Complex  
Archambault Building Minimum  
Building 7  
244, Gibson Boulevard  
Sainte-Anne-des-Plaines, QC

Client Reference: SCC100  
O/F: TC-22-1507-05

December 21, 2023




## WORK PROCEDURES

Roof Replacement – Building 7  
Project No. 342-92201

Sainte-Anne-des-Plaines Complex  
Archambault Building Minimum  
Building 7  
244, Gibson Boulevard  
Sainte-Anne-Des-Plaines, QC

Client Reference: SCC100  
O/F: TC-22-1507-05

December 21, 2023

  
Prepared by  
**France Sigouin, ing.**

  
Approved by  
**Steve Guénard.**  
Groupe ABS

Document presented to :  
Mr. Steve Desroches  
Project Agent, Installations planner  
Technical Services – Archambault institution  
Correctional Service Canada  
Sainte-Anne-des-Plaines Complex  
Archambault Building Minimum  
Sainte-Anne-des-Plaines, QC J5N 1V8

**CONFIDENTIAL**

This document is presented and intended for Mr. Steve Desroches, **Correctional Service Canada** and has not been distributed or transmitted to any other agency, department, government or individual. This document contains information that is legally privileged and of a confidential nature.

Any distribution, partial or complete, in any way whatsoever, is strictly prohibited without the written consent of **Correctional Service Canada** and **Groupe ABS inc.**

**Record of issues and revisions**

<b>Revision Number</b>	<b>Date</b>	<b>Description</b>
0A	2023-12-18	Preliminary version
	2023-12-21	Final version

TABLE OF CONTENT

PART 1 – GENERAL CONDITIONS ..... 1

PART 2 – PRODUCTS ..... 7

PART 3 – TYPICAL DETAILS..... 14

APPENDIX

**Appendix 1 Elevations**

## PART 1 – GENERAL CONDITIONS

### 1 PROJECT

- 1.1 The purpose of this project is to replace the roof shingles on Building 7 of the Archambault Building Minimum location inf Sainte-Anne-des-Plaines Complex.
- 1.2 The Contractor must provide a schedule prior to commencing the Work, which must be approved by the Owner's representative. The schedule must consider the operating activities associated with the building and the planned work must interfere as little as possible with these activities.

### 2 SCOPE OF WORK

- 2.1 This document is for the roof replacement of Building 7 having approximately 728 m<sup>2</sup> (7,830 sq.ft.) The following list of work is not necessarily exhaustive:
  1. Beforehand, the contractor must verify the existing structure and check certain dimensions such as the condition of the deck, the spacing between the beams, the ventilated attic, and the soffits.
  2. The commencement of the work by the contractor will constitute the contractor's acknowledgement that this specification can be implemented satisfactorily, under the project conditions and with all the prerequisites necessary for the issuance of the guarantee by the contractor responsible for carrying out the work. No modification of the amount of the contract will be made under the pretext of a lack of consultation of the documents issued for this contract or the site conditions that may exist during the execution of the work.
  3. Removal of all non-reused materials and transport of these to an authorized site.

According to the information collected, the existing roof is composed of:

**Building 7 (approximately 7,830 sq.ft.):** self-adhered membrane and shingles.

#### On-site installation:

1. The ground installation will have to be coordinated by the site representatives, security fences will have to be erected and monitored during the work and kept closed at the end of each working day so that no one can enter.
2. Before proceeding with the use of mechanical equipment, it will be necessary to ensure the authorization of the site representative.
3. Debris will need to be removed from the site daily to avoid any risk of vandalism.
4. Equipment with flammable products will have to be removed from the site daily or padlocked without possible access at the end of each day.

#### Demolition:

1. Remove and dispose of all components including flashings, counter flashings and/or metal drips.
2. Removal of the materials composing the roofing system described above, up to the existing wood deck. Please note that the existing self-adhesive membrane, if observed, is healthy, not wet and adhered to the existing surface, may remain in place, to be confirmed by the representative of the consultant.

---

#### Roof Replacement – Building 7

Project No. 342-92201

Sainte-Anne-Des-Plaines Complex – Archambault Building Minimum  
244, Gibson Boulevard, Sainte-Anne-des-Plaines, QC

3. Removal of existing plumbing vents, pay particular attention by checking and ensuring that the plumbing vents are properly anchored before proceeding with removal.
4. Removal of rotten or damaged woodwork (if applicable). Notify the representative if large replacement quantities (**greater than 50 sq.ft.**) are expected. Allocations for replacement of 10% of the wood deck must be included by the contractor.
5. Thoroughly clean the surface of the roof of any debris, dry the surfaces well before the installation of new materials. Should old shingles be unremovable, please notify immediately the site representative and the consultant for proper instructions.
6. Demolish roof sections that can be closed to the self-adhesive or temporary protective membrane, do not leave any roof sections exposed to existing wood at the end of a working day.

**Installation :**

1. Any rotten wood must be replaced, notify the customer's representative and the consultant when the wood to be replaced is discovered, wait until the customer's representative has provided the approval to replace the materials. Allocations for replacement of 10% of the wood deck must be included by the contractor.
2. Supply and install the new metal drips along the eaves and perimeter fixed with nails.
3. Replace the damaged metal fascia with material equal to the existing. Ensure the new fascia is installed properly not with an inverted joint.
4. At the bottom of the slope the new metal drip is placed under the protective self-adhesive membrane and on the perimeter the self-adhesive membrane is placed on top of the drip.
5. Starting at the bottom of the slope, provide and install a self-adhesive membrane on a minimum width of 3 m (9'0"), at the perimeter and on the ridge 2 m (6'-0"), in the valleys, the new metal flashing and on the complete central surface of the south façade.
6. Starting at the bottom of the slope, provide and install new starting shingles as well as new shingles on the entire surface.

The installation of all products and materials planned for this project must comply with the most recent requirements, recommendations and written specifications of manufacturers and suppliers, including any available technical bulletins, installation instructions specified in product catalogues and packaging cartons, as well as indications in data sheets.

### **3 TEMPORARY INSTALLATIONS**

- 3.1 Upon mobilization, the contractor will proceed with the installation of various equipment required for subsequent work. This equipment will be installed at the expense of the contractor. The authorized areas for these temporary facilities will be indicated to the Contractor by the Owner's representative during the site visit or at subsequent site meetings. However, at no time the contractor must interfere with the operational activities of the building.
- 3.2 Before commencing any work, the Contractor must ensure that the condition of the project and the works that are to receive the materials provided for, are satisfactory.
- 3.3 The decision to begin work implies that the contractor accepts the basic works and is responsible for their corrections, if any. During the execution of work, the relocation of equipment or materials must be coordinated with the owner's representative.
- 3.4 No unplanned drilling in the structure without the permission of the owner's representative will be authorized.

---

#### **4 WATERPROOFING OF THE BUILDING**

- 4.1 The building must be impervious to any ingress of water, visible or not visible from inside the building, regardless of the source. If an infiltration occurs during the duration of the work, the contractor must diligently determine the cause, make the necessary corrections, and repair it at his own expense.
- 4.2 At the end of each working day, the contractor must ensure that the exposed parts of the roof basins are covered with temporary protective membranes. To prevent potential rain damage to all unprotected surfaces.
- 4.3 The schedule and work methods used by the contractor must be prepared in such a way as to maintain the tightness of the building throughout the duration of the work.

#### **5 PROTECTION**

- 5.1 The contractor must ensure that they do not damage or contaminate materials or installations in and around the building. He is responsible for the supply and installation of the appropriate protective devices and for the cleaning of all soiled surfaces during the work by stains, asphalt, mortar, sealing and caulking slides or other product used during the work, to the complete satisfaction of the customer.
- 5.2 Overhead protection must be erected near entrances as well as where there is a risk of falling materials on sidewalks or parking.
- 5.3 During the Work, the Contractor shall take all necessary precautions not to damage the parts of the adjacent siding.
- 5.4 No work is permitted on partially or finished parts without the surfaces in question being properly protected.

#### **6 EXECUTION AND COORDINATION**

- 6.1 The execution will be of the best quality in accordance with the usual standards for this category of work, qualified and competent personnel will be used, and all work must be carried out in accordance with the spirit of the plans, details, and specifications as well as the recommendations of manufacturers, the Building Code and according to the recommendations of the Association des Maîtres Couvreur du Québec (AMCQ).
- 6.2 The Contractor must have a minimum of five (5) years of satisfactory experience in this type of work. He must provide, on request, proof of his qualifications. The contractor must be a member in good standing of the Association des Maîtres Couvreur du Québec (AMCQ).
- 6.3 The Contractor will be responsible for having all work performed by other trades to allow the complete execution of the work.
- 6.4 It is understood that the work must be done in stages in order to avoid any possibility of having a section of the roof, water cut offs or expansion joints, or others uncovered during bad weather and thus risk water infiltration. In the case of complete rehabilitation work, the contractor must complete an entire section before undertaking another section. No work shall be undertaken or continued under conditions unsuitable for the performance of quality work. At all times the

contractor will have at his disposal and at hand, the equipment necessary to protect the work already done.

- 6.5 Materials and their installation, as represented in this document, is subject to site monitoring.
- 6.6 The Contractor shall guarantee all roof repair work for a period of five (5) years. This complete guarantee will be without prejudice to the civil liability established by the new Civil Code of the Province of Quebec. The contractual warranty periods will begin on the date of provisional acceptance of the work determined by the owner's representative.
- 6.7 Before starting work, ensure that the temperature meets the manufacturer's requirements.

## **7 SAFETY AND FIRE**

- 7.1 At all times, the contractor must comply with the safety instructions described in the manufacturer's manual as well as the applicable local requirements.
- 7.2 The Contractor is responsible for ensuring safety at the site of the Work. He must ensure his obligations and responsibilities under the Act respecting occupational health and safety (R.S.Q., chapter 5.2.1) or the specific requirements of the building.
- 7.3 The contractor must protect the various areas of the site and must also ensure that no area is left in a dangerous condition for his workers, the owner's workers, and the public.
- 7.4 The contractor is responsible for the supply and installation of all safety features required for the execution of the work. Included in these devices are scaffolding, work platforms, guardrails, and others. The use of these devices must be made in accordance with the requirements of the Commission de la Santé et de la Sécurité du travail (CNESST).
- 7.5 The contractor shall be solely responsible for the design, erection, operation, maintenance and removal of temporary framing and other temporary installations and for the design and application of the construction methods necessary for their use. The contractor must take all measures to ensure the health, safety, and physical well-being of its workers. Depending on the case, an engineer's approval may be requested.
- 7.6 The tarpaulins used must have been recently treated with a flame-retardant solution or according to the customer's requirements.
- 7.7 Fuel waste, wood, sawdust, paper, containers of paint or oil, etc., will be removed from the site every day after the work. It will be forbidden to burn waste at or near the construction site.
- 7.8 Flammable liquids or materials will be stored in locked, special locations approved by the owner's representative. The contractor must designate these places by signs and must post notices to prevent and avoid any source of fire in the vicinity.
- 7.9 The use of gasoline-powered equipment shall be kept to the minimum possible. Under no circumstances will the storage of gasoline in the building or on the roof be permitted.

## **8 WORKSHOP DRAWINGS AND DATA SHEETS**

- 8.1 The shop drawings must indicate the materials to be used and the methods of construction and fastening or anchoring to be used, and they must contain the assembly diagrams, explanatory



notes, and any other information necessary for the execution of the work. Refer to drawings and design specifications.

- 8.2 Before mobilization at the site and the start of work, submit for approval workshop drawings for metal structures, metal flashings, location of anchorages, method of assembly and relevant installation specific to the type of coating. Include data sheets for all screws, anchors and accessories that will be used.
- 8.3 Modifications made to the shop drawings by the designer are not intended to vary the price of the contract. If they affect the cost of the work, notify the designer in writing before undertaking the work.
- 8.4 Make changes to the shop drawings required by the designer in accordance with the requirements of the contractual documents. When resubmitting them, notify the designer in writing of any changes made, other than those required. When the shop drawings have been verified by the designer and approved, a copy is returned by email, and the work and installation can be undertaken.

## **9 DELIVERY AND STORAGE**

- 9.1 Adhesives and sealants must be stored at a temperature equal to or greater than +5°C in any way.
- 9.2 Materials must be delivered in their original container and packaging, and manufacturers' seals must be intact.
- 9.3 Material handling and storage must comply with the most recent written recommendations from manufacturers.
- 9.4 The contractor must, at his own expense, provide on the site a shelter to protect against the weather all building materials likely to be damaged by water, ice, sun, wind, and dust.
- 9.5 All damaged and non-usable materials will be marked, removed from the job site, and replaced with new and compliant replacement materials.

## **10 START AND PROGRESS OF WORK**

- 10.1 Kick-off meeting: before the start of repair work on the roof of Building 7, including discussion of the implementation of materials and requirements to obtain the warranty.
1. All parties directly involved in the quality of the work, or concerned with the execution of the work, must be present at this meeting.
    - a. Notify the consulting firm, 48 hours in advance, of the location, date, and time of the meeting.
- 10.2 The contractor must carry out the work without interruption and with diligence, to be able to complete it within the stipulated time.
- 10.3 If, in the course of the work, circumstances or difficulties arise, other than those associated with climatic conditions that may cause a delay in the schedule of work, the contractor will then be required to immediately notify the supervisor in writing. Only under these conditions, and if the contractor is not found responsible for the delay, the supervisor may then accede to the

contractor's request for the purpose of extending the time limit. Otherwise, the contractor will be held responsible for delays and will have to suffer the consequences.

- 10.4 All work described in this document will be subject to inspections from the time the contractor takes possession of the site until the completion of the work.

## **11 FINAL ACCEPTANCE OF THE WORK**

- 11.1 Final acceptance of the work will take place when all deficiencies identified during the provisional inspection have been corrected. The Entrepreneur must provide the owner-manager (client), all the required attestations and documents before his final payment request.

## **PART 2 – PRODUCTS**

### **DIVISION 7 - WATERPROOFING**

#### **7.1 ASPHALT SHINGLE ROOFING**

##### **7.1.1 General**

###### **7.1.1.1 Scope of work**

- Provide labor, materials, tools, equipment for sealing work.

###### **7.1.1.2 Technical data sheets**

- Submit the data sheets of the products to be used.
- Provide a sample of shingles.

###### **7.1.1.3 Storage and handling**

- Store materials in a dry place, away from the weather, and so that they are not in contact with the ground.
- Store shingles on a flat surface; the height of stacked packages should not exceed 1.2 m (48").
- Remove from the storage area only the amount of material that will be used on the same day.
- Adhesives and sealants must be stored at a temperature equal to or greater than +5°C.
- Keep materials away from daylight and weather and any harmful substances.

###### **7.1.1.4 Conditions of installation**

- Do not install roofing materials when the temperature is below 0°C.
- Solvent-based adhesive should be applied at a temperature of 5°C or higher.
- The roofing support should be dry, free of snow and ice. Use only dry materials and apply them only when atmospheric conditions will not cause moisture infiltration into the sealing layers.

###### **7.1.1.5 Warranty**

- Provide the contracting authority with a warranty certificate for a period of five (5 years) issued by the contractor as well as a warranty from the shingle manufacturer including labor and materials for a period of 30 years.

### 7.1.2 References

- In addition to references specified elsewhere, comply with the requirements of the latest edition of the following documents:
- Metal flashings, ASTM International (ASTM) :
  - ASTM A653/A653M – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - ASTM B209 – Standard Specification for Aluminum and Aluminum-Alloy Sheet Plate.
  - ASTM B370 – Standard Specification for Copper Sheet and Strip for Building Construction.
- Waterproofing mastic, ASTM International (ASTM) :
  - ASTM D4586 – Standard Specification for Asphalt Roof Cement, Asbestos-Free.
  - CAN/CGSB 37.4 – Fibrated, Cutback Asphalt, Lap Cement for Asphalt Roofing.
  - CAN/CGSB 37.5. – Hot-Applied, Rubberized Asphalt for Roofing and Waterproofing.
  - ASTM D3019 – Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, and Fibered.
- Anchors, ASTM International (ASTM) :
  - ASTM F1667 – Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.
  - CSA B111 – Wire Nails, Spikes and Staples.
- Shingles, ASTM International (ASTM);
  - ASTM D226/D226M 09 – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
  - ASTM C1549 – Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer.
  - ASTM D1970 – Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
  - ASTM D3018 – Standard Specification for Class A Asphalt Shingles Surfaced with Mineral Granules.
  - ASTM D3161 – Standard Test Method for Wind Resistance of Steep Slope Roofing Products (Fan-Induced Method).
  - ASTM D4601/D4601M – Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing.
  - ASTM D7158/ASTMD7158M-11 – Standard Test Method for Wind Resistance of Asphalt Shingles (Uplift Force/Uplift Resistance Method).

- ASTM D3462 – Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules.
- ASTM D4869/D4869M-05 (2011) – Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing.
- ASTM E903 – Standard Test Method for Solar Absorption, Reflectance, and Transmittance of Materials Using Integrated Spheres.
- Association of Asphalt Roof Manufacturers (ARMA).
- Canadian Asphalt Shingle Manufacturers Association (ACSAC) :
  - CAN/CSA A123.16 – Asphalt-coated glass-base sheets.
  - CSA A 123.2 – Asphalt-Coated Roofing Sheets.
  - CSA A 123.3-05 (R2010) – Asphalt Saturated Organic Roofing Felt.
  - CAN/CSA A123.5-05 (r2010) – Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules.
  - CAN2 51.32 – Sheathing, Membrane, Breather Type.
  - CAN3 A123.51-M85 (R2011) –Asphalt Shingle Application on Roof Slopes 1 :3 and Steeper.
  - CAN3 A123.52 – Asphalt Shingle Application on Roof Slopes 1 :6 to Less Than 1 :3.
- Canadian Roofing Contractors Association (CRCA)
- FM Specification Test Standard No. 4473 for Impact Resistance Testing of Rigid Roofing Materials by Impact with Freezer Ice Balls.
- National Building Code CNB
- National Roofing Contractors association (NRCA)

### 7.1.3 Materials

#### 7.1.3.1 Approved Manufacturers

- GAF
- BP Emco
- IKO

#### 7.1.3.2 Ridge Shingles

- Ridge shingles designed to protect the highest areas of a roof from wind uplift and water penetration by accentuating the roofline.
  - Refer to the manufacturer for the appropriate model to install for the choice of the shingle chosen by the customer – color to match existing.

### 7.1.3.3 Self-adhered membrane

- Self-adhesive, self-sealing membrane with advanced flexibility and a non-slip surface meeting ASTM D1970 standard.
  - StormGuard from GAF
  - ArmourGuard from IKO
  - GroGuard from BP EMCO

### 7.1.3.4 Shingle underlay membrane

- A synthetic underlay membrane is designed for use under asphalt shingles.
  - Synthetic underlayment Deck Armor from GAF
  - Synthetic underlayment Stormtite from IKO
  - Synthetic underlayment Suredeck from BP EMCO

### 7.1.3.5 Shingles

- Architectural shingles laminate reinforced with fiberglass with a surface of mineral granules.
  - Timberline HD from GAF
  - Dynasty from IKO
  - Everest from BP EMCO
  - Or others meeting the following applicable standards ASTM D3018, ASTM D3462, CSA A123.5M, UL 790 & CAN/ULC S107 & ASTM E108, fire resistance class A, ASTM D3161, class A, D and F, FM4479 impact resistance class 3

### 7.1.3.6 Waterproofing mastic

- Product: Bituminous plastic roof cement meeting the requirements of ASTM D4586, Type I or II or CAN/CGSB-37-5
- Product: Lap cement meeting the requirements of ASTM D3019, without asbestos fibrous, type III or CAN/CGSB-37.4
- Product: ASTM D2822, Standard Specification for Asphalt Roof Cement, Asbestos Containing.

### 7.1.3.7 Nails and fasteners

- The nails installed will be wide-headed (9 mm) hot-dip galvanized steel roof nails with a minimum length of 31.75 mm (1 1/4") of gauge 10 to 12.
- Nails, screws, fasteners, bolts, washers, and all other metal fasteners must be made of the same metal as flashings.

### 7.1.3.8 Metal flashing (drip/wall and other required)

- 24-gauge pre-painted steel metal flashing – color as existing or at the owner's choice.

### 7.1.3.9 Roof ventilators

- Roof ventilators and boxes for existing exhaust outlets recovered for reinstallation.

## 7.1.4 Execution

### 7.1.4.1 Quality of execution

- Unless otherwise indicated, carry out the work in accordance with the relevant standards of the document "Specs" of the Association des Maîtres Couvreur du Québec".

### 7.1.4.2 Stripping work

- Remove shingles, eaves protectors and all other existing membranes to the roofing supports underneath.
- Check existing wood structure and repair as needed.

### 7.1.4.3 Protection measures

- Protect walls and structures adjacent to areas where equipment or materials are to be hoisted or used.
- Provide and install posters and safety barriers and keep them in good condition until the end of the work.
- Protect new and existing coverage against damage that could be caused by traffic, among other things. Take the precautions deemed necessary by the Professional.
- Disposal work on existing roofs: take all relevant protective measures to prevent the lifting of dust and debris; do a complete and daily cleaning.

### 7.1.4.4 Existing support

- The support must be in good condition: dry, clean, flat, smooth and securely nailed. Any curled or warped bracket must be replaced.

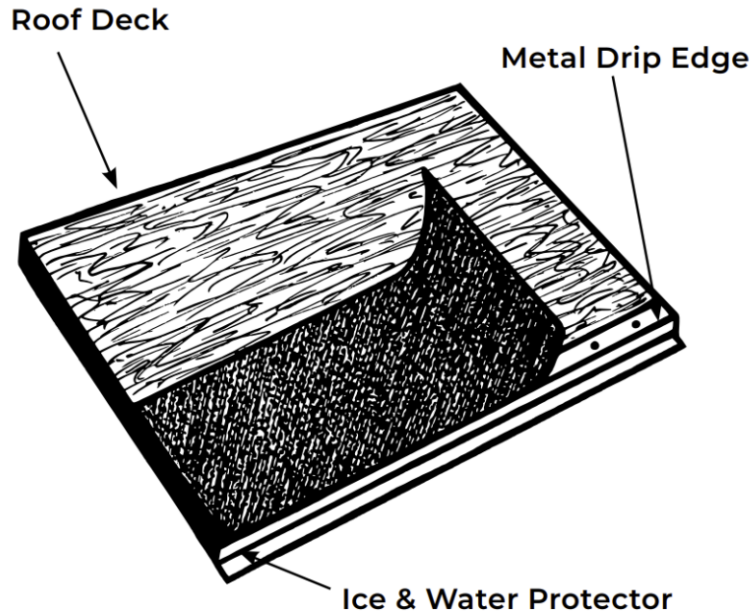
### 7.1.4.5 Installation

- Installation of the new pre-painted drips.
  - At the bottom of the slope the drip is placed under the self-adhesive protective membrane of the eaves.
  - On the side edges, the drip rests above the self-adhesive protective membrane
  - The drips must extend by at least 100 mm (4"). Nail the drips every 200 mm (8")

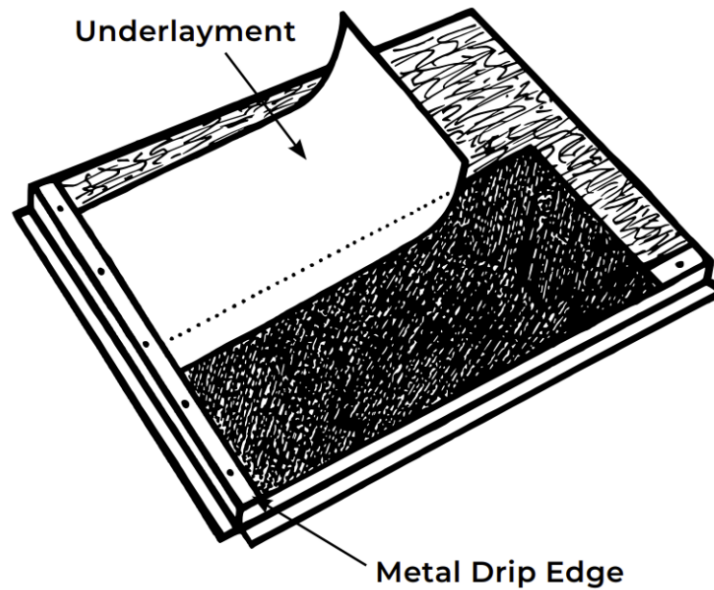
- The transverse joints of the metal drips must be completed with an "S" joint.
- Protection of the eaves will be achieved by the installation of a self-adhered modified bitumen membrane covering at least 3 m (9'-0") the bottom of the slopes and on the side, edges must cover at least 2 m (6'0") along with the hip ridge.
- In addition, the self-adhesive membrane will be installed in the following places:
  1. In the valleys so that it exceeds 1.37 m (54") on each side of the center of the valley
    - Around wall junctions
    - Around sleeves and any bases
- In the valleys, once the self-adhesive protective membrane is installed, provide for the installation of a metal flashing folded in its center and nailed at the edge at a maximum distance of 25 mm (1") from the edge and every 400 mm (16") minimum on each side.
  - Provide for the realization of open valleys made with the metal flashing folded in the center and total width will not be less than 1 m (36 "). The metal flashing composing the valley must overlap by at least 300 mm (12") the sub-adjacent lengths always starting from the bottom of the slope and a plastic cement bed will be applied.
  - The shingles will be installed in a plastic cement bed on a width of at least 400 mm (16") on each side or a modified bitumen self-adhesive membrane will be installed to the metal of the valley up to the shingle finish line.
- Underlay membrane
  - On the rest of the roof surface, provide for the installation of a synthetic underlay membrane.
  - Install the synthetic underlay membrane horizontally on the roof, overlapping longitudinally at least 50 mm (2") and perpendicular to at least 100 mm (4"). The synthetic underlay membrane must be sufficiently nailed. Ensure that perpendicular joints are offset by at least 300 mm (12")
- Shingles installation in the filed surface
  - Follow the manufacturer's installation recommendations to meet their standards offering protection against high winds up to 220 km/h.
  - Do not nail in the self-adhesive strip.
  - Alignment must be horizontal and vertical. Use a marking cord to draw a straight line along the lower edge of the roof, measure a distance from the edge allowing the installation of the starting shingles while allowing the shingle to extend of about 16 mm (5/8") from the edge. Always check horizontal and vertical alignment.
  - Starting shingles: Use the appropriate starting shingles according to the manufacturer chosen at the bottom of the slope and on the side edges. Start with a half starter shingle, granules on the exposed face and the adhesive line near the edge. Continue with whole shingle. Nail six (6) nails per sheet according to the manufacturer's recommendations and spacing.



- First row: Start at the edge of the slope and place the whole shingles all along the edge by aligning them with the starting shingles while crossing the joints of these. The exceeding of the first row of shingles will be 16 mm (5/8") just like the starting shingle.
- Second rank and the following ranks: install according to the manufacturer's recommendations. Make sure to always exceed the side edges by about 16 mm (5/8") and stagger the joints from the previous row by at least 150 mm (6"). Nail as prescribed by the manufacturer.
- Shingles installation in the valleys
  - Using a marking cord, draw two lines on the metal of the valley 75 mm (3") from the center and continue to the bottom away from the center to finish at 150 mm (6") in the bottom.
  - Bring the shingles to the drawn line – do not use a shingle smaller than 300 mm (12'').
  - Cut the top corner of the shingle in the valley at 45° to direct the water into the valley and not under the shingles.
  - Place the shingles in a 400 mm (16") plastic cement bed from the line drawn in the valley.
- Ridge
  - Cover all edges and ridges with shingles designed by the manufacturer according to the chosen model.
  - Cover avoiding bare nails and in the opposite direction of the prevailing winds.
  - For the edges from the bottom of the slope and for the ridges from the opposite end to the prevailing winds.
  - Depending on the dimensions prescribed by the manufacturer, place the shingles on the edges and ridges by overlapping them to leave the granulated surface exposed.
  - Nail on each side according to the manufacturer's recommendations.
  - The last shingle will have to be laid in a plastic cement bed and nailed to the granulated surface. The nails will need to be covered with a UV-resistant sealant.
- Metal flashings
  - Metal wall flashing provide for the installation of 24-gauge pre-painted steel flashings that will extend for a minimum of 100 mm (4") on each side of the intersection point. The overlap of flashings must be 150 mm (6") adhered in plastic cement or installed in steps.
  - Under the metal flashing a self-adhesive membrane will be installed and will go up at least 100 mm (4"0'') on the wall.
  - Nail and fix the metal flashings to 300 mm (12") c/c on the wall using screws with neoprene on the part over the shingle.

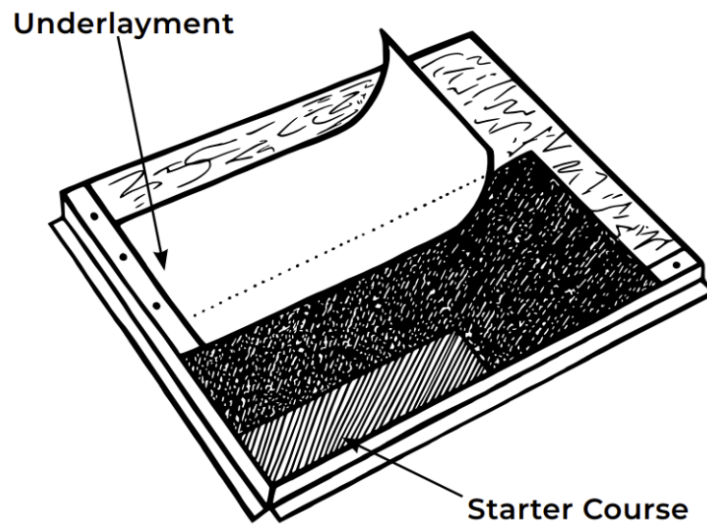
**PART 3 – TYPICAL DETAILS****METAL AND EAVES PROTECTION MEMBRANE(1)**

Installation of the metal drip before the installation of the self-adhesive membrane for protection of the eaves. Width of the membrane requested as protection of the eaves is 3 m (9'-0"). Self-adhesive membrane also requested along the side edges for 2 m (6"). Install a synthetic membrane on the rest of the roof surface.

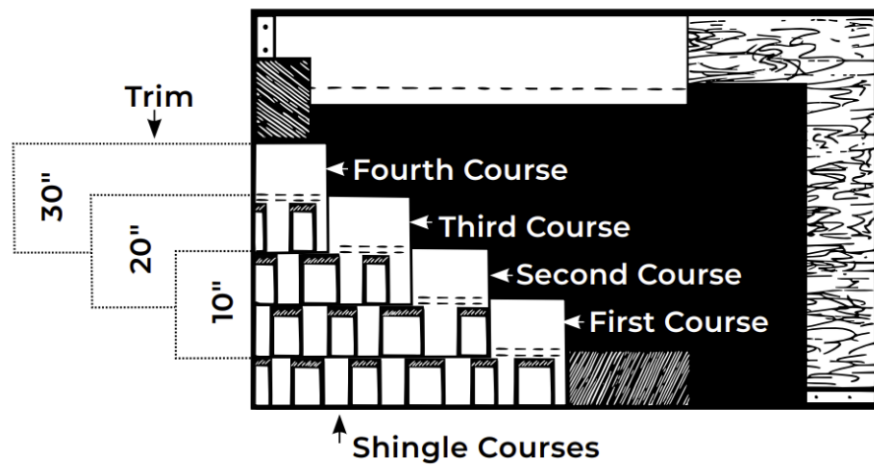
DRIP AND SIDE EDGE PROTECTION MEMBRANE (2)

Installation of the drip on the side edges after the placement of the synthetic underlay membrane.

---

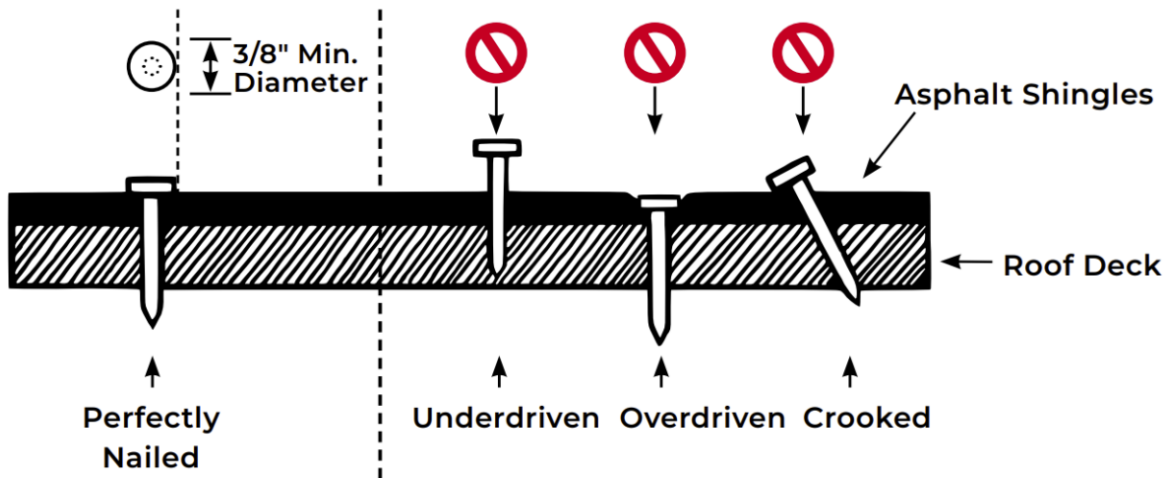
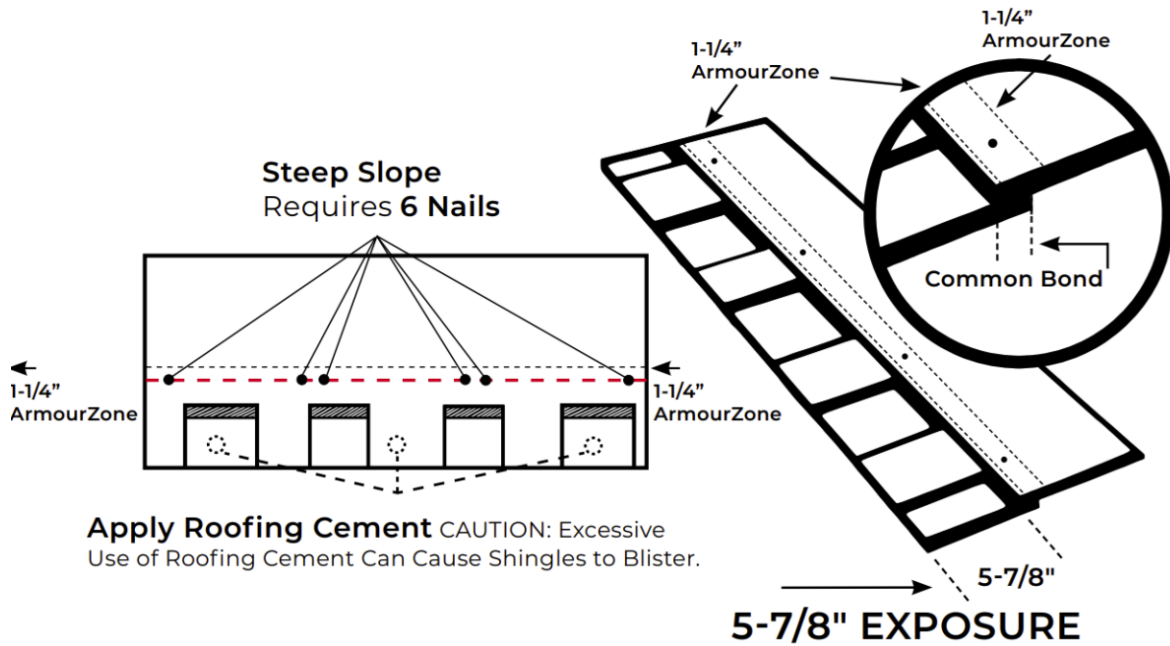
**STARTING SHINGLES**

According to the manufacturer's instructions, use the starting shingle for the bottom of the slope but also for the side edges.

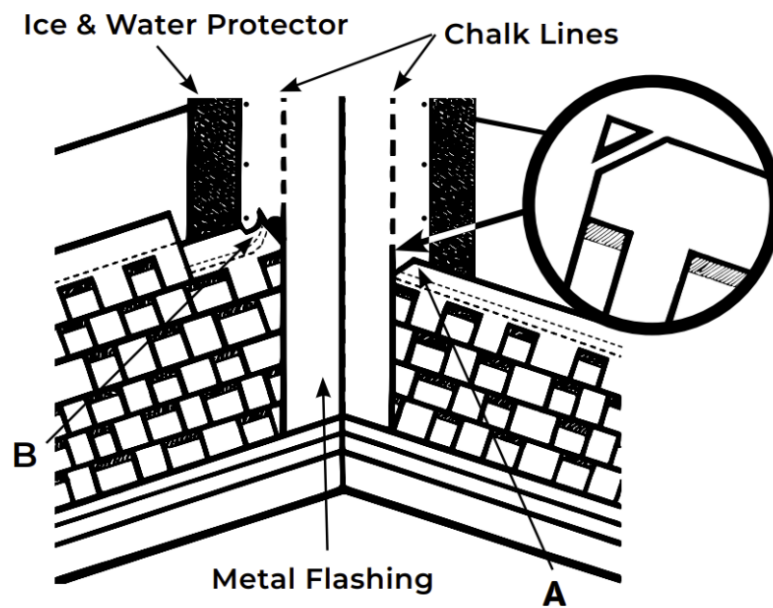
**SHINGLES INSTALLATION**

According to the manufacturer's instructions, start installing the shingle rows starting at the bottom of the slope.

**NAILING (6 NAILS PER SHINGLE)**



According to the manufacturer's instructions and to ensure wind uprooting, provide six (6) nails per shingle. Nails must be installed properly.

VALLEY INSTALLATION (3)

- Using a drawing cord, draw two lines on the metal of the valley 75 mm (3") from the center and continue to the bottom away from the center to finish at 150 mm (6") in the bottom.
- Bring the shingles to the drawn line – do not use a shingle smaller than 300 mm (12").
- Cut the top corner of the shingle in the valley at 45° to direct the water into the valley and not under the shingles.
- Place the shingles in a 400 mm (16") plastic cement bed from the line drawn in the valley.

## APPENDIX 1

---

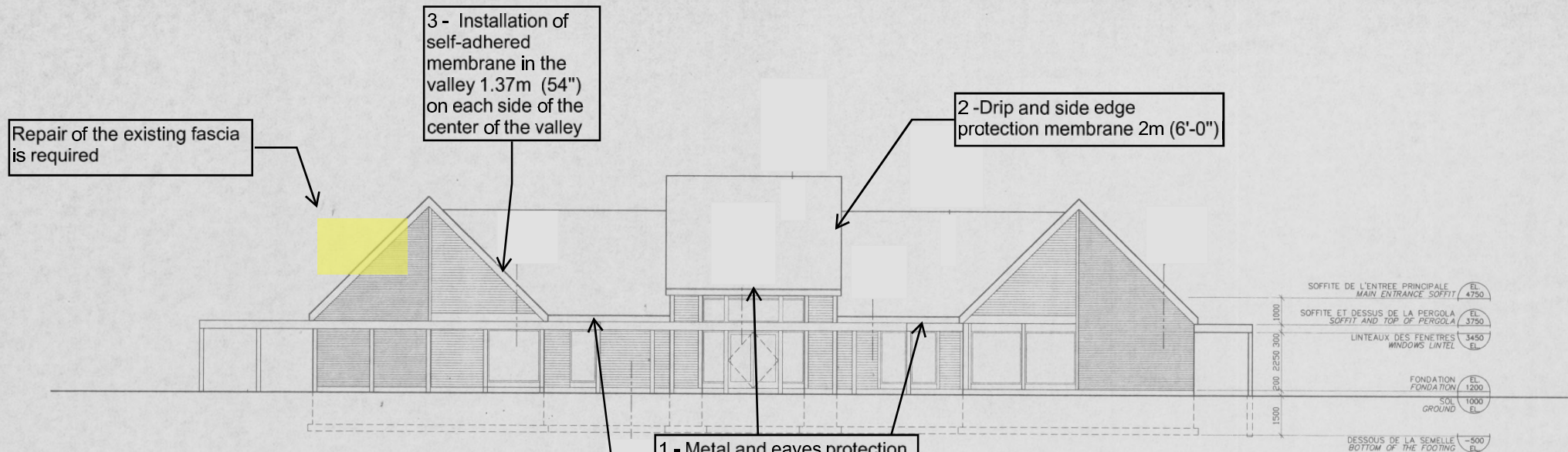
### Elevations



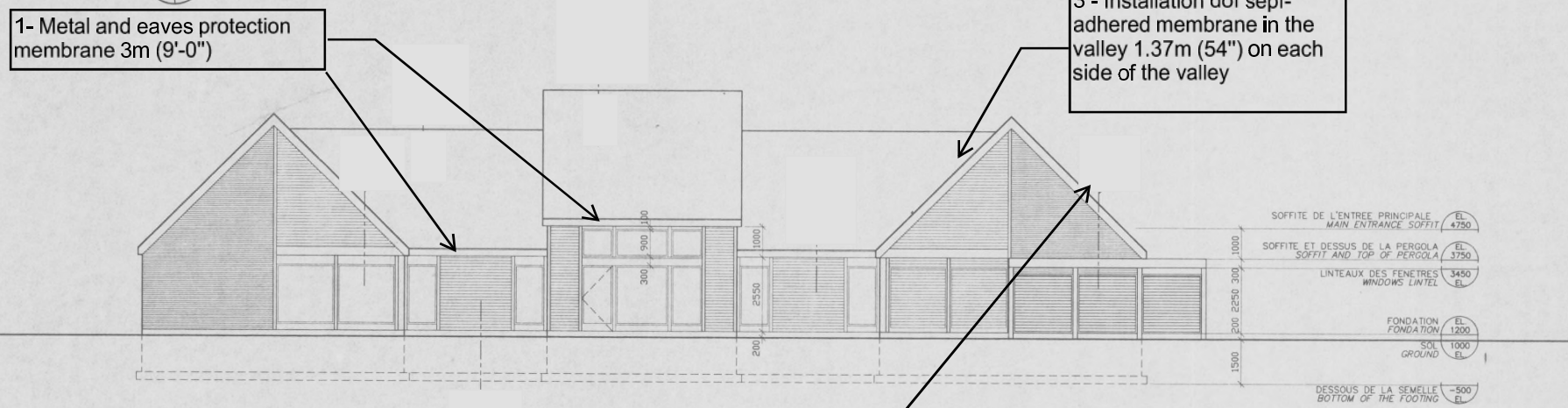
Sylvain Archambault Architecte  
Gestionnaire de projets  
Project manager

project  
**ÉTABLISSEMENT  
STE-ANNE-DES-PLAINES**  
NOUVEL HÉBERGEMENT  
NEW ACCOMMODATION

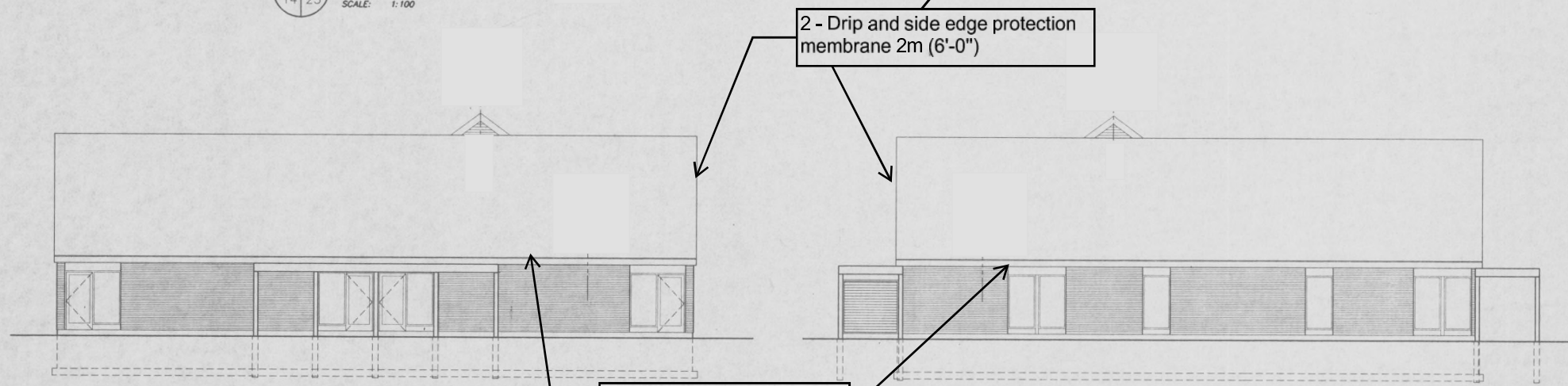
notes  
Prendre sur place les dimensions relatives aux travaux; fabriquer et exécuter les ouvrages conformément à ces dimensions et aux conditions de chantier.  
All dimensions relating to work must be taken on site. Fabrication and execution of all works must be done according to those dimensions and the site conditions.



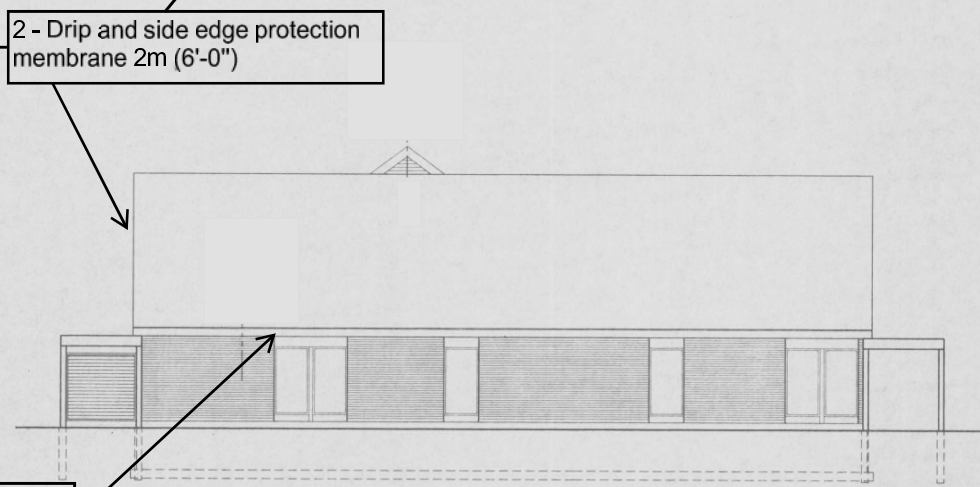
1  
ELEVATION AVANT  
FRONT ELEVATION  
ÉCHELLE: 1:100  
SCALE: 1:100



2  
ELEVATION ARRIERE  
BACK ELEVATION  
ÉCHELLE: 1:100  
SCALE: 1:100

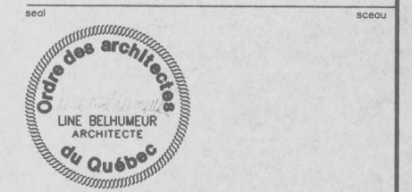


3  
ELEVATION LATÉRALE  
SIDE ELEVATION  
ÉCHELLE: 1:100  
SCALE: 1:100



4  
ELEVATION LATÉRALE  
SIDE ELEVATION  
ÉCHELLE: 1:100  
SCALE: 1:100

revisions	date
A	A detail no. du détail
B	B location drawing no. sur dessin no.
C	C drawing no. dessin no.



architecture  
Provencher Roy et associée architectes  
315, rue du St-Sacrement  
Montréal (Québec) H2Y 1Y1  
Téléphone (514) 844 3938  
Télécopieur (514) 844 6526

consultants  
mechanical and electrical  
Liboiron Roy Caron & Ass.  
4030, Chemin Bois-Franc  
Ville St-Laurent (Québec) H4S 1A7  
Téléphone (514) 745 1400  
Télécopieur (514) 745 2832

structure  
Nicolet Chartrand Knoll Itée  
1200 McGill College, bureau 1200  
Montréal (Québec) H3B 4G7  
Téléphone (514) 878 3021  
Télécopieur (514) 878 2402

ELEVATIONS ELEVATIONS		
PAVILLON COMMUNAUTAIRE COMMUNITY PAVILION		
scale	1:100	échelle
designed	S.P./A.R.	conçu
date	92-08-20	
drawn	R.C./M.B.	dessiné
date	92-09-20	
reviewed		examiné
date		
approved	L.B.	approuvé
date		
project number	642156 (PRA 9253)	no. du projet
drawing no.	A-23	no. du dessin