

ROOFING

DESIGN GUIDELINES



The roof form and materials are key character-defining features of a historic structure. Many roofs on historic residential buildings in Louisville have one of the shapes illustrated to the right.

The original roof form and materials should be preserved whenever possible. However, if the roof should need to be replaced, a material, pattern, and color that is compatible with the historic style of the home should be selected. If documentation of the historic structure exists, use a comparable roofing material. If documentation is not available, precedents on similar buildings that are within the preservation district or around the historic property may be considered. The construction of a new roof on an addition to a historic property should be compatible in size, scale, material, and color with the historic building and the preservation district. For more information about additions to historic structures, consult the "Additions Design Guidelines" chapter.

Roof Forms Convey Architectural Character



Gable



Flat



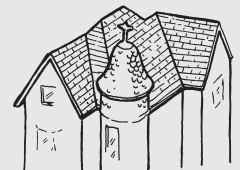
Hipped



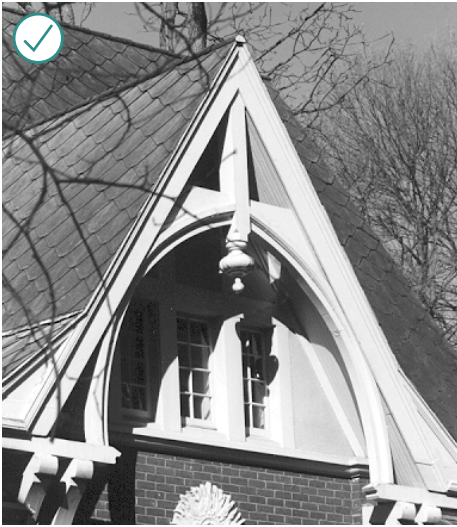
Mansard



Gambrel



Complex



Preserve the original roof form of a historic structure. Complex roof forms are character-defining features for many Victorian and Edwardian era architectural styles.



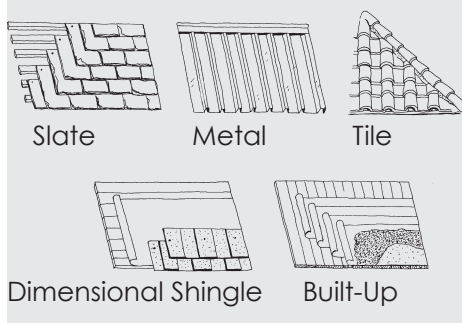
Use a replacement material that matches the color, texture, and character of the original roof material, and that has a similar proportion of seams and trim to the original roof material. When replacing a tile roof, try to reuse salvageable tiles on secondary roofs like porch roofs.

Original Roof

The character of the historic roof should be preserved, including its form and materials.

- R.1 Preserve the original roof form of a historic structure.**
 - » Preserve the angle of a historic roof.
- R.2 Preserve the original eave depth of a roof, leaving eaves and rafter ends open and uncovered.**
- R.3 Repair and maintain the original roof material wherever possible.**
- R.4 Use a replacement material that matches the color, texture, and character of the original roof material, and that has a similar proportion of seams and trim to the original roof material.**
 - » When replacing a historic metal roof is necessary, use in-kind materials such as copper, lead-coated copper, terne-coated stainless steel, or terne metal. Copper roofs should be left unpainted. Terne-metal roofs should be painted muted red or muted green.
 - » When replacing non-repairable roofing, remove underlying layers to prolong the life of the roof and retain the original profile of the roof edge.
 - » Retain the ridge and hip tiles on a historic tile roof. Replace field tiles with a dimensional shingle of a similar color to the original.
 - » Reinstall ridge and hip tiles to maintain the historic roof profile.
 - » When necessary, replace a historic roof detail, such as decorative cresting and finials, with an in-kind material.
- R.5 Do not cover the original roof.**
- R.6 Do not remove an original roof component.**

Materials Exhibit a Range of Textures



Additional Roof Components

Additional original roof components such as dormers, cupolas, and chimneys help define the form and character of a historic building. Their form and ornamental elements should be maintained wherever possible. Modern roof elements such as gutters, downspouts, and skylights that are secured to a historic roof should be installed to be minimally visible and to not damage the historic roof. Any rooftop addition should be carefully installed as to not compromise the structural integrity of the historic building.

R.7 Preserve an original roof component such as a cupola, dormer, or chimney.

- » Preserve decorative elements associated with a roof including crests and chimneys.

R.8 If reconstruction of a roof component is necessary, use historical, pictorial, and physical evidence to create an appropriate replica.

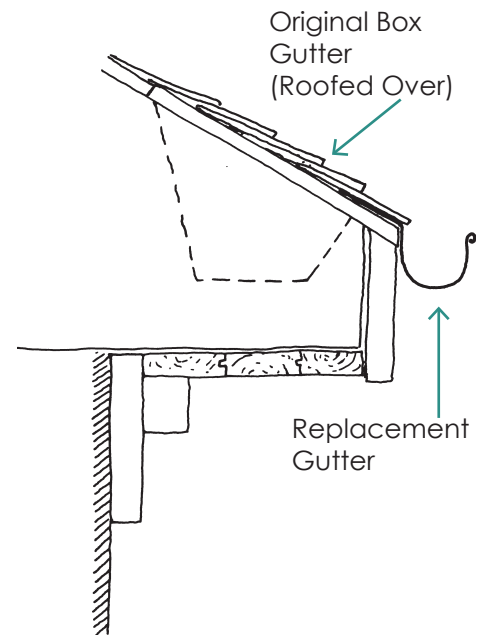
R.9 Install a gutter or downspout that is simple in design and that does not damage historic detail of the original structure.

- » Use a half-round or ogee profile gutter that does not alter the character of the historic trim and that is painted to match the color of the trim.
- » Do not use unpainted galvanized steel or vinyl gutters or downspouts.

R.10 Install a skylight that is flush with the roof plane and painted to match the color of the roof material.

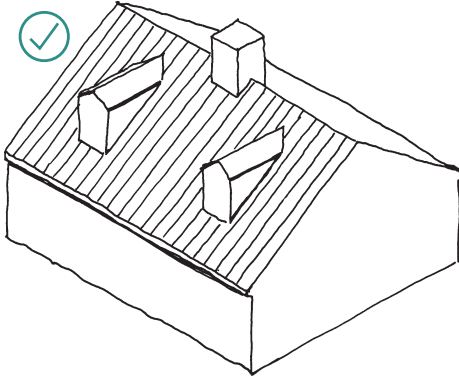
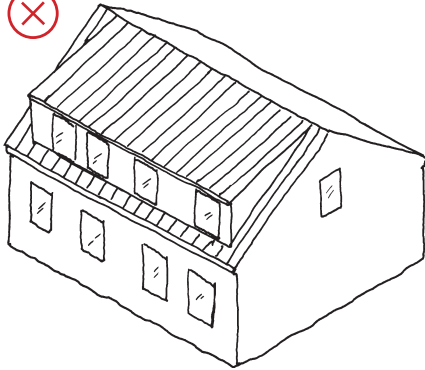
- » Do not use a "bubble" skylight.
- » Do not install a skylight in a location that is visible from the street.

Box Gutter Replacement



Install a gutter or downspout that is simple in design and that does not damage historic detail of the original structure.

Dormer Additions



Install a new dormer to be minimally visible.

R.11 Install a new dormer to be minimally visible.

- » Place a new dormer on a rear elevation.
- » Design a dormer to be appropriately-scaled to the historic roof form.

R.12 Paint a roof vent assembly to match the color of the roofing material.

- » Install a roof vent in a place that is not visible from the public right of way.

R.13 Avoid the extensive use of visible flashing. If it is necessary, it may be covered with mortar or stucco.

R.14 Do not remove original roof components.

R.15 Do not install a ridge vent on a historic structure.

Energy-Generating Technologies

Energy-generating roof technologies include solar panels, photovoltaic panels, green roofs, and wind turbines. While these can all be appropriately installed, an energy-generating technology should be the final option considered in an energy efficiency rehabilitation project. If an energy-generating technology is to be installed on the roof of a historic structure, maintain the resource's historic integrity and the ability to interpret its historic significance.

As new technologies are tried and tested, it is important that they leave no permanent negative impacts on historic structures. The reversibility of their application will be a key consideration when determining appropriateness. For more information regarding these technologies, additional energy-saving technologies, and energy-saving strategies to consider prior to installing roof-mounted technologies, consult Chapter 4: Sustainability and Energy Efficiency.

R.16 Locate energy-generating technology on a historic roof in a way that minimizes impacts to the historic character of the site and structure.

- » Locate technology where it will not damage, obscure, or cause removal of significant features or materials.
- » Maintain the ability to interpret the historic character of the building.
- » Install integrated photovoltaic systems so they will not hinder the ability to interpret the historic significance of the structure.
- » Install solar collectors on an addition or secondary structure, or back from the front facade on a main structure.
- » Size solar collector arrays to remain subordinate to the historic structure.
- » Mount solar collectors flush below the ridge line on a sloping roof.
- » Ensure that exposed hardware, frames and piping have a matte finish, and are consistent with the color scheme of the primary structure.

R.17 Install new technology in a reversible manner.

- » Install technology in such a way that it can be readily removed and the original character easily restored.
- » Use materials that are environmentally-friendly and that will not interact negatively with historic building materials.
- » Attach turbines in a manner that avoids damage to significant features.
- » Install turbines to allow restoration of affected building areas.
- » Install turbines as freestanding structures in unobtrusive locations when feasible.
- » Do not overload structural or roof protection systems when attaching turbines.

ENERGY EFFICIENCY MATERIALS

When an original roof cannot be preserved or repaired and a replacement roof is considered, Louisville's Sustainability Department recommends the consideration of a "cool roof". A cool roof reflects more sunlight and absorbs less heat than a standard roof, which helps decrease roof temperatures, reduce energy bills for air conditioning, and lower the peak electricity demand in an area.

While this generally refers to a roof that is of a lighter color, it does not require a roof material to be white. When considering a material to use for a cool roof, ENERGY STAR qualified roof products should be considered, as well as products that have a solar reflectance value of over 0.25.

For more information about cool roofs and the possibility of using a material that increases the amount of heat that is reflected, contact the Sustainability Department. More information about general sustainability principles that relate to the preservation of a historic structure can be found in the Sustainability chapter of the Design Guidelines. All new materials considered for use in a replacement roof must follow guidelines outlined in this chapter, as well as receive approval from the Landmarks Commission, its staff, and/or the Architectural Review Committee for the preservation district prior to installation.

