

SAINT JOHN HERITAGE CONSERVATION AREAS

Roofs

INTRODUCTION

The size, shape and slope of the roof create the building silhouette. The roofing materials contribute texture and pattern. Iron cresting, cornices, gutters, and other roof elements visually enrich the roofscape. The roof is the primary protection against the elements. Constantly exposed to sun, rain, snow and wind, the roof naturally deteriorates and must be maintained.

At some point, replacement will be necessary. Replicate the material, color, texture and size of the original roofing.

The roof was often altered to provide extra space, to update the style, to provide dormers or to simplify repairs. Before doing any major work on your roof, examine the framing for evidence of any changes.

At the same time check the framing for signs of rot, deterioration and sagging. Fix any structural problems before re-roofing.

The roof can be a tricky and dangerous place to inspect or to repair. Take adequate safety precautions, or hire a roofer.

ROOF STYLES

Each style of building is characterized by a different style of roof. Recognize the style and preserve it during repairs or replacement.

GREEK REVIVAL 1830-1860

Low pitched gable roof creates a temple-like profile. The cornice under the eaves was wide, plain or dentilled.



GOTHIC REVIVAL 1850-1870

Steep pitched gable roofs usually enlivened by dormers, finials, pinnacles, and chimneys. Decorative roof-edge "bargeboards" common.



SAINT JOHN





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ITALIANATE 1850-1870

Gently sloped hip or gable roofs, often crowned by a central cupola. Deep projecting eaves, supported by large wooden brackets on a wide cornice.



ROMANESQUE 1875-1895

Steeply sloping gable roofs, often intersecting. Enriched with delicate finials, terracotta panels.



MANSARD 1860-1880

Steeply sloped surface may be straight, curved, convex, concave. Projecting eaves, supported by large wooden brackets on a wide cornice. Dormers and iron cresting common.

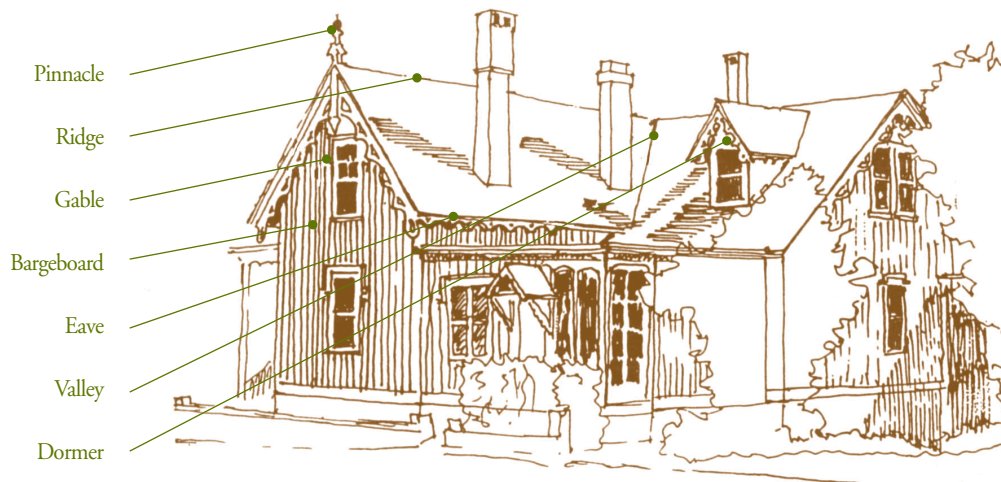


QUEEN ANNE 1880 - 1900

Steep gables, intersecting roofs with dormers, turrets and towers decorative iron cresting, finials, patterned and coloured shingles enrich the roofscape.



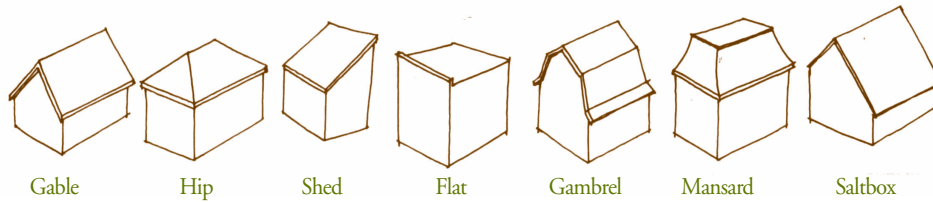
PARTS OF A ROOF





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ROOF TYPES



PRESERVATION

Saint John has a rich variety of nineteenth century buildings that form the character of our city. Individually, many of them are excellent examples of a particular style of architecture.

The treatment of particular building elements such as windows, doors, and roofs should be considered in relation to the design of the building as a whole.

Preserve the original historic fabric. Repair, rather than replace deteriorated architectural features. When replacement is necessary, match the original.

Replacement of missing features should be based on historical accuracy.

Do not remove or alter original material or distinctive architectural features.

Recognize buildings as products of their own time, and avoid alterations without historical basis, or that create an earlier appearance.

MATERIALS

Wood Shingles

Wood shingles have been used since about 1650. Sawn wood shingles have been available since the mid 1800's. Suitable only on sloped surfaces, minimum 4 in 12 slope. Life expectancy 25-30 years.

Slate

Available since the early 1800's, slate shingles provide a low maintenance, fire resistive finish for sloping roofs (min. 4 in 12 slope). Most common on mansard style buildings. Life expectancy over 100 years.

Asphalt Shingles

Consists of heavy felt saturated with asphalt and coated with ceramic granules. Available since the 1890's. Low cost, fire resistive finish for sloping roofs, minimum 3 in 12 slope. Life expectancy 15-25 years depending on weight of shingle and exposure.

Metal Roofing

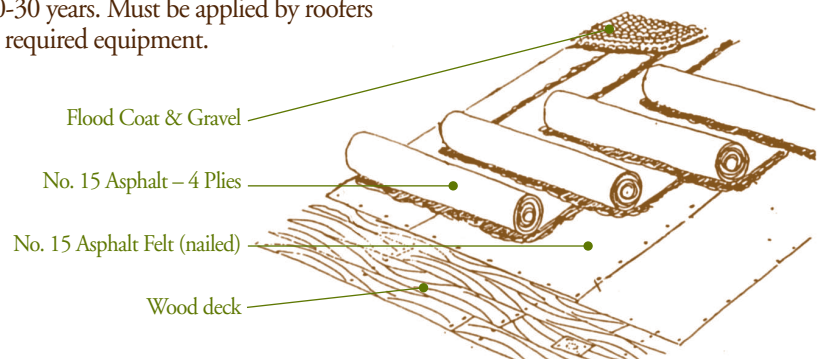
Suitable for low slope roofs (1 in 48 slope). Usually tin-plated iron, sometimes copper or lead, standing seams. Commonly used over dormers, bay windows and porches. Long-lasting (with maintenance), fire resistive.

Roll Roofing

Strips of saturated felt, topped with asphalt and ceramic granules, similar to asphalt shingles (but much lighter weight). Suitable for low slope roofs. short life expectancy, 5-10 years.

Built-up Roofing

Consists of layers of saturated roofing felts, adhered with mopped on tar pitch or asphalt, over a nailed on layer of dry-applied roofing felt, protected with gravel or crushed stone. Used for nominally flat roofs. Life expectancy of 10-30 years. Must be applied by roofers with required equipment.





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Modified Membrane

This type of roofing consists of two layers: 180lb base sheet and a 250lb cap sheet which has embedded granules (prevents ultraviolet light from breaking down the asphalt). The usual procedure is to strip the existing roof to the deck, then remove and replace all deteriorated or damaged boards. Following deck repairs the next step is to secure the base sheet with nails and then mop or torch on the cap sheet. However, if recovery board (3'x4' sheets of 1/8" material) is secured with a minimum of 12 flange washers and stainless steel screws, then the base sheet can be mopped on with hot tar and the cap sheet can be torched on. This will cost approximately 10% more but should double the life expectancy of the roof. Use of recovery board is therefore mandatory in order to be eligible for funding from the Grants for Historic Buildings Conservation Program.

Maintaining Asphalt Roofs:

Curling shingles may be glued down with roofing cement. At splits, coat the underside with roofing cement, hammer roofing nails on both sides of the crack, cover the nails and the crack with roofing cement.

Missing shingles are replaced by gently lifting the shingle above, removing the nails. Patch any tears in the felt with roofing cement. Slide the new shingle in place, nail it down with roofing nails, and coat the nails with roofing cement.

When mineral granules are missing from the surface, it's time for a new roof. The labour costs for installation will be similar for all grades of asphalt shingles. The heavier the weight of shingle, the longer its expected life.

Maintaining Wood Shingles

Renail loose shingles, and cover the nail heads with roofing cement. Drill a hole for a new nail, to prevent splitting the shingle. Splits and holes can be fixed with a piece of metal slid under the shingle, nailed in place through the shingle.

Badly split, rotted or missing shingles should be replaced. Loosen the shingle above it, remove the shingle, cut off the nail with a hacksaw blade. Slide a new shingle into place, with about 1/4" space on each side, and nail it down with zinc-coated roofing nails.

Dark-colored areas, warping shingles, moss or fungi are clues that replacement is necessary.

Maintaining Slate

The weakest part of a slate roof is the fastenings. Use copper or high quality zinc coated roofing nails.

The slates hang from the nails, which are never driven home. Roofing cement may fix a cracked slate. To replace a slate, remove it using a hacksaw blade. If you can't find a matching replacement, use one from a less conspicuous location, and install the new mismatch where it won't be seen. Cut a 2" wide strip of copper, nail it into place, bend up the end 10 hold the new slate in place.

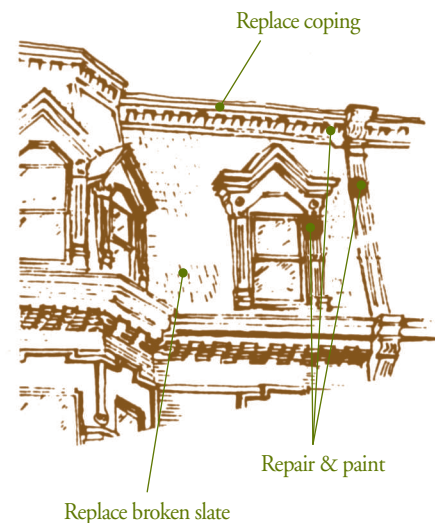
If a lot of slates are loose, complete removal and re-installation is necessary. Ensure that the slates are generally in good condition, since the labour cost of re-installation may equal the cost of a new roof with another material.

Maintaining Metal Roofs

A drop of solder will repair small holes, while larger cracks or holes will require a patch of the same material. Clean the surface with steel wool, apply flux and a thin coat of solder to the area and the patch. Attach the patch with solder.

Maintaining Built - Up Roofing

Either blisters or cracks can be patched, though usually they're signs that replacement will soon be necessary. Clean out the crack and surrounding area, spread roofing cement over the area, press a patch of roofing felt into it. Nail down the patch, coat it with roofing cement, and push gravel over the surface.





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FLASHINGS

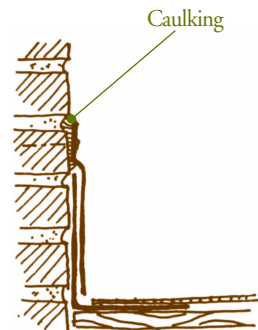
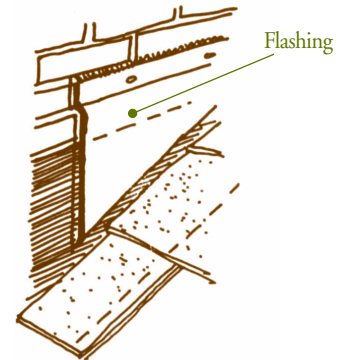
The flashings between the roofing and adjacent materials or surfaces are the weakest point in most roofing systems. Any search for the source of leaks should start with the flashings. Flashing materials include various metals, roll roofing, sheet plastic and rubber. Avoid using dissimilar metals together.

Maintaining Flashings

Roofing cement or solder should be used to fix small holes in the flashings. Patch larger holes with a compatible material and apply as for metal roofing.

CAULKING

Use caulking to seal gaps between materials and different building elements. Caulking must be able to adhere to the surfaces and should accommodate movement in the joint. Large joints should first be filled with a foam backer rod to provide a bed for the caulking. Rubber butyl and polyurethane caulking will last 15-20 years in exterior applications, and can be painted. Silicone caulk will last over 20 years but can't be painted.



FOR MORE INFORMATION

The Practical Conservation Guidelines, application forms for Grants and Certificates of Appropriateness and other useful information for fixing up your older building is available from:

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Property Owners! Contact Heritage Staff before you begin to make any plan purchase supplies or hire contractors. Advice on ways to save you time, money and energy will be offered free of charge.

References

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