

PART 1 GENERAL

1.1 SCOPE OF WORK

- .1 Total roof area approximately 1,312 m². The Work includes, but is not limited to:
 - .1 Removal and disposal of existing asphalt shingles and 2-ply felt underlayment.
 - .2 Partial removal of existing plywood roof sheathing.
 - .3 Clearing of vent paths and installation of insulation baffles to maintain clear vent space.
 - .4 Install new 12.7mm exterior plywood sheathing (thickness to match existing).
 - .5 Installation of roof vents as indicated.
 - .6 Installation of new drip edge flashing and valley sheet metal bridging.
 - .7 Installation of perimeter and valley ice and water shield.
 - .8 Installation of new asphalt paper and 30-year asphalt shingles.
 - .9 Provision of warranty for all Work.
- .2 Refer to drawings for full extent and details of the above Work.

1.2 RELATED SECTIONS

- .1 Section 010010 – General Requirements

1.3 PROTECTION OF OCCUPIED SPACE

- .1 The library must remain fully functional during the Work.
- .2 Safe access to the building by employees and visitors must be maintained at all times.
- .3 Contractor shall ensure that areas under construction are properly protected from the environmental elements to prevent water penetration from the roof to the interior of the facility.

1.4 REFERENCE

- .1 Canadian Standards Association (CSA International).
 - .1 CAN/CSA-A123.1/A123.5-98, Asphalt Shingles Made From Organic Felt and Surfaced With Mineral Granules/Asphalt Shingles Made From Glass Felt and Surfaced With Mineral Granules.
 - .2 CSA A123.2-M1979 (R2001), Asphalt-Coated Roofing Sheets.
 - .3 CAN/CSA-A123.3-98, Asphalt Saturated Organic Roofing Felt.
 - .4 CAN3-A123.51-M85 (R2001), Asphalt Shingle Application on Roof Slopes 1:3 and Steeper.
 - .5 CAN3-A123.52-M85 (R2001), Asphalt Shingle Application on Roof Slopes 1:6 to Less Than 1:3.
 - .6 CSA B111-1974 (R1998), Wire Nails, Spikes and Staples.
- .2 Canadian Roofing Contractors Association (CRCA).

1.5 STORAGE AND HANDLING

- .1 Provide and maintain dry, off-ground weatherproof storage.
- .2 Load shingles onto roof in such a way as to avoid overloading the roof structure.
- .3 Remove only in quantities required for same day use.
- .4 Store caulking at +5°C minimum.
- .5 Store insulation protected from daylight and weather and deleterious materials.

1.6 ENVIRONMENTAL REQUIREMENTS

- .1 Install roofing on dry deck, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into roofing system.

1.7 COMPATIBILITY

- .1 Compatibility between components of roofing system is essential. Provide written declaration to Contract Administrator, within three days prior to the commencement of Work stating that materials and components, as assembled in system, meet this requirement.

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Asphalt shingles: to CSA A123.1/A123.5.
 - .1 Type: self-seal, heavy weight, glass fibre reinforced, laminated, "shake-look" design.
 - .2 Mass: minimum 122 kg/10m².
 - .3 Colours: as selected by Contract Administrator.
 - .4 Texture: as selected by Contract Administrator.
 - .5 Acceptable product: IKO "Cambridge 30", or approved substitution, in accordance with B6.
- .2 Perimeter and valley roll roofing: to ASTM D1970.
 - .1 Self-adhesive rolled membrane.
 - .2 Acceptable product: Grace "Ice and Water Shield"; IKO "ArmourGard Ice and Water Protector"; or acceptable substitution, in accordance with B6.
- .3 Roofing felt (underlayment): to CSA A123.3, Type 2 organic felt No.15.
- .4 Asphaltic Cement:
 - .1 Plastic cement: to CAN/CGSB-37.5.
 - .2 Lap cement: to CAN/CGSB-37.4.
- .5 Bridging and Flashing
 - .1 Valley bridging: galvanized sheet metal, minimum base metal thickness of 0.61mm (24 ga).

.2 Drip edge and ridge flashing: prefinished metal flashing, minimum base metal thickness of 0.61mm (24 ga).

.6 Nails: to CSA B111 of galvanized steel, sufficient length to penetrate 19 mm into deck (for shingles) and 51 mm into roof framing (for sheathing).

.7 Staples: chisel point galvanized steel 2.5mm crown 1.5 mm thick, sufficient length to penetrate 19 mm into deck.

2.1 ROOF SHEATHING

.1 To match existing – 12.7mm (1/2”) exterior grade plywood.

2.2 ROOF VENTS

.1 To CSA, heavy duty, injection-molded polypropylene, modified for impact and UV resistance.

.2 Net free area: 325 cm² (50 sq.in.).

.3 Colour: as selected by Contract Administrator.

.4 Acceptable product: Duraflo “Weatherproof”; or acceptable substitution, in accordance with B6.

2.3 GABLE END CLADDING

.1 Zinc-coated sheet steel: commercial quality to ASTM A653/A653M, with Z275 designated zinc coating.

.2 Prefinished steel with factory-applied High Molecular Weight Polyester (HMP) or fluorocarbon coating.

.3 Base metal thickness: 0.61 mm (24 ga.).

.4 Profile: Vicwest CL7015R or approved substitution, in accordance with B6.

.5 Colour: as selected by Contract Administrator from Manufacturer’s standard colour range.

.6 Fasteners: pre-painted tech screws complete with neoprene washers. Colour to match cladding.

PART 3 EXECUTION

3.1 WORKMANSHIP

.1 Do Work in accordance with applicable, standard in Canadian Roofing Contractors Association (CRCA) Roofing Specifications Manual.

3.2 PROTECTION

.1 Cover walls and adjacent Work where materials hoisted or used.

- .2 Use warning signs and barriers. Maintain in good order until completion of Work.
- .3 Clean off drips and smears of bituminous material immediately.
- .4 Protect roof from traffic and damage. Comply with precautions deemed necessary by Contract Administrator.
- .5 At end of each day's Work or when stoppage occurs due to inclement weather, provide protection for completed Work and materials out of storage.

3.3 REMOVAL OF EXISTING ROOFING

- .1 Remove existing roofing, underlay, and expose sheathing of roof.
- .2 Withdraw existing shingle and flashing nails, set those which break off. Leave surfaces free from dirt and loose material.
- .3 Examine roof sheathing and immediately inform Contract Administrator of defects.
- .4 Remove portions of roof sheathing as indicated on drawings to access vent spaces.
- .5 Remove additional portions of sheathing affected by fungal or insect attack as directed on site by Contract Administrator.
- .6 Remove portions of existing insulation damaged by water penetration as directed on site by Contract Administrator.

3.4 VENT PATH WORK

- .1 Remove existing insulation as required to clear vent paths.
- .2 Install insulation baffles as indicated to maintain vent space.

3.5 NEW SHEATHING

- .1 Replace cut out portions of sheathing with sheathing of equal sectional dimensions, and specified grade. Seat each end on rafter, with 25 mm bearing, and secure to rafter.
- .2 Secure using 65 mm common galvanized nails at 150 o.c. around edges of sheets and at 300 o.c. on interior or sheets.
- .3 Provide galvanized H-Clips at all unsupported edges.

3.6 EXAMINATION OF ROOF SHEATHING

- .1 Prior to commencement of roofing installation ensure:
 - .1 Sheathing is firm, straight, smooth, dry, free of snow, ice or frost, and swept clean of dust and debris.
 - .2 Flashings are installed.

3.7 SHINGLE APPLICATION

- .1 Do asphalt shingle Work in accordance with CAN3-A123.51; CAN3-A123.52 and CRCA Specification except where specified otherwise.
- .2 Install drip edge along eaves, overhanging 12 mm, with minimum 50 mm flange extending onto roof decking. Nail to deck at 400 mm on centre.
- .3 Install valley bridging. Nail to deck at 400 mm on centre.
- .4 Install perimeter and valley ice and water shield to extents indicated.
- .5 Install roof vents where indicated using galvanized roofing nails. Follow manufacturer's written installation instructions and ensure proper flashing and sealing of shingles to vent flanges.
- .6 Install two layers of roofing felt (underlayment) beginning at bottom edge of roof and applying subsequent courses overlapping lower course. Ensure minimum 150mm side laps (between courses) and 300mm end laps. Use of staples for installing underlayment is acceptable.
- .7 Install asphalt shingles on roof slopes 1:3 and steeper in accordance with CAN3-A123.51 using galvanized roofing nails. Use of staples for installing shingles is not acceptable.
- .8 Install asphalt shingles on roof slopes 1:6 to less than 1:3 in accordance with CAN3-A123.52 using galvanized roofing nails. Use of staples for installing shingles is not acceptable.

3.8 GABLE END CLADDING

- .1 Install ice and water shield to cover gable-to-roof junction.
- .2 Install two layers of roofing felt in same matter as roof.
- .3 Install bottom flashing.
- .4 Install cladding horizontally, beginning at bottom, overlapping consecutive sheets, and setting laps in continuous bead of silicone sealant.
- .5 Install perimeter flashings to ensure a weather-tight installation.

3.9 FINAL CLEANING

- .1 Remove all construction debris and extra materials from site.
- .2 Use magnetic broom to ensure the removal of all metallic debris and nails from around entire perimeter of building.

END OF SECTION