





SUSTAINABILITY GUIDELINES FOR HISTORIC BUILDINGS

Historic Preservation Commission Kansas City, Missouri

Adopted February 24, 2024

NOTE ON THESE GUIDELINES

All properties listed on the Kansas City Register of Historic Places must follow the <u>Urban Design Guidelines</u> for any exterior changes visible from the public right-of-way.

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Before any building permit can be issued, you must obtain approval from the Historic Preservation Commission.

Additional supplements have been created to better assist property owners making renovations to designated residential properties:

- Fencing and Wall Guidelines (2013)
- Trees and Planting Beds (2004)

COVER PHOTOGRAPHS

Kansas City, Missouri, has seen a growing trend of <u>LEED</u> (Leadership in Energy and Environmental Design) certified renovations in its historic buildings. These projects combine the charm of the past with modern sustainability practices, reducing the environmental impact of these iconic landmarks. This demonstrates the city's commitment to preserving its history while embracing environmental responsibility and energy efficiency.

Buildings featured on the cover page:

- Bancroft School Apartments, 4300 Tracy Avenue LEED Platinum - 2014
- Corrigan Station, 1828 Walnut Street LEED Silver - 2009
- Project Living Proof, 917 Emanuel Cleaver II Boulevard LEED BD+C - 2008



The Honorable Quinton Lucas

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Brian Platt

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Introduction

It is my pleasure to introduce these new Sustainability Guidelines for Historic Buildings.

In 2023, Kansas City was designated a "Biophilic City," joining a global network of cities dedicated to improving the connection between humans and nature.

Kansas City's urban development has been guided by its relationship with nature, from its early history and frequent flooding along the steep bluffs of the Missouri River to its expansive parks and boulevard system established during the City Beautiful movement in the early twentieth century.

As part of Kansas City's ongoing commitment to better interact with nature and create resiliency for generations to come, the Historic Preservation Commission is pleased to release this "Sustainability Guide for Historic Buildings."

Historic preservation offers unique opportunities to meet city-wide energy efficiency goals and support livable communities, affordable housing options, and climate change readiness.

In addition to protecting our sense of place and community character, the Commission hopes this guide will improve the quality of life and the overall impact of our built environment on future Kansas Citians.

Sincerely,

Amanda Loughlin **Acting Chair**

Historic Preservation Commission



How To Approach Sustainability

Before implementing any energy conservation measures to enhance the sustainability of a historic building, the existing energy-efficient characteristics of the building should be assessed. Buildings are more than their individual components. The design, materials, type of construction, size, shape, site orientation, surrounding landscape and climate all play a role in how buildings perform. Historic building construction methods and materials often maximized natural sources of heating, lighting and ventilation to respond to local climatic conditions. The key to a successful rehabilitation project is to identify and understand any lost original and existing energy-efficient aspects of the historic building, as well as to identify and understand its character-defining features to ensure they are preserved.

The most sustainable building may be one that already exists, and good preservation practice is often synonymous with sustainability. There are numerous treatments, including traditional as well as new technological innovations that may be used to upgrade a historic building to help it operate even more efficiently. Increasingly stricter energy standards and code requirements may dictate that at least some of these treatments be implemented as part of a rehabilitation project of any size or type of building. Whether a historic building is rehabilitated for a new or a continuing use, it is important to utilize the building's inherently sustainable qualities as they were intended. It is equally important that they function effectively together with any new measures undertaken to further improve energy efficiency.









Several city plans also support sustainable buildings:

- · Kansas City Comprehensive Plan KC Spirit Playbook
- Kansas City Climate Protection and Resiliency Plan
- Kansas City Regional <u>Climate Action Plan</u>

How To Use This Guide

This guide will address several common energy efficiency questions and offer guidance on how to best integrate sustainable practices with historic buildings. All recommendations follow a Whole Building Design approach that considers how different elements of a building interact.

While these guidelines are primarily intended for property owners located within local historic districts, general guidance can be followed by all who live in or work with older buildings. A helpful resource for finding skilled tradespeople is the <u>Missouri Preservation Resource Directory</u>.

The document is organized in different sections that correspond to the major components of a building (roof, wall, landscaping, etc.) Each section contains a checklist geared towards helping you determine the best course of action for your specific project(s) as well as links to additional indepth information.

The City Planning & Development Department and Historic Preservation Commission encourage you to share your sustainability success stories and lessons learned! Please email city staff (kchp@kcmo.org) or tag Instagram (@kcmolandmarks).



- A Topic or Subtopic
- B Definition
- Image or Diagrams visually describe the topic of the page
- Footer Image visually highlights the topic of the spread
- Benefits highlights the different reasons why implementings guidelines is benefitual
- Recommendation showcases neighborhood examples of sustainable practices
- Checklist is a how to list on how to implement the specific sustainable practice
- More Information on why the topic is significant to sustainability and preservation

Review Standards

These guidelines are based on principles expressed by the <u>Secretary of the Interior's Standards</u> for the <u>Treatment of Historic Properties</u>. However, these guidelines can also be used as a reference for older buildings in general.

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR THE REHABILITATION OF HISTORIC BUILDINGS

- 1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
- 2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
- 3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
- 4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
- 5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
- 6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
- 7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
- 8. Archaeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
- 9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
- 10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Energy Audits

An Energy Audit is a complete assessment of your home from top to bottom. Methods include a blower door to measure air leakage in the home, infrared cameras to assess air leakage, measuring attic insulation, exterior wall and framed floor insulation and identifying exterior gaps.

BENEFITS

An audit can be a good basis to identify areas of your home that need energy upgrades and prioritize the work. Investing in energy audits can save you money in the long term with reduced utility bills and lower long-term maintenance costs.



Home Efficiency Graphic ¹

CHECKLIST

- Schedule an energy audit
- Ask if the contractor has experience in working with historic homes
- Analyze last year's fuel bills to determine base energy consumption

Do-It-Yourself (DIY) Home Energy Audit Tips:

- Check for indoor air leaks such baseboard gaps, wall junctures, etc.
- Inspect windows and doors for air leaks; look for movement or daylight.
- Conduct a basic building pressurization test.
- On the outside of your house, inspect all areas where two different building materials meet.
- Inspect heating and cooling equipment.

The Home Energy Audit Checklist ²

WEATHERIZATION PLAN

All work should be evaluated based on its impact on the historic building and potential to enhance energy efficiency. After conducting an initial energy audit, consider modifying user behavior when developing a comprehensive weatherization and energy efficiency plan for your home.

8

Windows and Doors

Windows and doors are a very important design element, contributing to the architectural identity of each house. Window and door repair have the longest payback of any energy efficiency upgrade. For specific guidance on appropriate window and door renovations, please consult the <u>Urban</u> Design Guidelines.

WINDOW MAINTENANCE

Regular inspection and maintenance is key to ensuring that your historic windows last for hundreds of years!

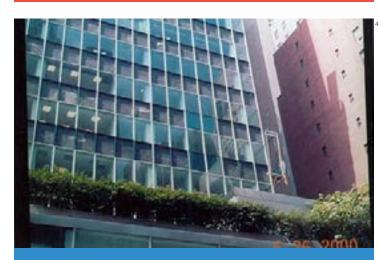
TIPS:

- Monitor windows for water penetration, surface deterioration, air infiltration, broken or loose frames, sashes, and glass, and non-functioning elements such as cords or locks.
- Keep movable surfaces free of dirt, debris, and paint buildup to allow for smooth operation and prevent sashes from becoming stuck in their frame.
- Replace glazing putty when necessary to maintain the weather tight seal between the glass and wooden frame.
- Maintain or install new caulking, weather-stripping, and flashings around windows to prevent moisture and air infiltration.

If the original windows are missing or deteriorated beyond repair, select a replacement that best matches the design of the original.



Not only have incompatible windows that do not fit the size and shape of the historic window openings been installed, but the original openings have also been shortened to install through-the-wall HVAC units.



RECOMMENDED

Installing clear, low-emissivity (low-e) glass or film without noticeable color in historically-clear windows to reduce solar heat gain.



Bird-Safe Glass

To reduce the number of bird collisions, consider installing reversible window treatments such as netting, glass films, grates and screens. Visit <u>BirdSafeKC</u> for more information.

STORM WINDOWS & DOORS

Historically, wooden storm windows were added to the home in order to better protect the windows and provide energy efficiency. During the warm months, they are usually replaced with screens. Screen doors were also a common feature on homes.



Aluminum Storm Window in Old Hyde Park Kansas City 5



BENEFITS

The installation of wooden or colormatched aluminum storm windows would be an appropriate treatment for most historic buildings in Kansas City. Additionally, the use of aluminum storm windows with colors that match the house would also be a suitable treatment to conserve energy and retain the original wood windows. Storm doors are another energy-efficient treatment for historic properties.

- ☐ Ensure that the storm window matches the configuration of the window it covers.
- Select a color that harmonizes with the paint scheme to reduce visibility.
- Opt for a storm door that enhances the visibility of the original door.



Wooden Storm Window in Old Hyde Park Kansas City

SHUTTERS

Louvered wood shutters were common to Colonial and some early Victorian period homes in Kansas City.

BENEFITS

Shutters block solar heat gain in the warm months. When closed, they allow cross-breeze ventilation to cool spaces while blocking the sun.



CHECKLIST

- Only use shutters where they historically existed to maintain the appropriate character of your house.
- ☐ Shutters should be appropriately fitted to the window to that they are the same height as the opening and cover the entire opening when closed.
- ☐ Shutters should not be attached directly to the face of a building, but rather remain operational by being secured to the building by fasteners.



AWNINGS

Fabric awnings in a variety of style were a common feature on residential and commercial building. Early builders and architects dealt with the poor thermal properties of windows by installing awnings to minimize the heat gain or loss from windows.



Awnings in Janssen Place Kansas City ¹

BENEFITS

Awnings can save money on cooling a building. They can also add style and return character to a building.

- Install exterior fabric awnings based on evidence of previous awning or on styles that are appropriate to the period of the building.
- If installing metal awnings, make sure that are appropriate to the period of the house or building.



1940 photograph commercial building Kansas City ¹

Walls

Providing proper ventilation and insulation for walls is one of the most cost-effective strategies for improving the energy efficiency of older buildings. Typical wall materials of older buildings in Kansas City include brick (the most prevalent), wood, and stone; cast stone, stucco, terracotta, and glass block are also found.

INSULATION

Insulation is a material used in a building to reduce the flow of thermal energy, to help keep a building warm in the winter and cool in the summer.



Common Air Leak Points in the Home Envelope 14

BENEFITS

Sealing leaks can help to fix many of these common problems:

- · Reduced noise from outside
- Less pollen, dust and insects (or pests) entering your home
- · Better humidity control
- Lower chance for ice dams on the roof or eaves in snowy climates



CHECKLIST

Prioritize insulating the attic and basement but **don't seal entirely**; historic buildings were designed to "breathe."

TIPS:

- Don't overlook trap or access doors!
- Unfinished attics must be properly ventilated so excess heat can escape.
- Don't install radiant barriers directly over insulation on the attic floor.
- Avoid boring holes in the exterior and be careful not to destroy historic features.
- Spray foam is not recommended
 (especially for plaster walls) as it bonds
 tightly and creates pressure that can
 cause damage.
- Seal the top and bottom of exterior walls, inter-floor bypasses, and shafts.

TIPS:

- Spray foam sealants in basement and attic cracks are especially useful.
- Don't caulk the underside of clapboards or below windows.
- Install vapor barriers on the side of the wall that gets the most heat or moisture.
- ☐ Wrap insulation around heating and cooling ducts and hot water pipes.

DAYLIGHTING

Daylighting, a new term for an old practice, simply means managing natural light in a building, both by bringing light into the building and by keeping it out when it is not wanted.

BENEFITS

Some benefits of daylighting include:

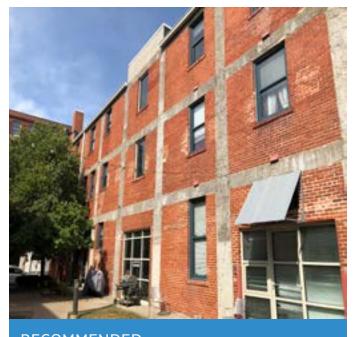
Reduce energy consumption

Electrical lighting produces a lot of heat, whereas, if properly controlled, daylighting generates hardly any heat and can lower HVAC costs as well.

Better quality light

No electric light can compare to the quality of natural daylight. At a color rendering index of nearly 100, day lit areas can reveal "true" colors without disturbance from electric light flicker.

- Retain existing features that provide natural light to corridors, such as partial glass partitions, glazed doors and transoms.
- Reopen historic windows that have been blocked in.
- Add skylights or dormers on secondary roof elevations where they are not visible (or minimally visible).
- Small light wells or light tubes are also good options and may be appropriate on additional elevations.
- Install light control devices, as appropriate to the style of the historic home, such as light shelves, awnings, and shutters.
- Add new window openings on secondary and less visible facades, where appropriate.



RECOMMENDED

New window openings added to (formerly windowless) secondary facades.



Solar Energy

Solar installations allow building owners to generate electrical or thermal energy from sunlight, which reduces overall carbon emissions and energy costs.

SOLAR ENERGY

Solar photo-voltaic (PV) systems capture and convert sunlight into electricity, for immediate use or storage in batteries.

- **Solar arrays** are a collection of flat-plate solar panels that are installed on a building to form a PV array, typically on the roof. Panels can either be fixed in place or allowed to track the movement of the sun.
- Freestanding solar arrays are anchored in the ground and independent of any building. When a roof may be blocked by trees or not receiving direct sunlight, a freestanding panel may be moved into optimum sunlight areas that may change seasonally.
- **Solar shingles** are solar cells designed to look like conventional asphalt shingles.
- **Solar collectors** (boxes with dark surfaces) collect thermal energy by absorbing sunlight.

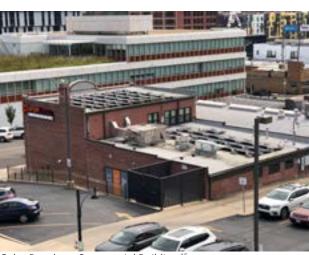
Alternative Energy Sources

Additional renewable energy sources such as wind and geothermal are not covered in these guidelines. The National Park Service's Preservation Briefs contain more information about these systems.





Solar Panel Array Freestanding 14



Solar Panels on Commercial Buildina 15



olar Collectors on House in Rockhill Kansas City

BENEFITS

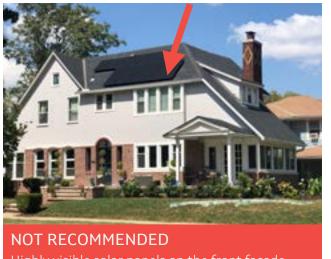
Some benefits of solar energy collection include:

- · Reduce or eliminate energy bills
- Earn tax credits or rebates
- Extend roof life and improve resale value
- · Reduce fossil fuel consumption
- Can be used as emergency backup during power outages



RECOMMENDED

Solar panels should have limited visibility from the public right-of-way.



Highly visible solar panels on the front facade detract from the character of the house.

CHECKLIST

Use the following checklist to optimize solar energy collection based on your historic building's orientation to the sun and tree cover!

Location

- Solar panels should be located on the side or rear roof lines of a primary structure; on any roof line of an accessory structure; on a ground-mounted array in the backyard; or a combination.
- Panels should be grouped in a rectangular or square configuration that mimics the existing roof form.
- On flat roofs or for southern exposures on a primary elevation, solar panels should be set back from the roof edge to limit visibility from street view.

Pitch

- Panels should be mounted flush with the roof pitch. If located on a flat roof with a parapet, panels should have the minimal pitch required for solar efficiency.
- Panels should be installed horizontally, to reduce overall height and visibility.

Mounting

- Panel mounting equipment should feature low-profile hardware that closely matches the color of the existing roofing material.
- Panels should not be mounted in a manner that adversely affects or damages existing historic roofing materials.

Color

Panels and hardware should closely match the existing roof color where possible.

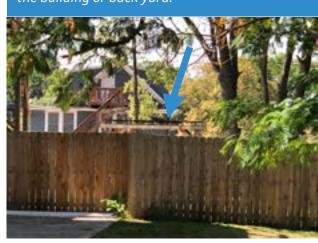
SOLAR PANEL GUIDELINES

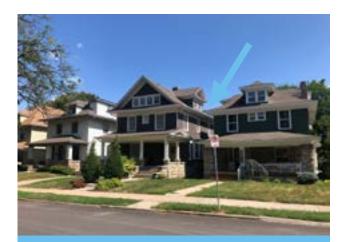
The following diagrams illustrate various scenarios to provide general guidance regarding the potential location of solar panels within historic districts. Please note that **every solar panel installation project will be evaluated on a case-by-case basis** by the Historic Preservation Commission and staff.



BEST PRACTICE

Solar panels should not be visible from the street, including accessory structures such as garages. For corner lots, this includes both the front facade and corner side elevation. Installations should be prioritized in the rear of the building or back yard.





POTENTIALLY ACCEPTABLE

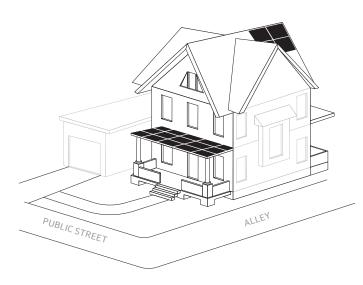
Solar panels should be minimally visible from the street, should not block historic features and should match the roof color as closely as possible. Consider other factors such as grouping the panels in even clusters, the

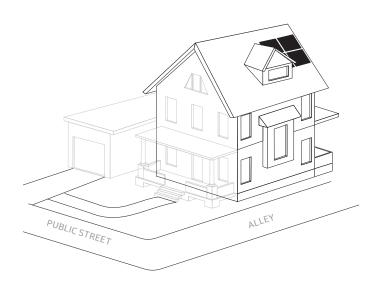


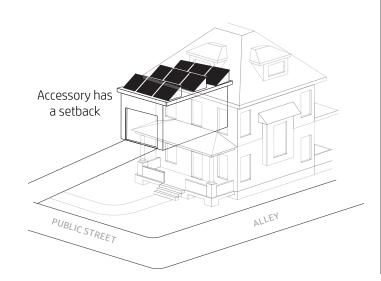
Shared Energy

Condominium housing may be ideal for shared renewable energy strategies. Many multifamily housing (such as historic duplexes and townhomes) have flat roofs which can easily be retrofitted to accommodate solar panels.

POTENTIALLY ACCEPTABLE

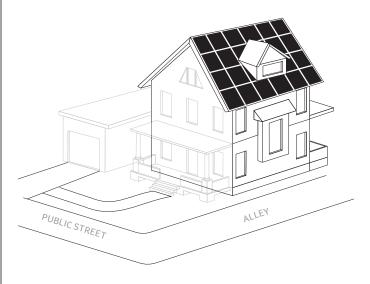


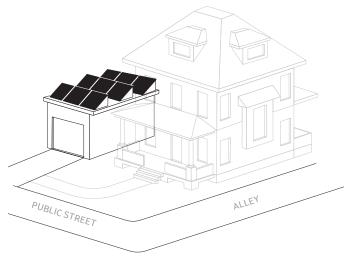




NOT RECOMMENDED







Roofing

One of the many methods of improving the energy efficiency of a building is to invest in sustainable roofing techniques such as implementing solar panels, green roofs, or cool roofs.

GREEN ROOFS

Green roofs or living roofs are roofs that are either partially or completely covered with vegetation (plants), upon a growing medium (soil), and planted on a waterproofing membrane.

BENEFITS

Green roofs reduce storm water runoff, lower the overall building temperature and keep rooms right below the roof cooler. They provide shading, thermal masses and greater building insulation. Regionally, green roofs reduce urban heat islands, increase biodiversity, and last longer than typical roofs.



CHECKLIST

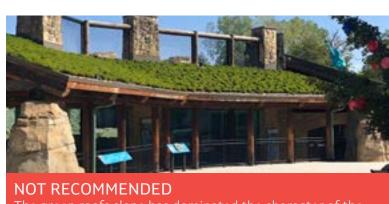
- Assess the building's structure, solar orientation, surrounding environment, and vegetation, taking into account building codes and zoning restrictions.
- Install green roofs in a manner that does not alter the original massing, height, or roof line when viewed from the public street.
- Green roofs can be installed on suitable flat roofs or secondary structures such as sheds or garages.





RECOMMENDED

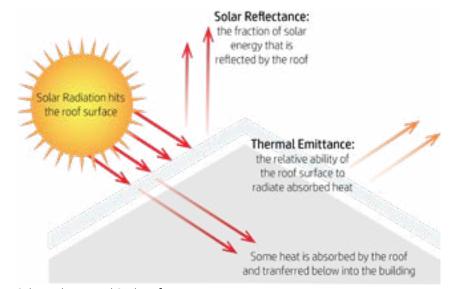
be too visible from the public street view.



The green roofs slope has dominated the character of the buildings making the vegatation is too visible.

COOL ROOFS

Cool roofs, with their reflective surfaces, keep buildings cooler by reflecting sunlight rather than absorbing it. Alternatives to traditional metal cool roofs, like Thermoplastic Polyolefin (TPO) and metal shingles, have gained popularity in commercial roofing systems.



Solar Radiation and Cool Roofs

CHECKLIST

and easy installation.

BENEFITS

Cool roofs should be used when appropriate such as on a flat roof or a back or rear facing dormer.

Cool roofs, exemplified by TPO

energy-efficient, durable, and

options. They reflect sunlight,

extending roof lifespan, while

TPO offers puncture resistance

and metal shingles, provide

visually appealing roofing

reducing cooling costs and

Cool roofs should match the original buildings color palette if within the public street view.



Metal Roofing Examples 18 Credit: Interlock Metal Roofing

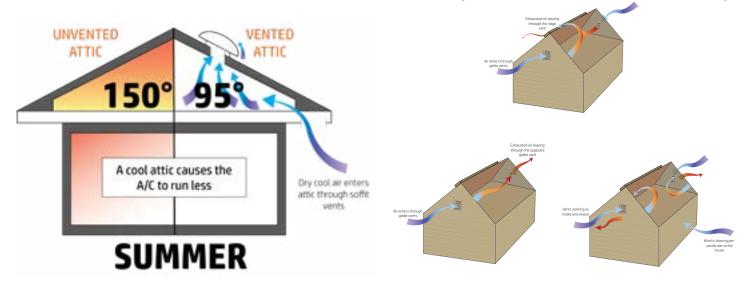


RECOMMENDED

The color of the metal shingles closely resembles traditional roofing material and is appropriate for the property.

ROOF VENTILATION

Upper areas in a building tend to be the warmest. The type of roofing and its construction can reduce the building's heat absorption. Adding more roof features like gable vents, ridge vents, and dormer windows can promote natural air circulation, reducing the dependence on air conditioning.



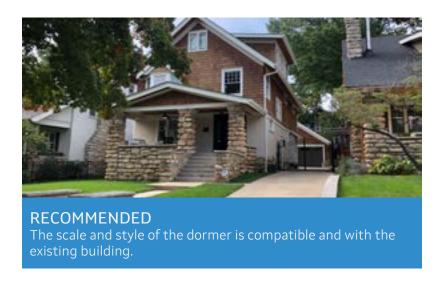
Difference Between Vented and Unvented Roofs in the Summer

Ventilation with different types of Roof Vents

CHECKLIST

- Consult with a professional before altering the roof.
- When installing dormers, research if it fits the original character of the building. If it does not, then place them away from the public street view.
- Consult with a professional on where additional vents or openings on a roof may be placed.
- Select protruding vents in an appropriate size and color so they do not distract from the building's character.





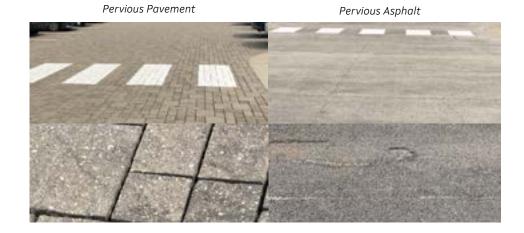


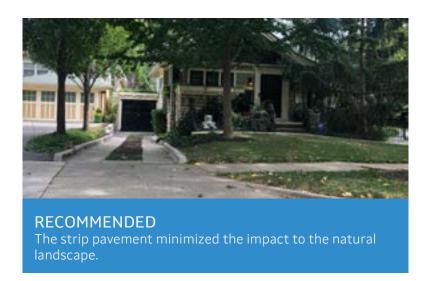
Landscaping and Site Work

Landscaping and site work under design review encompass features adjacent to a property. including pavement, vegetation, and permanent collections visible from the public street. Preserve and repair existing elements like stairs, walkways, topographic features, masonry walls, and native vegetation. If replacement is necessary, use compatible and appropriate materials. Refer to the <u>Trees and Planting Beds and Fencing and Wall Guidelines for more information.</u>

PAVEMENT

Pavement is typically used to create front yard walkways and driveways and should be subsidiary to the land area used for in ground landscaping. Some examples of pervious pavement can be specially designed concrete. asphalt and paving stones.







BENEFITS

Reducing pavement or employing pervious pavement can aid in managing on-site storm water and decreasing pollution in local waterways. Additionally, it lasts longer than traditional asphalt and has lower repair costs compared to typical driveways.

- Limit new paving and topographic changes so that the natural greenery is protected.
- New paving/concrete should remain in character to the other lots in the area.
- Consider including pervious pavement when possible.
- Zeroscaping is not recommended.

RAIN GARDENS & RETENTION BASINS

Another way to manage storm water is to use rain gardens and retention basins. Shallow vegetated basins or planter boxes capture and store storm water runoff and pass it through a filter bed of engineered soil. Filtered runoff may then be collected and returned to a storm sewer or allowed to infiltrate into the soil.

CISTERN & RAIN BARRELS

Cisterns are large tanks that can be stored either above or below ground to store rainwater collected from impervious surfaces for domestic uses. Rain barrels are located adjacent to a downspout and collect and store rainwater from the roof that would otherwise be lost to runoff and diverted to storm drains and streams.

COMPOSTING

Composting is the process of recycling organic matter, such as leaves and food scraps, into a valuable fertilizer that can enrich soil and plants.



Food Scraps in a Composting Bin 20





Local Rain Garden 19

Downspout Screen to keep mosquitoes, birds, small children and debris out of the barrel Overflow valve Spigot Stand (stable base that is at least 6in off the ground)

BENEFITS

Rain gardens and retention ponds can add character and value to a property.

Cisterns and rain barrels are encouraged to collect and store water for on-site consumption as a way to save money on water usage. Some usages for collected water are:

- Flushing toilets
- Cleaning laundry
- Watering gardens

Composting is a sustainable practice that reduces the amount of waste. Composting should be used as an alternative to chemical fertilizers whenever possible, to naturally enrich the soil.



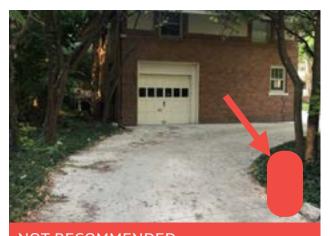
BEST PRACTICE

Large landscape features such as cisterns, rain barrels and composting bins placed in the side and rear yards.



ACCEPTABLE

styled so they blend in to the landscape.



NOT RECOMMENDED

Highly visible containers that detract from the character of a space would not be appropriate.

CHECKLIST

Use the following checklist when implementing above-ground composting and rain collection techniques:

Location

- Large landscape features such as cisterns, rain barrels and composting bins should be placed in the side or rear yards away from public street view.
- For an outdoor composting pile, choose a space that is in the shade.

Scope

- Consult with a professional when starting a basin and managing the storm water to prevent flooding.
- The size of the basin or garden should be proportional to the site and respectful to the existing topography and landscape of the property.
- Nothing should be altered or added that cannot be removed.

Color

The color of a cistern or composting bin should be neutral when visible and possible.

Salvaged Building Materials

If existing elements of your historic home cannot be repaired, salvaged or reclaimed materials are the recommended second option. Construction and demolition waste is the largest source of waste sent to landfills nationally. Building and material reuse can greatly reduce embodied energy and, when elements are properly repaired and maintained, can reduce operational energy.

SALVAGED BUILDING MATERIALS

Reclaimed or salvaged building materials come from development projects that have been deconstructed, demolished, or remodeled. They can also be sourced from the excess construction material of building sites to reuse in other projects.

DECONSTRUCTION

Deconstruction is simply building disassembly and material salvage. It means taking apart or removing some building components for reuse. In contrast to demolition where buildings are knocked down and materials are either landfilled or recycled, deconstruction involves carefully taking apart portions of buildings or removing their contents with the **primary goal of reuse** in mind.



Porch reused as deck skirt. Credit: Amanda Wilson ²³



Deconstruction Progress Site ² Credit: Deconstruction Works

BENEFITS

Some benefits of using salvaged instead of replacement materials include:

Higher quality of older materials

Many of the materials found in your historic home are more durable and of higher quality than off-the-shelf materials found at big box stores. For example, new virgin lumber often ages at an accelerated rate from reclaimed wood and can cause separation, cracking, water infiltration, or other long-term issues.

More compatible dimensions

Salvaged materials are often more compatible with the existing dimensions of your historic home. For example, often replacement windows require the siding, trim, and sometimes framing to be altered to accommodate differences in dimension, adding cost, time, and complexity to your project.

Decreased environmental impact

The creation of new building products is extremely resource-intensive. Additionally, plastic and composite materials can take up to 1,000 years to decompose in a landfill.

CHECKLIST

Use the following checklist to see if a new product or new construction is absolutely necessary!

- Identify reuse opportunities in your project that are time period appropriate to your historic home such as:
 - Easy-to-remove items like doors, hardware, and fixtures.
 - Wood cutoffs can be used for lintels, cripple walls, etc.
 - Brick, concrete, and masonry can be reused on site as fill or sub base material.
- Donate or sell your reclaimed materials on neighborhood email lists, Facebook Marketplace, or to a local reuse center such as Habitat ReStore.
- Have a qualified professional inspect any materials suspected to contain hazardous components or that will be used for structural support.



Designed by Green Iris Media for Perks ²¹Deconstruction ²²

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Resources

ENERGY ASSISTANCE (Ameren, Evergy)

Residents can use resources and services offered to help save on energy every day.

ENERGY EFFICIENCY UPGRADES REBATES (Evergy, Spire)

Evergy and Spire clients can receive discounts for energy-efficient upgrades to their homes.

ENERGY STAR REBATE FINDER (Missouri)

Find rebates and special offers in your area.

FREE ENERGY SAVINGS KIT (Missouri)

Receive FREE energy-efficient upgrades to your home with the Energy Savings Kit (available to renters and homeowners). All Missouri customers are eligible, even if you're not within Spire's service area.

HEALTHY HOMES PROGRAM (Children's Mercy)

Children's Mercy environmental health specialists help make children's homes safer by performing a healthy home environmental assessment.

LOW INCOME WEATHERIZATION ASSISTANCE PROGRAM (Kansas City, Missouri)

For Greater Kansas City homeowners and renters that need help making their homes more comfortable, you may qualify for the Communication Action of Greater Kansas City's low or no-cost home energy upgrade.

MISSOURI HOME ENERGY CERTIFICATION (Missouri)

MHEC promotes energy-efficient homes through clear and meaningful recognition.

MONEY-SAVING PROGRAMS (Ameren, Evergy)

Ameren and Evergy clients can take advantage of the programs offered to save money and reduce energy usage.

PRESERVATION BRIEFS (National Park Service)

These publications help historic building owners recognize and resolve common problems prior to work. The briefs are especially useful to Historic Preservation Tax Incentives Program applicants because they recommend methods and approaches for rehabilitating historic buildings that are consistent with their historic character.

TAX CREDITS FOR HOMEOWNERS (Federal)

Under the Inflation Reduction Act of 2022, federal income tax credits for energy efficiency home improvements will be available through 2032.

TENANTS RIGHTS INFORMATION (Kansas City, Missouri)

In 2019 Kansas City, Missouri Mayor Quinton Lucas and the City Council passed legislation creating a Tenant Bill of Rights. It ensures that tenants have the right to access estimates of utility costs and the right to disclosure of an estimate of common space utilities charged to the tenant.



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- 6. Wooden Storm Window in Old Hyde Park Kansas City
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- 8. Wooden Shutters in Crestwood Kansas City
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- 15. Solar Panels on Commercial Building in Crossroads Kansas Clty
- 16. Solar Collectors on House in Rockhill Kansas City
- 17. Schematic structure of the "green roof"

Schematic structure of the "green roof" by 5 by Kryshikrovli, retrieved from https://www.researchgate.net/figure/Schematic-structure-of-the-green-roof-15_fig4_350084835/. Used under Creative Commons Attribution 3.0 Unported Generic license (https://creativecommons.org/licenses/by/3.0/#)

18. Metal Roofing Examples

Interlock Metal Roofing | www.interlockroofing.com

19. Local Rain Garden by Water Department Kansas City

20. Food Scraps in a Composting Bin

Compost'Tout (https://commons.wikimedia.org/wiki/File:Compost'Tout3.jpg), "Compost'Tout3", https://creativecommons.org/licenses/by/4.0/legalcode

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