Design Handbook for the West Boulevard Historic District

Rapid City, South Dakota

A Homeowner's Guide for Preservation

June 22, 2012

Credits

City of Rapid City

Community members and residents of the West Boulevard Historic District who participated in the public workshops to help craft this document.

Karen Bulman, Planner II
Community Planning & Development Services

Historic Preservation Commission

Michelle Dennis
Pat Roseland
Jean Kessloff
Richard Grable
Gavin Williams
Shawn Krull
Cynthia Matson
Duane Baumgartner
Heather C. Knox
L Eric James

Council Liaison, Bonny Petersen
Council Liaison Alternate, Ron Sasso

Consultants

Winter & Company
1265 Yellow Pine Avenue
Boulder,Colorado 80304

This program receives Federal financial assistance from the National Park Service. Under Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, and the Americans With Disabilities Act of 1990 the U. S. Department of Interior prohibits discrimination on the basis of race, color, national origin, age, sex or handicap in its federally assisted programs. If you believe you have been discriminated against in any program, activity, or facility as described above, or if you desire more information,please write to the Office of Equal Opportunity, National Park Service, 210 I Street NW, Washington, D. C. 20240.

This activity has been (partially) financed with Federal funds from the National Park Service, Department of the Interior through the South Dakota State Historic Preservation Office. [However, the contents and opinions do not necessarily reflect the views or policies of the Department of the Interior, nor does the mention of trade names or commercial products constitute endorsement or recommendation by the Department of the Interior.]

Table of Contents

Introduction

Preface

The West Boulevard Historic District is one of the most cherished neighborhoods in Rapid City, and is widely recognized elsewhere in the state and beyond for its distinctive character. This includes a high quality and diverse building stock, landscaped yards and the appeal of the boulevard itself. These features contribute to the quality of life and walkable atmosphere of the neighborhood.

"Contributing buildings" in the West Boulevard Historic District

In recognition of its historic significance, The Secretary of the Interior listed the West Boulevard Historic District in the National Register of Historic Places in 1974 and further expanded its boundaries in 1995. Today, the district stretches across more than 40 blocks and contains over 1,000 structures. Many of these are rated as "contributors" to the district, including primary and secondary buildings.

Preserving the historic significance of the West Boulevard Historic District is a key objective for many homeowners in the neighborhood. As they plan improvements to their properties, they seek to do so in a manner that will maintain the distinctive characteristics of the area.

A "contributing building" in the West Boulevard Historic District

Helpful Guidance

This handbook provides many helpful tips for homeowners who plan improvements to their properties. It includes suggestions for many types of work that may occur, to assure that projects will be respectful of the historic character of the West Boulevard Historic District.

The information appears as a series of "design guidelines," which offer a range of solutions for each design topic that is addressed. These include descriptions of preferred design approaches, and also indicates alternative solutions.

About the format

The handbook is organized into sections that relate to different types of construction. One chapter, for example, provides tips for work on Contributing properties. Another chapter provides guidance for designing new, compatible infill. Another includes a variety of guidelines for site design.

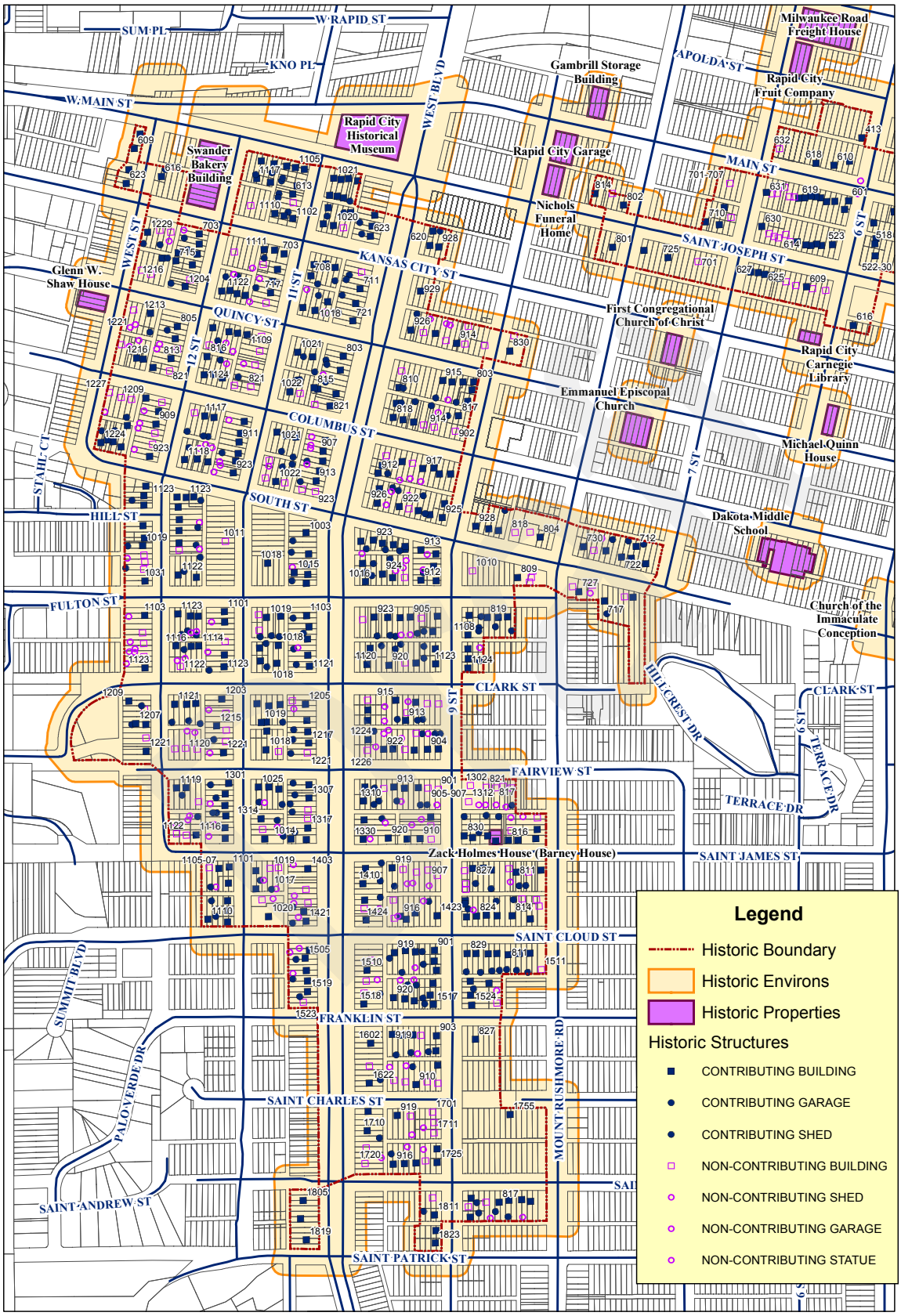
Diagrams also help users determine a general approach to an improvement project that will meet preservation objectives while also considering the unique circumstances of each property. Illustrations appear throughout that show appropriate and inappropriate designs to help interpret the guideline text.

Other Helpful Information

The Rapid City Department of Community Planning and Development maintains a wide range of other resource materials that will be useful to homeowners who seek to gain more detailed information related to technical rehabilitation and construction techniques or to broaden their understanding of the history of the area. Some of these are directly available on the city's website (rcgov.org). (See also page 12 for more details.)

Of particular value is the *West Boulevard Historic District Tour Book*, which is published by the West Boulevard Neighborhood Association. It provides individual descriptions of sixty homes in the district, covering a wide range of building styles and construction periods. It is available on the city's website.

Map of the West Boulevard Historic District



A "contributing building" in the West Boulevard Historic District

Part I: Overview

The Benefits of Preservation

Preservation of historic properties is a key goal of the West Boulevard Historic District. Doing so yields many benefits to property owners and to the city at large. This section highlights some of those benefits.

Historic sites, structures, buildings and features are essential assets of the city's identity. These resources are valued for the ways in which they support quality of life, high quality construction, economic vitality, and environmental sustainability. Investment in these properties ensures that the social, cultural, and economic attraction of the city is maintained and enhanced. If lost, they are lost forever, along with the documentation of the city's unique history.

Preserving historic resources in the West Boulevard Historic District is a key factor in promoting sustainability, which yields substantial benefits to the community. These can be described in the three basic categories of sustainability, which are: (1) Cultural/Social, (2) Environmental and (3) Economic.

Preserving historic places promotes the three basic categories of sustainability.

Cultural/Social Component of Sustainability

Historic landscapes, sites, structures, buildings and features are essential components of the city's identity. Historic properties provide direct links to the past. They convey information about earlier ways of life that helps current residents anchor their sense of identity with the community, which is a key ingredient in cultural sustainability.

Environmental Component of Sustainability

The environmental component of sustainability tends to be the main focus when discussing historic structures and their relationship to green building. Among other things, this component focuses on saving energy, and generating it through "clean" methods, as well as minimizing the demand for water and conserving building materials.

Embodied Energy

Embodied energy is defined as the amount of energy expended to create the original building and its components. Preserving a historic structure retains this energy. If demolished, this investment in embodied energy is lost and significant new energy demands are required to replace it. Studies confirm that the loss of embodied energy associated with replacing an existing structure takes three decades or more to recoup from reduced operating energy costs in a high-efficiency replacement building.

Building Materials

Many traditional building materials used in the district have long life cycles, which contribute to their sustainability. Brick, stone and wood are examples. Newer materials may be less sustainable and require extraction of raw, non-renewable materials. High levels of energy are involved in production, and the new materials will often also have an inherently short lifespan.

"Contributing buildings" in the West Boulevard Historic District

Web Resources for Energy Efficiency in Historic Windows

The National Trust for Historic Preservation has many helpful articles and links on the energy efficiency and benefits of historic windows. See their site for more details:

http://www.preservationnation.org/information-center/sustainable-communities/weatherization/resources/windows.html#performance

A "contributing building" in the West Boulevard Historic District

Building Energy Savings

Energy savings are not usually achieved by replacing original building fabric with contemporary alternatives. For example, repairing, weather-stripping and insulating an original window is usually more energy efficient and much less expensive than replacing original windows with new windows, as well as sound preservation practice.

Landfill Impacts

According to the Environmental Protection Agency, building debris constitutes around a third of all waste generated in the country. The amount of waste can be reduced significantly if historic structures are not demolished.

Construction Quality

As a rule, the quality of early construction was higher than most construction in the late 20th Century and early 21st Century. Lumber used in the district came from mature trees, was properly seasoned and typically milled to "full dimensions," providing stronger framing and construction. Buildings also were thoughtfully detailed and the finishes were generally of high quality—characteristics that owners today appreciate. The high quality of construction in earlier buildings is therefore an asset that is impossible to replace.

Adaptability

Owners also recognize that floor plans of many historic properties easily accommodate changing needs. They permit a variety of uses while retaining the overall historic character.

Economic Component of Sustainability

The economic benefits of protecting local historic districts are well documented across the nation. These include higher property values, job creation in rehabilitation industries and increased heritage tourism. Examples also exist of ways in which the quality of life is enhanced by living in historic areas, and that these in turn help to recruit desirable businesses to the community at large.

Historic Rehabilitation Projects

Direct and indirect economic benefits accrue from a rehabilitation project. Direct benefits result from the actual purchases of labor and materials, while material manufacture and transport results in indirect benefits. Preservation projects are generally more labor intensive, with up to 70% of the total project budget being spent on labor, as opposed to 50% when compared to new construction. All of these purchases of labor and materials add dollars to the local economy. Furthermore, a rehabilitation project will provide functional, distinctive, and affordable space for new and existing small businesses. This is especially relevant to the local economy where many local businesses operate in historic buildings.

Heritage Tourism

The National Trust for Historic Preservation defines cultural heritage tourism as "traveling to experience the places, artifacts, and activities that authentically represent the stories and people of the past and present. It includes cultural, historic, and natural resources." Heritage tourism is another benefit of investment in historic preservation, as people are attracted to the cultural heritage sites within the area. Historic resources provide visitors with a glimpse into a district's heritage. Heritage tourists spend more on travel than other tourists, which generates jobs in hotels, bed and breakfasts, motels, retail stores, restaurants and other service businesses.

The Economics of Preservation

"The good news is historic preservation is good for the economy. In the last fifteen years dozens of studies have been conducted throughout the United States, by different analysts, using different methodologies. But the results of those studies are remarkably consistent — historic preservation is good for the local economy. From this large and growing body of research, the positive impact of historic preservation on the economy has been documented in six broad areas: 1) jobs, 2) property values, 3) heritage tourism, 4) environmental impact, 5) social impact, and 6) downtown revitalization." -- PlaceEconomics, in Measuring the Economics of Preservation: Recent Findings (2011). Available online at:

http://www.placeeconomics.com/wp-content/uploads/2012/02/economic-impacts-ofhp_

Web Resources for the Economic Benefits of Preservation

The National Trust for Historic Preservation has many helpful articles and links on the economic benefits of preservation. See their site for details:

http://www.preservationnation.org/information-center/economics-of-revitalization/

Rapid City Heritage Tourism

Each year, Rapid City sees an increasing number of visitors who spend time in the historic downtown and also tour the West Boulevard District. In this way, the historic character of the neighborhood enhances the tourism industry in the region.

The South Dakota Department of Tourism and State Development notes the benefits of heritage tourism: In 2007, visitor spending in South Dakota rose to $941 million with over 34,000 people employed in the visitor industry. This industry is a significant element of South Dakota's overall economy, and historic sites can be a significant attraction within this industry. A Travel Industry Association study showed that historic and cultural tourists spend more ($623 vs. $457) and travel longer (5.2 nights vs. 3.4 nights) than other tourists. Historic sites are therefore favorite tourist destinations and can play a vital role in increasing visitor spending within South Dakota.

Preservation Goals and Principles

The design guidelines address the following City goals and principles.

- Identify and manage unique cultural and historic areas within Rapid City.
- Improve, maintain, and enhance the cultural and historic character, and the integrity of Rapid City's built and natural environment, through responsible land use planning.
- Protect historic and cultural resources by preventing encroachment by incompatible commercial and industrial uses and excessively high density residential development.
- Respect the historic character of the building.
- Seek uses that are compatible with the historic character of the building.
- Protect and maintain significant features and stylistic elements.
- Preserve any existing original site features or original building materials and features.
- Repair deteriorated historic features and replace only those elements that cannot be repaired.

A "contributing building" in the West Boulevard Historic District

What is Historic Preservation?

This section highlights some of the key principles:

"Contributing buildings" in the West Boulevard Historic District

A Historic Property has "Significance."

What makes a property or a district historically significant? In general, properties must be at least 50 years old before they can be evaluated for potential historic significance, although exceptions do exist when a more recent property clearly has historic value. A property or a district may be significant for one or more of the following reasons:

- Association with events that have made a significant contribution to the broad patterns of the history, culture or heritage of Rapid City, the State of South Dakota, or the United States,
- Association with the life or lives of one or more people important in the past,
- Embodies distinctive characteristics of a type, period, region, or method of construction, or that represent the work of an important creative individual, or possess high artistic values,
- A structure that yields or may be likely to yield, information important in history or prehistory,
- A structure, property, object, site, or area with sufficient integrity of location, design, materials and workmanship to make it worthy of preservation or restoration, or
- An established and familiar natural setting or visual feature of the community.

A Historic Property Fits Within a Period of Significance.

In most cases, a property is significant because it represents or is associated with a particular period in its history. Building fabric and features dating from the period of significance typically contribute to the significance of the structure.

A "contributing building" in the West Boulevard Historic District

A historic district also has a period of significance, which is the case with the West Boulevard Historic District. The "period of significance" of a property is noted in the National Register nominations. Throughout each of these periods the historic districts have been witness to a countless number of buildings and additions which have become an integral part of the neighborhood. Conversely, structures built after this period are considered non-contributing.

The West Boulevard Historic District has a period of significance that is from 1875 to 1924.

A Historic Property Retains Integrity.

In addition to being historically significant, a property also must have integrity, with a sufficient percentage of the structure dating from its period of significance. The majority of the building's structural system and materials should date from the period of significance and its character-defining features also should remain intact. These may include architectural details such as dormers, porches, ornamental brackets, and moldings on residential buildings. The overall building form and materials should also be intact. These elements allow a building to be recognized as a product of its own time.

A Historic Property May Have Alterations.

Many historic structures have experienced changes over time as design tastes changed or need for additional space occurred. Some were modest. For example, a new dormer may have been added. In some cases, an owner would add a wing for a new bedroom, or to expand the kitchen in a residential building. Many of these occurred while retaining most of the original characteristics that were key features. These alterations typically remained subordinate in scale and character to the main building and were often executed using materials that were similar to the original. Many such additions are of an age and quality to have obtained significance themselves.

Contributing and Non-contributing Properties Within the District

A "contributing building" in the West Boulevard Historic District

Contributing Property

Contributing properties form the foundation of the historic district, and are either individually eligible for the National Register or clearly contribute to the district's historic character. These buildings are in comparatively original condition; some may have minor alterations and others may have been appropriately restored. A contributing property might still be improved by some further restoration efforts. Information on buildings that are identified as "contributing" is available to the public.

Non-Contributing Property

There are other buildings that exist within the boundaries of the historic district that do not contribute to the district's significance. Some of these have an early construction date, but have been so substantially altered that they no longer convey the historic character and the later alterations have no significance in themselves. Other non-contributing properties are more recent, and therefore have not taken on historic significance. Many of these are still "compatible" with the character of the district, but are not "contributors" in terms of the history of the area. Therefore, two types of "non-contributing" properties exist in the district: (1) Older structures that have lost their integrity, and (2) newer buildings that are not within the period of significance.

For a non-contributing property, the guidelines for New Construction apply, because preservation of remaining features is not important. Instead, the primary objective is to assure that any alterations will be compatible with the district, just as any new construction should be. However, for a property that has lost its integrity, an owner may opt to apply preservation methods as an option.

Local Review

The local commission will use the Secretary of the Interior's Standards for the Treatment of Historic Properties in its review.

A "contributing building" in the West Boulevard Historic District

Other Sources of Guidance

The Secretary of the Interior's Standards for the Treatment of Historic Properties

The Secretary of the Interior's Standards for the Treatment of Historic Properties are general rehabilitation guidelines established by the National Park Service. It is the intent of this document to be compatible with the Secretary of the Interior's Standards for the Treatment of Historic Properties, while expanding on the basic rehabilitation principles as they apply in Rapid City.

Preservation Briefs & Tech Notes

The Cultural Resources Department of the National Park Service, in the U.S. Department of the Interior, publishes a series of technical reports regarding proper preservation techniques. This series, *Preservation Briefs* and *Tech Notes*, is a mainstay for many preservationists in the field. When considering a preservation project, these resources should be consulted. You may obtain these reports from the National Park Service website at: www.nps.gov/history/preservation/htm.

A "contributing building" in the West Boulevard Historic District

Part II: Working with the City

Some important projects involving exterior work may invoke a review by the City's Historic Preservation Commission. This handbook will be helpful in preparing a work plan that meets the standards the commission uses in its review.

Working with the Historic Preservation Commission

When an improvement project is to be reviewed by the Historic Preservation Commission, be certain to prepare materials that will expedite this process. These are some tips to follow:

Step 1: Consider professional design assistance.

If working on a new building, consider hiring a professional architect that is familiar with designing in a historic context. If you are undertaking a historic rehabilitation project, consider hiring a professional architect, design professional or preservation consultant who is familiar with working on historic buildings. They should be well versed with the *Design Handbook for the West Boulevard Historic District* and the *Secretary of Interior's Standards for Rehabilitation*.

Step 2. Check other City regulations.

Be familiar with building standards in the City of Rapid City Code of Ordinances. These will also affect the project.

Step 3. Become familiar with the design guidelines in this handbook.

These guidelines provide helpful suggestions for appropriate design in the historic district context.

Step 4. See Preservation Brief 35, *Understanding Old Buildings: The Process of Architectural Investigation*

Technical Preservation Services, National Park Service, U.S. Department of Interior. This publication helps owners identify those features of historic buildings that are considered key to their significance. Review this material before you begin your design.

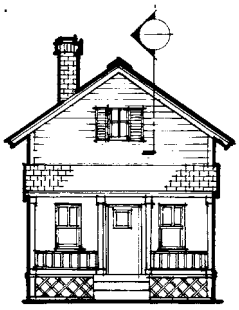
Some important projects involving exterior work may invoke a review by the City's Historic Preservation Commission.

The Role of the Historic Preservation Commission

The HPC is responsible for providing guidance to property owners wishing to undertake projects affecting historic properties or located within the historic district. Prior to issuing a Building Permit for such work, a meeting to hear the request will be held. The HPC will then send its recommendation to the State. The State then makes the final determination as to whether the project will have an adverse effect on the historic district or not. This process allows the citizens the ability to discuss their project with a local preservation review body and get their advice when needed.

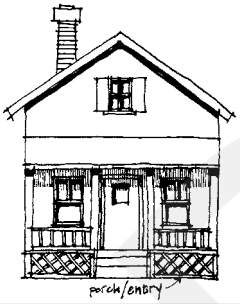
Convey Your Ideas Clearly

When submitting drawings for review, be sure they adequately convey the scale and character of the proposed work.



Appropriate Drawing

Mechanically drafted to scale, this drawing best conveys the character of the proposed work.



Appropriate Drawing

While done free-hand, this drawing adequately conveys the scale and character of the proposed work.

Inappropriate Drawing

The scale, character and dimensions of the proposed work are not clearly conveyed.

Step 5. Review the site context.

Consider the properties immediately adjacent to, and across the street from, your property. Also consider the broader setting of the block and the district as a whole.

Step 6. Develop a design concept using the guidelines.

Also review the Secretary's Standards.

Step 7. Schedule a preliminary meeting with the Historic Preservation Commission (optional).

Meet with the HPC in a study session or with staff to confirm you are on the right track. They also can provide references to other sources of useful information.

Step 8. Prepare a complete submittal application.

Complete a formal 11.1 review that includes appropriate documentation, such as:

Rehabilitation Project

- Photographs of existing & historic conditions
- Existing and proposed elevation, and plan drawings (dimensioned)
- Existing and proposed material descriptions/ changes
- Existing and proposed site plan (dimensioned)

New Construction Project

- Photographs of the existing site and context
- Proposed elevation and plan drawings (dimensioned)
- Site Plan (dimensioned)
- Materials list

Path to a "Successful" Project in the West Boulevard Historic District

While there are many rehabilitation success stores within the West Boulevard Historic District, the three case studies provided below reflect conditions which are broadly applicable throughout the district and that are consistent with the guidelines in this handbook. The City Planning Department also maintains records of many other success stories from the district and this information is available for public use.

Success Story 1

Rehabilitation work includes:

- Removal of a second story addition over the porch
- Facade restoration
- Porch restoration
- Repainting

Before

After

Success Story 2

Rehabilitation work includes:

- Facade restoration
- Repainting
- Repair of front and side porches including column details.
- Removal of non-original aluminum windows, installation of compatible wood windows

Before

After

Success Story 3

Rehabilitation work includes:

- Removal of a second story addition over the porch
- Removing enclosure of historic porch
- Porch restoration including framing and column details.
- Facade restoration

Before

After

When Starting a Project:

Determine how the four appropriate treatment approaches will be applied.

A "contributing building" in the West Boulevard Historic District

Part III: Planning a Preservation Project

When planning a preservation project, it is important to determine historic significance, assess integrity and determine program requirements prior to outlining an appropriate treatment strategy that will inform the overall project scope. There are four basic treatments for historic properties:

The Four Appropriate "Treatments" for a Historic Property

The following list describes appropriate treatments for historic resources that may be considered when planning a preservation project. Formal definitions are provided for the different approaches. Note that, while these terms sometimes are used interchangeably in informal conversation, the more precise meanings are used when describing the overall strategy for a preservation project in this handbook.

These approaches are appropriate for contributing properties:

Preservation

"Preservation" is the act of applying measures to sustain the existing form, integrity and material of a building. Work focuses on keeping a property in good working condition with proactive maintenance. While the term "preservation" is used broadly to mean keeping a historic property's significant features, it is also used in this more specific, technical form in this document.

Restoration

The act or process of accurately depicting the form, features and character of a property as it appeared in a particular time period. It may require the removal of features from outside the restoration period. This may apply to an entire building front, or to restoring a particular missing feature.

➡ For information regarding the restoration of a historic resource please visit the National Park Service web site. http://www.nps.gov/history/hps/tps/standguide/index.htm

Reconstruction

Reconstruction is the act or process of depicting, by means of new construction, the form, features and detailing of a non-surviving site, landscape, building, structure or object for the purpose of replicating its appearance at a specific time and in its historic location. This has limited application, in terms of an entire building, but may apply to a missing feature on a building.

➡ For information regarding the reconstruction of a historic resource please visit the National Park Service web site. http://www.nps.gov/history/hps/tps/standguide/index.htm

A "contributing building" in the West Boulevard Historic District

Rehabilitation

"Rehabilitation" is the process of returning a property to a state that makes a contemporary use possible while still preserving those portions or features of the property which are significant to its historical, architectural and cultural values. Rehabilitation may include a change in use of the building or additions. This term is the broadest of the appropriate treatments and applies to most work in the district.

Combining Treatments

For many improvement projects in the district, a "rehabilitation" approach will be the overall strategy, because this term reflects the broadest, most flexible of the approaches. Within that, however, there may be a combination of treatments used as they relate to specific building components. For example, a surviving eave may be preserved, a window opening that has been altered may be restored, and a missing porch may be reconstructed.

Inappropriate Treatments

Avoid these approaches for treatment of a historic property:
- ***Remodeling***
- ***Deconstruction***
- ***Demolition***

A "contributing building" in the West Boulevard Historic District

Inappropriate Treatments

Property owners are discouraged from using treatments that are not appropriate. The following approaches are not appropriate for historically significant properties.

Remodeling

This is the process of changing the historic design of a building. The appearance is altered by removing original details and by adding new features that are out of character with the original. Remodeling of a historic structure is inappropriate.

Deconstruction

Deconstruction is a process of dismantling a building such that the individual material components and architectural details remain intact. This may be employed when a building is to be relocated or when the materials are to be reused in other building projects. Deconstruction may be a more environmentally responsible alternative to conventional demolition. However, it is still an inappropriate treatment for a building of historic significance.

Demolition

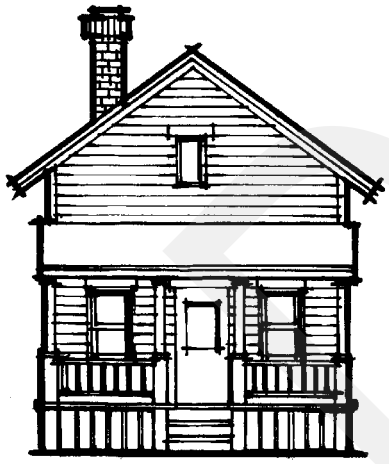
Any act or process that destroys, in part or whole, a structure or archaeological site is considered to be "demolition." This is inappropriate for any "contributing" structure.

Planning Steps for a Preservation Project

When planning a preservation project, it is important to consider the significance of the resource as well as its context and neighborhood, and to evaluate the degree of integrity that they exhibit. Then, one should determine the "program requirements," the functional improvements or repairs that are needed. With these factors in mind, a preservation strategy can be developed. The strategy is noted in the table on page 22.

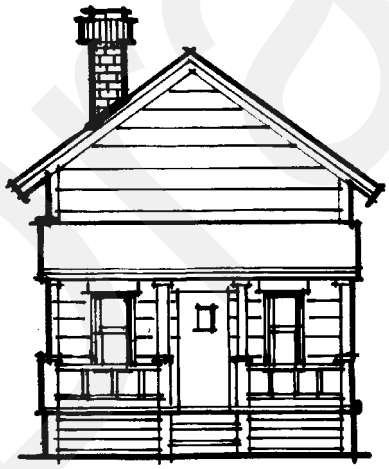
Building Integrity

The degree of a building's integrity is shown below.



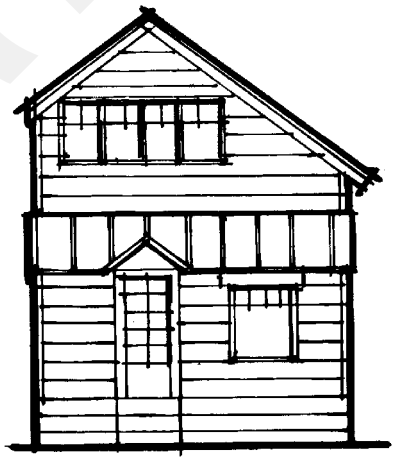
Traditional Facade

"Contributing" Property. This building retains its integrity.



Altered, Traditional Facade

"Contributing" Property with some alterations. This building retains its integrity.



Altered, No Historic Features

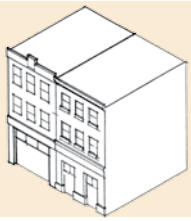
"Non-Contributing" Property with major alterations. This building does not retain its integrity.

Planning Steps for a Preservation Project

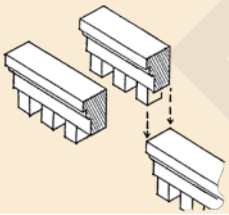
Follow the steps below when planning a preservation project.

Why is the Building Significant?

What Condition are the Building and its Key Features in?



What is the Desired Project?



Determine the Treatment Strategy

Preservation | **Rehabilitation** | **Restoration** | **Reconstruction**

The Project Scope

Step 1. Determine Historic Significance

The reasons for significance will influence the degree of rigor with which the guidelines are applied, because it affects which features will be determined to be key to preserve. Identifying the building's key features and its period of significance are important first steps.

Step 2. Determine Building Integrity

The condition of the building and its features contribute to the overall significance of the building. A building with historic integrity has a sufficient percentage of key character-defining features and characteristics from its period of significance which remain intact.

Step 3. Define Program Requirements

The functional requirements for the property drive the work to be considered. If continuing the existing use is the objective, then rehabilitation will be the focus. If changes in use are planned, some degree of compatible alterations may be in the scope of work.

Step 4. Treatment Strategy

A project may include a range of activities, such as maintenance of existing historic elements, repair of deteriorated materials, the replacement of missing features and construction of a new addition. There are four broad categories of work shown below (and defined on page 18).

Facade Treatments

For most historic resources in the district, the front wall is the most important to preserve intact. Alterations are rarely appropriate. Many side walls are also important to preserve where they are highly visible from the street. By contrast, portions of a side wall that are not as visible may be less sensitive to change. The rear wall is usually the least important and alterations can occur more easily without causing negative effects to the historic significance of the property. This concept of evaluating the different faces of a building to locate the appropriate places for alterations is illustrated in the sketches at the right and described below.

Location A: Primary Facade

- Preservation and repair of features in place is the priority.
- This is especially important at the street level and in locations where the feature is highly visible.

Location B: Highly Visible Secondary Wall

- Preservation and repair in place is the priority.

Location C: Not Highly Visible Secondary Wall

Preservation is still preferred.

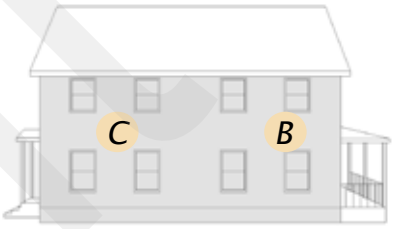
- A compatible replacement or alteration is acceptable.
- More flexibility in treatment may be considered.

Location D: Not Highly Visible Rear Wall

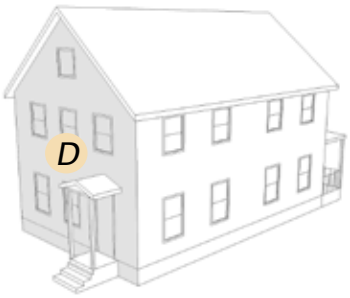
- A compatible replacement or alteration may be acceptable when it is not visible to the public.
- More flexibility in treatment may be considered.

Residential Facades

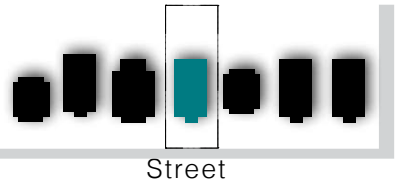
Primary Facade



Secondary Wall



Rear Wall



Site Plan

Part IV: How to Use This Document

Determine Which Guidelines Apply:

Only a portion of the guidelines in this handbook will apply to an individual improvement project. Use this diagram to determine which chapters of the design handbook should apply to a proposed improvement project. The following property types are addressed:

- Contributing Property in the district
- Non-Contributing Property in the district
- National Register Individual Listing
- New Infill and Construction

Type of work: / Chapter to use:	Introduction	Chapter 1: Advice for Rehabilitating a Historic Property	Chapter 2. General Design Advice for all Properties	Chapter 3. Advice for New Construction
1. Alteration of a "contributing property" in the Historic District	✔	✔	✔	
2. Work on a "non-contributing" property in the Historic District	✔		✔	✔
3. Work on an "individually listed National Register Property" in the Historic District	✔	✔	✔	
4. New infill and construction in the Historic District	✔		✔	✔

Note: A blank box indicates that the chapter does not apply.

Components of a Design Guideline

Each design guideline typically contains a series of components, all of which can be used in determining appropriateness. A typical guideline format follows.

A Fences and Retaining Walls

Traditionally,front yard fences were relatively low in height (4' max.) and had a "transparent" B character that allowed views into yards, providing interest to pedestrian. A new or replacement fence should be similar in character with those used traditionally in the neighborhood.

C **1.1 A new fence should be in character with those seen traditionally.**

D • Use traditional materials, such as wood.

In order to understand which images convey appropriate solutions and those that do not, many of the illustrations are marked with a ✔ or an ✖. Those marked with a ✔ are appropriate solutions, whereas illustrations marked with an ✖ are not appropriate. Note: There can be more than one guideline that applies to any given design element.

A Design Topic Heading

Topics relate to different types of improvements and components of buildings.

B Policy Statement

A policy statement explains the desired outcome for the specific design element. If a guideline does not specifically address a particular design issue, then use the policy statement to determine appropriateness.

C Design Guideline

The design guideline statement describes a desired outcome.

D Additional Information

This appears in a bulleted list, and may include examples of how, or how not, to meet the guideline.

E Illustration

Many images are examples of some possible approaches, but not all.

Chapter 1
Advice for Rehabilitating a Historic Property

Architectural Details

Architectural details contribute to the character of historic structures. Specific types of details are associated with individual architectural styles. A variety of tips for working with architectural details are presented here. Select an appropriate treatment that will provide for proper preservation of significant features. Remember the method that requires the least intervention is preferred.

1.1 Preserve significant stylistic and architectural details.

- Preserve cornices, turned columns, brackets, exposed rafter tails, jigsaw ornaments and other key architectural features.
- Do not remove or alter distinctive architectural features that are in good condition and can be repaired. This includes columns, windows, molding and trim, and cornices.
- Minimize damage to historic architectural details when repairs are necessary. For example, protect significant features that are adjacent to the area being worked on.

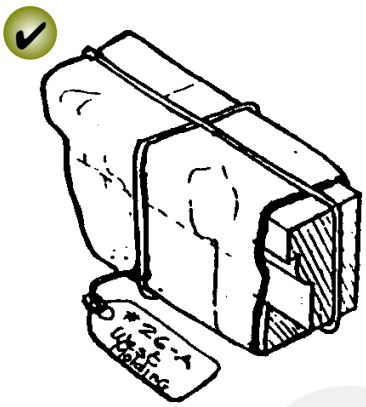
1.2 Repair deteriorated features.

- Patch, piece-in, splice, consolidate or otherwise upgrade deteriorated features using recognized preservation methods.
- Stabilize or fix isolated areas of damage using consolidants. Epoxies and resins may be used for wood repair.

Treat exterior stylistic features and examples of skilled craftsmanship with sensitivity.

Feasibility

Feasibility is determined by considering the availability of the materials and technical skills that are required for the work to be undertaken, as well as reasonable costs. Just because one treatment is more expensive than another may not make it infeasible. Note also that long term, life-cycle costs should be considered.



When disassembly of a historically significant feature is necessary for its repair, document its location so that it may be repositioned accurately.

1.3 When disassembly of a historic element is necessary for its repair, use methods that minimize damage to it.

- Document the location of a historic feature that must be removed and repaired so it may be repositioned accurately.

1.4 Use technical procedures for cleaning, refinishing and repairing an architectural detail that will maintain the original finish.

- Use the gentlest means possible that will achieve the desired results.
- Employ treatments such as rust removal, caulking, limited paint removal and reapplication of paint or stain where appropriate.
- Treatments such as pressure washing and sandblasting are harsh on historic materials and thus are inappropriate.

1.5 When reconstructing an element is impossible, develop a new design that is a compatible interpretation of it.

- Design a compatible interpretation by using a new feature that is similar to comparable features in general size, shape, texture, material and finish.

1.6 Replace an architectural element accurately.

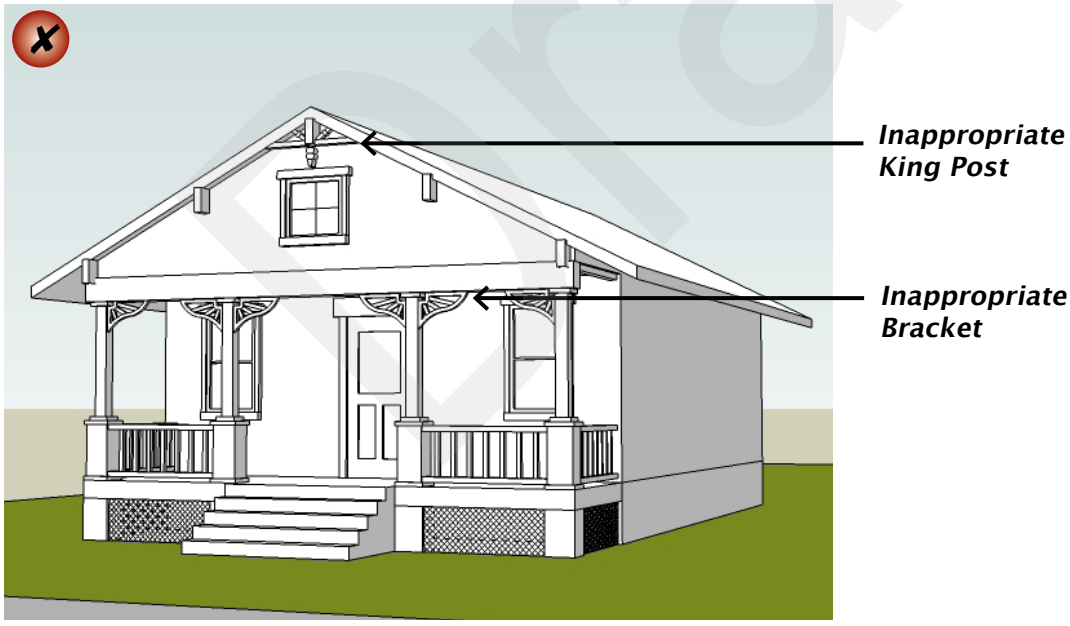
- Use a design that is substantiated by physical or pictorial evidence to avoid creating a misrepresentation of the building's history.
- Use the same kind of material as the original detail when feasible.
- An alternative material may also work if the size, shape, texture and finish conveys the visual appearance of the original. Alternative materials are usually more appropriate in locations that are remote from view or direct contact.

1.7 Avoid adding details that were not part of the original building.

- For example, decorative millwork should not be added to a building if it was not an original feature. Doing so would convey a false history.

Avoid adding details that were not part of the original building. (These jig-saw details are out of character for a bungalow house.)

Original building



Avoid adding details that were not part of the original building.

Preservation Brief 17. Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character.

Repair deteriorated building materials by patching, piecing-in, consolidating or otherwise reinforcing the material.

Materials and Finishes

Primary historic building materials should be preserved in place whenever possible. If the material is damaged, then limited replacement which matches the original should be considered. These materials should never be covered or subjected to harsh cleaning treatments. Preserving original building materials and limiting replacement to only pieces which are deteriorated beyond repair reduces the demand for, and environmental impacts from, the production of new materials and thus is sound sustainability policy.

Primary historic building materials found in Rapid City include wood, stone, brick, and stucco. These guidelines apply to all such materials:

1.8 Preserve original building materials.

- Do not remove original materials that are in good condition.
- Remove only those materials which are deteriorated, and beyond reasonable repair.

1.9 Repair deteriorated primary building materials.

- Repair deteriorated building materials by patching, piecing-in, consolidating or otherwise reinforcing the material.

1.10 When replacing materials on primary surfaces, match the original material in composition, profile, scale and finish.

- Use original materials to replace damaged building materials on a primary facade. For example, if the original material is wood clapboard, then the replacement material should be wood that matches the original in size, the amount of exposed lap and finish.
- Replace only the amount of material required. If a few boards are damaged beyond repair, for example, then only they should be replaced, rather than the entire wall.

1.11 Do not use synthetic materials, such as aluminum, vinyl or panelized brick, as replacements for primary building materials.

- Do not replace building materials, such as wood siding and masonry, on the primary facade with alternative or imitation materials.

1.12 Covering original building materials with new materials is inappropriate.

- Covering original building materials conceals the historic character of the building and may also damage original materials.

1.13 Consider removing later covering materials that have not achieved historic significance.

- Once a non-historic siding is removed, repair the original, underlying material.
- Carefully remove a later stucco finish if the process does not damage the underlying original building material.
- Do not remove a later stucco covering if the process may damage the underlying original building material. Test the stucco to assure that the original material underneath will not be damaged.

Consider removing later covering materials that have not achieved historic significance.

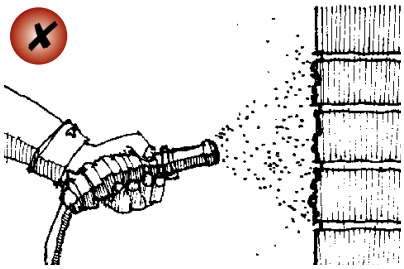
See also:
Brief 8. Aluminum and Vinyl Siding on Historic Buildings.

Brief 16. The Use of Substitute Materials on Historic Building Exteriors.

Brief 33. The Preservation and Repair of Historic Stained and Leaded Glass.

Brief 39. Holding the Line: Controlling Unwanted Moisture in Historic Buildings.

Brief 47. Maintaining the Exterior of Small and Medium Size Historic Buildings.



Use approved technical procedures for cleaning, refinishing and repairing historic materials. As shown here, harsh cleaning methods such as sandblasting or grinding, remove the water-protective glaze from the brick and change its character.

Cleaning Materials and Methods

1.14 Use the gentlest means possible to clean the surface of a structure.

- If cleaning is appropriate, a low pressure water wash (such as that from a garden hose) is preferred. Chemical cleaning may be considered if a test patch is first reviewed and negative effects are not found.
- Perform a test patch to determine that the cleaning method will cause no damage to the material surface.
- Do not use harsh cleaning methods, such as sandblasting, which can damage historic materials, changing their appearance.

See also:
Preservation Brief 1. The Cleaning and Waterproof Coating of Masonry Buildings.

Preservation Brief 6. Dangers of Abrasive Cleaning to Historic Buildings.

Tips for Historic Wood Features

Wood was used historically for exterior siding, trim and ornamental details. Early woodwork should be retained, and, if necessary repaired. Contemporary replacement wood is unlikely to have the same resilience. When properly maintained, wood has a long lifespan. To preserve external wood, maintain its painted finish.

1.15 Protect wood features from deterioration.

- Provide proper drainage and ventilation to minimize decay.
- Maintain protective coatings (paint) to retard deterioration and ultraviolet damage.

Protect wood features from deterioration.

See also:
Tech Notes - Exterior Woodwork No. 1: Proper Painting and Surface Preparation. Sharon Park, AIA. (1986)

Tech Notes - Exterior Woodwork No. 4: Protecting Woodwork Against Decay Using Borate Preservatives. Ron Sheetz and Charles Fisher. (1993)

Re-point mortar joints where there is evidence of deterioration.

Do not paint brick or stone that was not painted historically.

Tips for Historic Masonry

Masonry appears as stone, brick and stucco in the historic district. These exist as building walls and site walls. Early masonry should be retained, and, if necessary repaired. When properly maintained, masonry has a long lifespan.

1.16 Do not paint brick or stone that was not painted historically.

- Maintain the natural uncovered water-protective layer, or patina, to protect masonry from the elements.
- Do not paint masonry walls, which can seal in moisture already in the masonry, thereby not allowing it to breathe and causing extensive damage over the years.

1.17 Repoint mortar joints where there is evidence of deterioration.

- Duplicate original mortar in strength, composition, color and texture.
- Duplicate the mortar joints in width and profile.
- Avoid using mortar with a high Portland cement content, which will be substantially harder than the original.

See also:
Preservation Brief 2. Repointing Mortar Joints in Historic Brick.

Preservation Brief 22. The Preservation and Repair of Historic Stucco. Washington, D.C.: U.S. Government Printing Office, 1990.

Preservation Brief 38. Removing Graffiti from Historic Masonry.

Tech Notes – Masonry No. 3: Water Soak Cleaning of Limestone. Robert M. Powers. (1992)

Tech Notes – Masonry No. 4: Non-destructive Evaluation Techniques for Masonry Construction. Marilyn E. Kaplan, Marie Ennis and Edmund P. Meade. (1997)

Tips for Painting

Historically, most wood surfaces on the exterior of a building were painted to protect them from weathering. Concrete and stucco structures also were sometimes painted.

1.18 Plan repainting carefully.

- Always prepare a good substrate. Prior to painting, remove damaged or deteriorated paint only to the next intact layer, using the gentlest means possible.
- Use compatible paints. Some latex paints will not bond well to earlier oil-based paints without a primer coat.

1.19 Using a historic color scheme is encouraged.

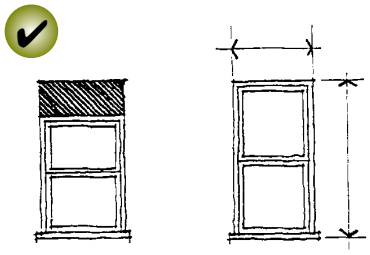
Paint Color

While using a compatible historic color scheme is recommended, the Historic Preservation Commission does not review color.

Plan repainting carefully.

See also:
Preservation Brief 10. Exterior Paint Problems on Historic Woodwork.

Tech Notes –Exterior Woodwork No. 2: Paint Removal from Wood Siding. Alan O'Bright. (1986)



Preserve the size and proportion of a historic window opening.

Energy Efficiency in Windows

Repairing, weather-stripping and insulating an original window is usually more energy efficient and much less expensive than replacing original windows with new windows, as well as sound preservation practice.

Preserve the historic ratio of window openings to solid wall on a primary facade as well as the size and proportion of a historic window opening.

Individual Building Features

Tips for Windows

The character-defining features of a historic window, its distinct materials and its location should be preserved. In addition, a new window should be in character with the historic building.

1.20 Preserve the functional and decorative features of a historic window.

- Preserve historic window features including the frame, sash, muntins, mullions, glazing, sills, heads, jambs, moldings, operation and groupings of windows.
- Repair frames and sashes rather than replacing them, whenever possible.
- Repair and maintain windows regularly, including wood trim, glazing putty and glass panes.

1.21 Preserve the historic ratio of window openings to solid wall on a primary facade.

- Do not enclose a historic window opening or add a new window opening.
- Do not significantly increase the amount of glass on a primary facade as it will negatively affect the integrity of the structure.

1.22 Preserve the size and proportion of a historic window opening.

- Restore altered window openings on primary facades to their original configuration, when feasible.
- Do not reduce an original opening to accommodate a smaller window or increase it to receive a larger window.

1.23 Match a replacement window to the original in its design.

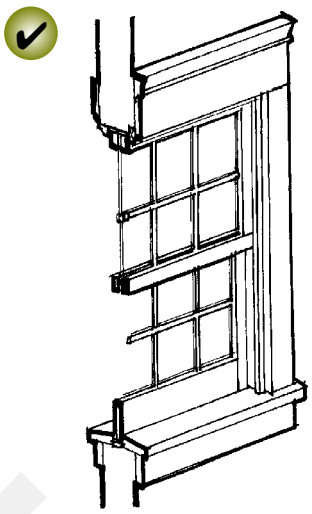
- If the original is double-hung, use a double-hung replacement window, or a window that appears to be double-hung.
- Give special attention to matching the original design on a key character-defining facade.

1.24 In a replacement window, use materials that appear similar to the original.

- Use the same material as the original, especially on character-defining walls. An alternative material may be considered if the appearance of the window components will match those of the original in dimension, profile and finish.
- Use new glazing that conveys the visual appearance of historic glazing.
  - Glazing should be clear.
  - Transparent low-e type glass is appropriate.
  - Metallic and reflective finishes are inappropriate.
- Do not use vinyl and unfinished metals as window materials.

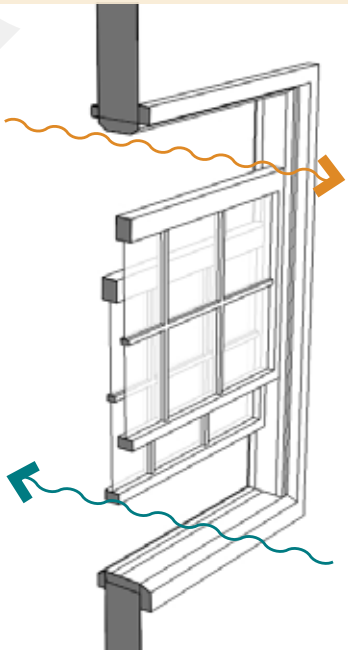
1.25 Match, as closely as possible, the profile of the sash and its components to that of the original window.

- Within the window's casing, the sash steps back to the plane of the glazing (glass) in several increments. This depth of profile should be maintained in a replacement.



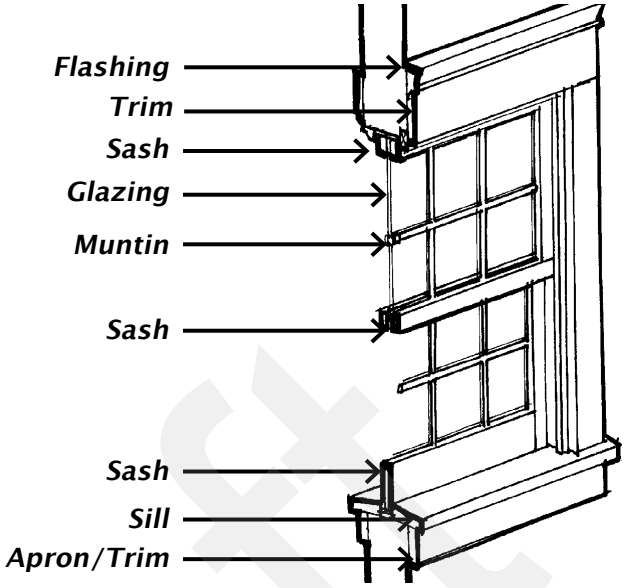
Match a replacement window to the original in its design.

Double Hung Window Ventilation



Double hung windows simultaneously allow for air circulation while saving energy.

Typical Historic Window Components



Double Hung Window (Residential, Commercial, Agricultural)

See also:
Preservation Brief 9. The Repair of Historic Wooden Windows.

Preservation Brief 13. The Repair and Thermal Upgrading of Historic Steel Windows.

Tech Notes –Windows No. 10: Temporary Window Vents in Unoccupied Historic Buildings. Charles Fisher and Thomas Vitanza. (1985)

Tech Notes –Windows No. 11: Installing Insulating Glass in Existing Wooden Sash Incorporating the Historic Glass. Charles Fisher. (1985)

Tech Notes –Windows No. 19: Repairing Steel Casement Windows. Chad Randl. (2002)

Tech Notes –Windows No. 21: Replacement Wood Sash Utilizing True Divided Lights and an Interior Piggyback Energy Panel. Charles E. Fisher. (2008)

Tech Notes –Windows No. 22: Maintenance and Repair of Historic Aluminum Windows. Kaaren R. Staveteig. (2008)

Treating a Historic Door

The character-defining features of a historic door and its distinct materials and placement should be preserved. In addition, a new door should be in character with the historic building.

1.26 Preserve the decorative and functional features of a primary entrance.

- Preserve original and decorative features, including door frames, sills, heads, jambs, moldings, detailing, transoms and flanking sidelights.
- Do not change the historic position of doors on primary facades.
- Do not add additional doors on primary facades.
- Do not enclose transoms or sidelights.

1.27 Maintain the original proportions of a significant door.

- Do not alter the original size and shape of a historic door.

1.28 When a historic door is damaged, repair it and maintain its general historic appearance.

1.29 When replacing a door, use materials that appear similar to that of the original.

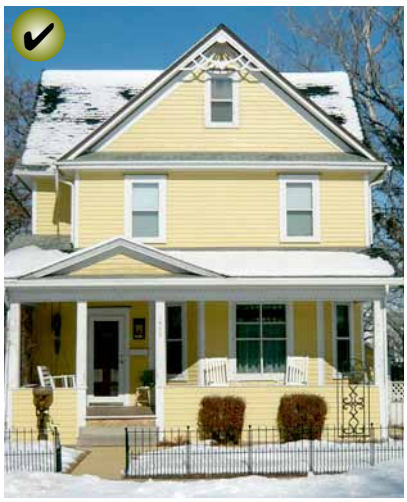
1.30 When replacing a door, use a design that has an appearance similar to the original door, or a door associated with the building style.

1.31 If energy conservation and heat loss are a concern, consider enhancing the energy efficiency of the door instead of replacing it.

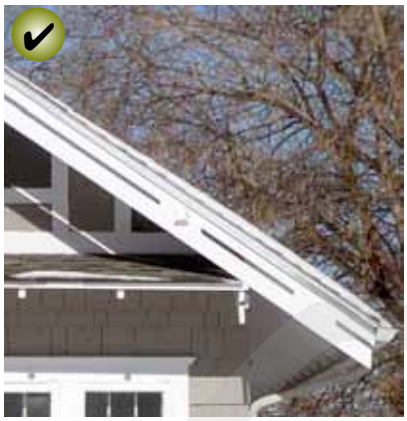
Preserve the decorative and functional features of a primary entrance.

When replacing a door, use materials that appear similar to that of the original.

See also:
Tech Note – Doors No. 1: Historic Garage and Carriage Doors: Rehabilitation Solutions. Bonnie Halda, AIA. (1989)



Preserve the original roof form of a historic structure.



Preserve the original eave depth of a historic structure.

New or replacement roof materials should convey a scale and texture similar to those used traditionally.

Design Ideas for Roofs

The character of a historic roof should be preserved, including its form and materials, whenever feasible.

1.32 Preserve the original roof form of a historic structure.

- Maintain the perceived line and orientation of the roof as seen from the street.
- Avoid altering the angle of a historic roof.

1.33 Preserve the original eave depth of a historic structure.

- Maintain traditional overhangs because they contribute to the perception of the building's historic scale and style.
- Do not cut back roof rafters and soffits.

1.34 Preserve original roof materials.

- Avoid removing historic material that is in good condition, such as slate.
- Patch and replace damaged materials.
- Preserve decorative elements, including crests and chimneys.
- Retain and repair roof detailing, including gutters and downspouts.

1.35 New or replacement roof materials should convey a scale and texture similar to those used traditionally.

- Consider the architectural style of the structure when choosing roof replacement materials.
  - Use materials with a similar texture, pattern and finish to the original roof material.
  - Materials with earth tones are generally best.
- Consider using a composition shingle roof.
  - Composition shingle roofs are generally appropriate replacements.
  - They should have a color similar to the original.

- If using a metal roof, apply and detail it in a manner that is compatible with the historic character of surrounding structures.
  - New sheet metal roofs must be ribbed or have a standing metal seam to break up the surface. The seams should have a low and narrow profile.
  - Metal roof materials should have a matte, non-reflective finish.
  - Metal roof edges should be finished in a similar fashion to those seen traditionally.
- If repairing specialty roof materials such as glazed clay tile or barrel shingle, use a matching replacement material.
  - Concrete tiles may be appropriate when replacing clay tile roofs on larger buildings.
- If using shingles with embedded photovoltaic systems, select a dark color.
- Do not use rolled roofing material except on flat roofs.

The addition of features such as solar panels should not interrupt the plane of the historic roof, and should be located below the ridgeline.

These collectors are inappropriate as they contrast too strongly with and overwhelm the character of the historic roof. They are also not sufficiently set back from the primary facade.

1.36 Avoid using conjectural features on a roof.

1.37 Minimize the visual impacts of skylights and other rooftop devices.

- A skylight that is flush with the roof plane may be considered where it is not on a primary elevation and remains visually subordinate.
- Skylights should be located below the ridge line of the roof.
- Locate electronic data transmission and receiving devices to minimize visual impacts, to the extent feasible.
- Skylights should not interrupt the plane of the historic roof.

See also:
Preservation Brief 4. Roofing for Historic Buildings.

Preserve an original porch, when feasible.

Tips for Historic Porches

A porch is one of the most important character-defining elements of a facade. It provides visual interest and influences perceived scale. Preserve a porch in its original condition and form.

Repair a deteriorated porch instead of removing or replacing it. This approach is preferred because the original materials contribute to its historic character. Even when replaced with an exact duplicate, a portion of the historic building fabric is lost; therefore, such treatment should be avoided when feasible.

If necessary, replace a missing porch with one that appears similar to that seen historically. The first step is to research the history of the house to determine the appearance and materials of the original porch. The most important aspects of a replacement design are its location, scale and materials. Unless reconstructing a porch from historic documentation, it is not necessary to replicate the details of the original porch or a porch design copied from a similar style house. It is important that new details be compatible (similar form, scale and materials) for the design of the porch and the style of the house.

1.38 Preserve the original porch, when feasible.

- Maintain the height and shape of the porch roof.
- Do not enclose or screen a front porch.
- Missing or deteriorated decorative elements should be replaced to match existing elements; e.g., match the original proportions and spacing of balusters when replacing missing ones.

1.39 Repair those elements of a porch that are deteriorated.

- Use materials that are similar to the historic building materials.
- An alternative material may be considered for a porch in a secondary location, when the appearance is similar to that of the original.

1.40 If a porch has been altered, consider restoring it back to its original design.

- If the historic design of the porch is unknown, then base the design of the restoration on other traditional porches on buildings of a similar architectural style.

1.41 When replacing a porch is necessary, it should be similar in character, design, scale and materials to those seen traditionally.

- The size of a porch should relate to the overall scale of the primary structure to which it is attached.
- Base the replacement design on historic documentation if available.
- Where no evidence of the historic porch exists, a new porch may be considered that is similar in character to those found on comparable buildings.

1.42 Porch supports should be of an appropriate size to complement the entry and existing structure.

- Wood columns or posts are preferred.
- Brick or stone may be appropriate for some architectural styles.
- Cast iron is not a historic material in the district, and should be avoided.

1.43 A new porch should use materials similar to those seen historically.

- Alternative materials for porch decking may be considered where they appear similar to the original.

Repair those elements of a porch that are deteriorated.

See also:
Preservation Brief 45. Preserving Historic Wooden Porches.

Avoid removing original materials that are in good condition or that can be repaired in place.

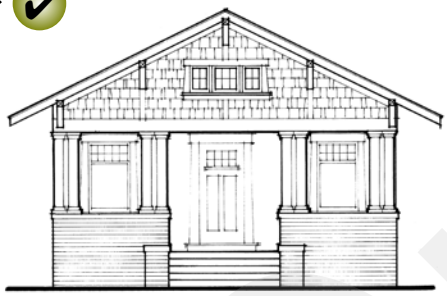
Before: A deteriorated post should be repaired not replaced when feasible.

After: The base of the post has been repaired. This is an appropriate approach.

Treatment Tips for an Altered Historic Porch

The preceding guidelines in this section discuss a range of treatment options for residential porches, including reconstruction and replacement in various ways. When applied to a building that is already altered, which would be the best approach? This diagram outlines the treatments to consider in making that decision. Treatment 1 is always the first priority.

Existing Altered Porch



Treatment 1: Reconstruction

When should I use this treatment?

- The building dates from the period of significance and retains many of its key features.
- There is good historical information about the design.
- The needed materials and craftsmen are available.
- The context has many intact historic buildings.

Treatment 2: Simplified Interpretation

When should I use this treatment?

- The building is a contributor to the district
- There is less historical information available about the original design.

Treatment 3: Contemporary Interpretation

When should I use this treatment?

- There is substantial deterioration, making "Treatment 1" difficult.
- There is less historic information about the original design.
- The context has more variety.
- This is an isolated building in the district.

Special Considerations

Tips for Designing Additions to Residential Properties

Buildings do adapt over time, and owners may need to expand usable floor area. When constructing an addition, it should be compatible with the primary structure and not detract from one's ability to interpret its historic character.

1.44 A new addition should respect the mass and scale of the original structure.

- An addition should be simple in design to prevent it from visually competing with the primary facade.
- For a larger addition, break up the mass of the addition into smaller modules that relate to the historic house.
- To keep the size of a higher mass as small as possible, use a lower plate height (horizontal timber along the top of the building wall).

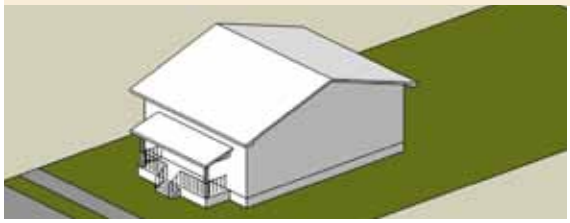
1.45 Place an addition at the rear of a building or set it back from the front to minimize the visual impacts.

- This will allow the original proportions and character to remain prominent.

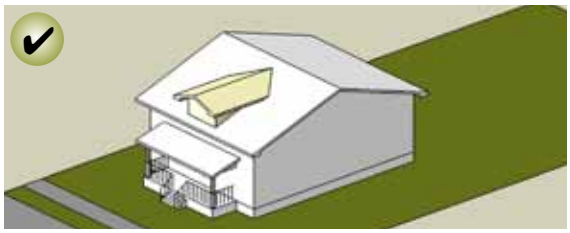
1.46 The roof form of a new addition should be in character with and subordinate to that of the primary building.

- When constructing a rooftop addition, keep the mass and scale subordinate to the primary building.

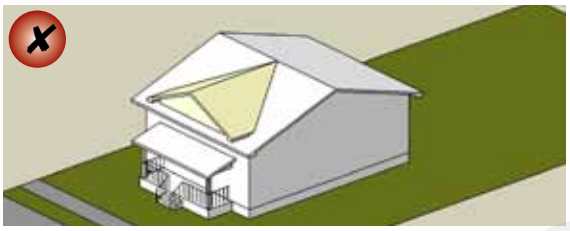
Locating a New Dormer



Original Building

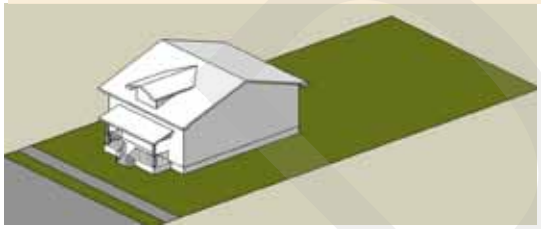


Small Gable Dormer: Addition is centered and located below the roof ridge, remains subordinate.

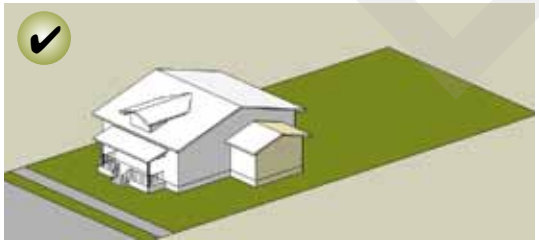


Full Gable Dormer: Gable overwhelms the facade and alters the character.

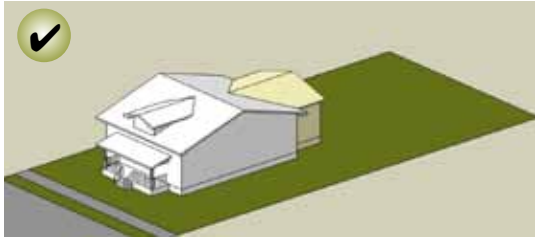
Tips for Small Scale Additions



Original Building: One-and-a-half story home

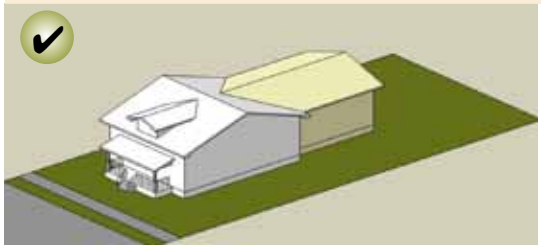


Small Side Addition: Set back behind the facade and remains subordinate.

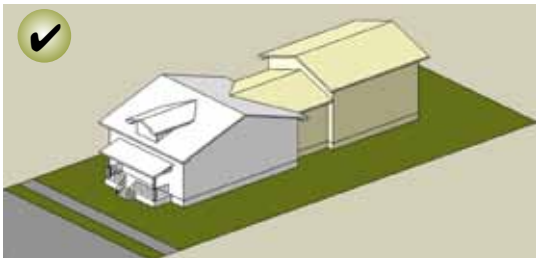


Small One Story Attached Addition: Set back behind the original building and not visible from the street.

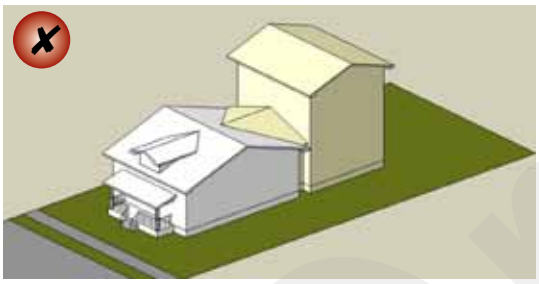
Locating a Larger Addition

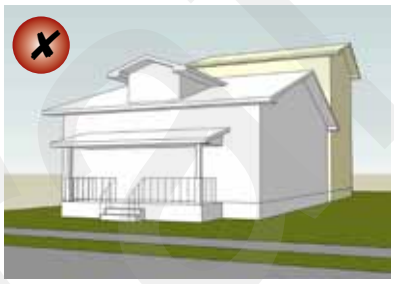


One Story Attached Addition: Set back behind the original building; remains subordinate.

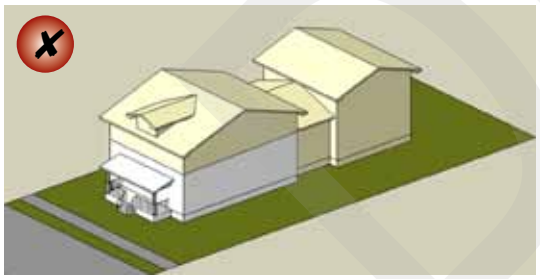


One-and-a-half story addition: Set back behind the original building and linked by a connector.





Two-and-a-half Story Addition with Connector: Addition is visible from the street; overwhelms original.



Two Story Roof-top Addition: Causes loss of historic material and changes character.

Historic Additions

Some early additions may have taken on historic significance of their own. One constructed in a manner compatible with the original building and associated with the period of significance may merit preservation in its own right. These existing additions should be evaluated for potential re-use.

In contrast, more recent additions that detract from the character of the building should be considered for modification or removal.

1.47 Preserve an older addition that has achieved historic significance in its own right.

- For example, a kitchen wing located on a residential building may have been added in its history. Such an addition is usually similar in character to the original building in terms of materials, finishes and design.

See also:
Preservation Brief 14. New Exterior Additions to Historic Buildings: Preservation Concerns.

Tips for Secondary Structures

Preserving the historic fabric along an alley in the historic district is important. Historically significant secondary structures are special features in the district's alleys. These include sheds, garages and carriage houses. They are traditionally subordinate in scale and character to the primary structure and are typically located to the rear of the lot. These features should be retained.

1.48 Preserve a historic secondary structure when feasible.

- The same principles related to preserving key building features, treatment of materials, windows and doors that appear in this section for primary structures also apply to historically significant secondary structures.
- When additional space is needed, consider constructing an addition, or adding another secondary building, rather than demolishing the historic one.

Preserve an existing secondary structure when feasible.

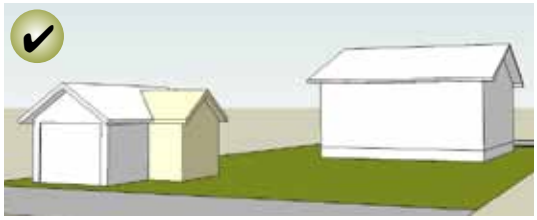
New Secondary Structures

See the new construction section for guidance related to a new secondary structure.

When additional space is needed, consider constructing an addition, or adding another secondary building, rather than demolishing the historic one.

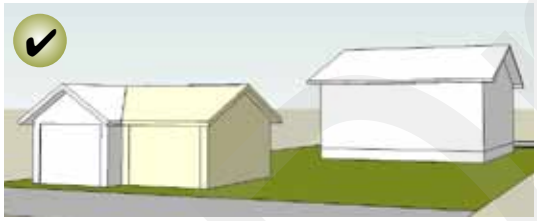
Strategies for Additions to Secondary Structures

Original Garage

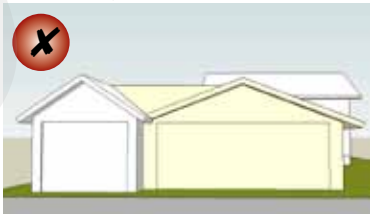


Small Side Addition: Set back from facade and located below the roof ridge.

Detached Garage: New one-car garage is in character with existing garage.



One-car Addition: Set back and in character with the existing garage.



Two-car Addition: Addition overwhelms the original garage and alters the character.

Adaptive Reuse

Converting a building to a new use that is different from that which its design reflects is considered to be "adaptive re-use." For example, converting a residential building to an office is adaptive re-use. A good adaptive re-use project retains the historic character of the building while accommodating its new function.

1.49 Seek uses that are compatible with the historic character of the building.

- The use should not adversely affect the historic integrity of the building.
- The use should not alter character-defining features of the structure.
- The use may help to interpret how the building was used historically.

Accessibility

Where it applies, owners of historic properties should comply to the fullest extent possible with the Americans with Disabilities Act (ADA) provisions, while also preserving the integrity of the character-defining features of their buildings and sites.

1.50 Generally, creating an accessibility solution that does not alter a building's historic integrity is encouraged.

- Identify the historic building's character-defining spaces, features and finishes so that accessibility code-required work will not result in their damage or loss.
- Alterations to historic properties that are designed to improve access for persons with disabilities should minimize negative effects on the historic character or materials.
- Provide barrier-free access that promotes independence for the disabled to the highest degree practicable, while preserving significant historic features.

Seek uses that are compatible with the historic character of the building.

See also:
Preservation Brief 32. Making Historic Properties Accessible.

Energy Efficiency

Saving Energy in Building Design

Improvements to enhance energy efficiency and energy collection should be planned to retain and complement the original building.

1.51 Retain and enhance the energy efficiency of the original building.

- Install additional insulation in an attic, basement or crawlspace. Additional insulation is a simple and typically noninvasive, method to make a significant difference in a building's energy efficiency.
- Retain, repair or restore original shutters, awnings and porches as appropriate. Operable features such as these will increase the range of conditions in which a building is comfortable without mechanical climate controls.
- Retain and repair original roof material.
- Install draft stoppers in a chimney. Open chimney dampeners can increase energy costs by up to 30 percent.

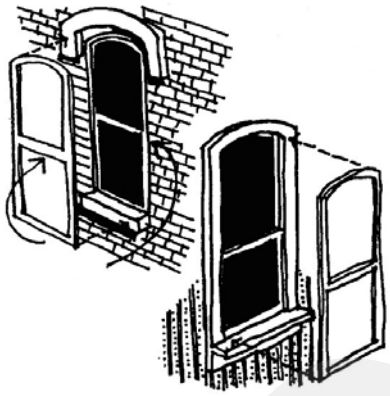
1.52 Enhance the energy efficiency of original windows and doors.

- Preserve the original windows and doors.
- Repair original window and door components rather than replace.
- Safeguard, retain and reuse early glass.
- Maintain the glazing compound regularly. Remove old putty with care.
- Weather strip and caulk original framework.
- Place storm windows internally to avoid the impact upon external appearance.
- Use storm window inserts designed to match the original frame if placed externally.
- Double pane glazing may be acceptable where original glazing has been lost and the frame can support the weight and profile. A storm window is still more efficient however.

Web Resources for Energy Efficiency

The National Trust for Historic Preservation has many helpful articles and links on weatherization and energy audits. See the follow site for details:

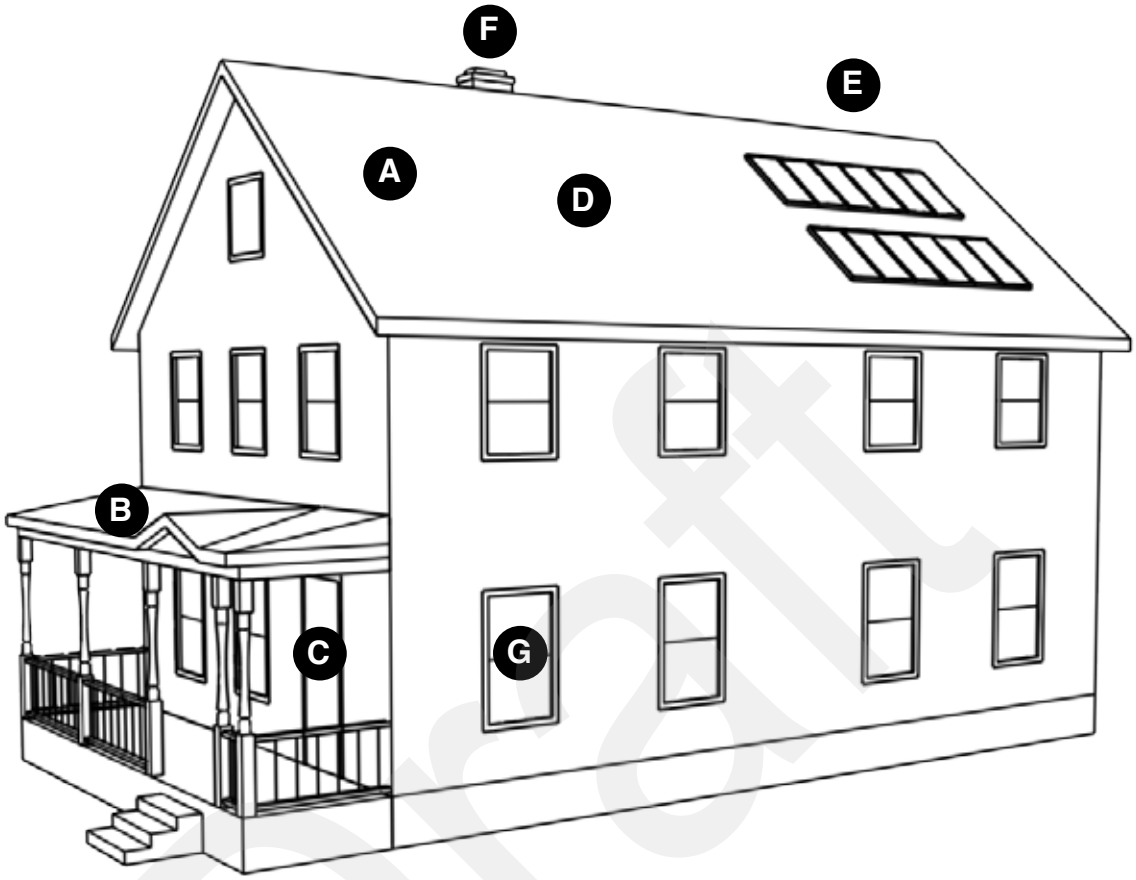
http://www.preservationnation.org/information-center/sustainable-communities/weatherization/resources/weatherization.html#Audits



Place storm windows internally to avoid the impact upon external appearance (right). Use storm window inserts designed to match the original frame if placed externally (left).

Use storm window inserts designed to match the original frame if placed externally.

Residential Building Energy Efficiency Diagram



A Attic
- Insulate internally

B Awnings & Porches
- Restore porches and awnings

C Doors
- Maintain original doors
- Weatherstrip

D Roof Material
- Retain & repair

E Solar Panels
- Set back from primary facade to minimize visibility from street

F Chimney
- Install draft stopper

G WIndows
- Repair and retain original or early windows
- Retain original glass
- Enhance thermal & acoustic efficiency with storm windows (preferably interior)
- Weatherstrip

This diagram summarizes a general strategy for energy conservation on a traditional residential building. These measures can enhance energy efficiency while retaining the integrity of the historic structure. Of these actions, adding more insulation and sealing gaps around chimneys and other places where ducts or utilities enter the building will be the most effective.

Note:

Landscaping is not considered when the City reviews a historic preservation project.

Retain existing mature landscape features that provide shade and protection from wind.

Tips for Site Design

Site designs, including landscapes and structures, can take advantage of microclimatic conditions for energy conservation. Consider solar and wind exposure in design decisions. The following guidelines are suggested.

1.53 Design landscapes and site features to promote energy efficiency.

- Retain existing mature landscape features that provide shade and protection from wind.
- Position new landscape features to take advantage of the shade and wind break effects for the building.
- Locate deciduous trees and vegetation to provide for summer shading and allow winter solar access.
- Use efficient site lighting to minimize the amount of fixtures needed.

1.54 Maintain the historic character of the 12th Street Median.

- Preserve the open lawn of the boulevard itself.
- Preserve historic landscape features of the boulevard.
- Design new plantings and structures to be compatible with the historic character.

See also:
Preservation Brief 3. Conserving Energy in Historic Buildings.

Preservation Brief 24. Heating, Ventilating, and Cooling Historic Buildings: Problems and Recommended Approaches.

Chapter 2

General Design Advice for All Properties

This chapter provides tips for the design of sites, site features and details that may apply to the character of both new infill and historic properties.

Street Patterns

Historic settlement patterns seen in street and alley plans often contribute to the distinct character of the historic district and therefore they should be preserved. These street plans influence the manner in which primary structures are sited and they also shape the manner in which secondary structures and landscape features occur.

Note:

Some of these design principles address the public realm, and are provided as guidance for public sector improvements.

2.1 Respect historic settlement patterns.

- Maintain the arrangement of historic parcel, street and alley layouts.

Streetscape

Maintain the traditional character of the streetscape and landscape in the public right-of-way. This includes a rich collection of varying street designs, sidewalk types and mature trees.

Continue the use of planting strips along the public right-of way.

2.2 Continue the use of planting strips along the public right-of way.

- A planting strip, located between the street and a detached sidewalk should be planted with grass and trees.

2.3 Preserve and maintain the pattern of mature trees along the public right-of-way.

- If a tree is cut down, replace it in-kind when it is feasible to do so.

Locate a parking area at the rear or to the side of a site whenever possible.

Site Design

Topography

Site work should be planned to protect the assets of the existing topography.

2.4 Minimize the visual impacts of cut and fill on a site.

- When a change in elevation must occur, use a retaining wall that is designed to be compatible with traditional walls in the area.

Parking and Driveways

The visual impacts of driveways and parking areas should be minimized. On site parking should be subordinate to other uses and the front of the lot should not appear to be a parking area.

2.5 Minimize the visual impact of surface parking and driveways in the district.

- Locate a parking area at the rear or to the side of a site whenever possible. If parking is located to the side it should be set back from the front of the building facade.
- Keep paved areas and curbs cuts for driveways to minimum widths.
- Paving the front yard for parking is not appropriate.
- Use landscaping to screen parking areas.

2.6 Provide alley access to parking when feasible.

2.7 Design a new driveway in a manner that minimizes its visual impact.

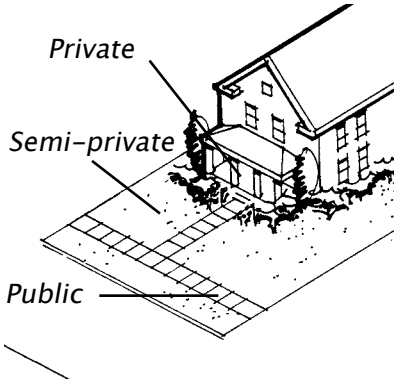
- New driveways and garages that open onto a primary street are not appropriate.
- A new semi-circular drive in a front yard is not recommended.

2.8 Preserve historic strip driveways.

- Preserve strip driveways from the 1920s and 1930s. They not only reduce the impact of the driveway on the lot, they also allow for better drainage.

Hierarchy of Public and Private Space

A key feature of the district is the "hierarchy of space" that is experienced along the street. The hierarchy of public and private space is a progression that begins at the street, which is the most public space, proceeds through the front yard, which appears "semi-private," and ends at the front door, which is the "private" space. This transition enhances the pedestrian environment, contributes to the character of the district and should be maintained. The setbacks within a neighborhood determine the sizes of these spaces and are a defining characteristic of the district.



Historic residential properties have an established progression of public-to-private spaces.

2.9 Provide a walkway from the street to the building.

- Maintain or install a walkway leading directly from the sidewalk to the main building entry.

2.10 Provide a front yard.

- A landscaped (green) front yard should predominate.
- Do not pave this area so it effectively serves as a parking lot.

Provide a walkway from the street to the building and a front yard.

Fence Heights

The Rapid City Municipal Code allows a maximum fence or wall height of 4 feet for a front yard and 6 feet for all other yards. See §15.40.020 for more information.

A new fence should be in character with those seen traditionally.

Fences and Retaining Walls

Traditionally,front yard fences were relatively low in height (4' max.) and had a "transparent" character that allowed views into yards, providing interest to pedestrians. "Transparency" was achieved by the spacing of vertical boards/pickets. Solid plank wood fences (6' max.) were used occasionally along alley edges. A new or replacement fence should be similar in character with those used traditionally in the neighborhood. In addition, fences should relate in character to the principal structure on the lot.

On some sites retaining walls are also found. They typically align along the edges of sidewalks, and help to establish a sense of visual continuity and should be maintained.

2.11 A new fence should be in character with those seen traditionally.

- Use traditional materials, such as wood.
- Install a fence that uses alternative materials that have a very similar look and feel to wood, proven durability, matte finish and an accurate scale and proportion of components.
- Do not install chain link fencing.
- Do not mix wooden and metal fence styles.
- Do not use heavy brick fence posts unless there is historic documentation of their use.

2.12 A new retaining wall should be in character with those seen traditionally.

Site Lighting

Traditionally, site lighting was limited in the district. This low level of lighting contributes to the area's residential character. Therefore, light spill onto adjacent properties and into the night sky should be minimized.

2.13 Prevent glare onto adjacent properties by using shielded and focused light sources that direct light onto the ground.

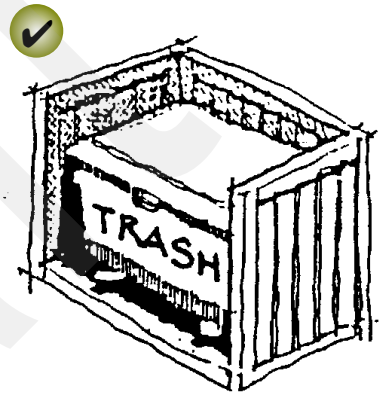
Use shielded and focused light sources that direct light onto the ground.

Service Areas & Mechanical Equipment

The visual impact of ancillary improvements within the historic district should be minimized.

2.14 Minimize the visual impact of trash storage and service areas.

- Locate a service area along the rear of a site.
- Trash areas, including large waste containers or dumpsters, should also be screened from view, using a fence, hedge or enclosure. For a larger storage area, consider using a shed to enclose it.
- Provide adequate trash storage capacity so that debris will not overflow the containers.



Trash areas should also be screened from view, using a fence, hedge or enclosure.

2.15 Minimize the visual impact of new mechanical systems.

- Locate mechanical equipment at the rear or sides of a property.
- Screen equipment from view.
- Use a low-profile mechanical unit if mounted on a roof.
- Avoid locating equipment on a primary facade.
- Do not damage character-defining features of historic structures when installing utility equipment.
- Any utility device or mechanical equipment should have a matte or non-reflective finish.

Chapter 3
Advice for New Construction

This chapter contains general design guidelines that may affect the character of historically significant properties, other existing buildings that are "non-contributing," and all new construction.

Site Design

Align a New Building with its Neighbors

A front yard setback serves as a transitional space between the public sidewalk and the private building entry. When repeated along the street, these yards enhance the character of the district, and provide interest to pedestrians. In many blocks, the relatively uniform alignment of building fronts contributes to the sense of visual continuity and should be maintained.

3.1 Locate a new building to fit within historic front yard setbacks.

- Where front yard setbacks are uniform, place a new structure in general alignment with its neighbors.
- Where front yard setbacks vary, place a new structure within the established range of front yard setbacks on the block.
- Do not locate a structure outside the established range of front yard setbacks.
- Locate a structure to preserve the side yard spacing pattern on the block as seen from the street.

Locate a new building within the range of alignments seen traditionally in the block.

Orient the primary building facade to the street. Use a porch or similar feature to define the entry.

Orient a New Building to Face the Street

Traditionally, the primary entrance of a building faced the street and was sheltered by a one-story porch. This orientation helps to establish a sense of scale to the district and should be continued in new construction.

3.2 Preserve the traditional orientation of buildings along the street.

- Orient a new building front to face the street.
- Use a porch or similar feature to define the entry.
- Proportion a front porch to be compatible with the architectural style of the building and surrounding historic context.

New designs for window moldings and door surrounds, for example, can provide visual interest while helping to convey the fact that the building is new.

Contemporary interpretations of traditional designs and details may be considered.

Architectural Character

In order to assure that the history of the district can be understood, it is important that any new building be distinguishable from the historic structures. Therefore, a new building should appear as a product of its own time in terms of its style, while also being compatible with the historically significant features of the area.

3.3 Design a new building to reflect its time period, while respecting key features of its context.

- Use contemporary interpretations of historic architectural styles when designing a new residential structure.
- Reflect current architectural trends in a new residential structure to convey the period in which it is built and continue to accurately portray the evolution of the community.

3.4 Contemporary interpretations of traditional designs and details may be considered.

- Use porch columns, balustrades, brackets, rafter ends, windows, doors and other historically appropriate trim elements.
- New designs for window moldings and door surrounds, for example, can provide visual interest while helping to convey the fact that the building is new.

3.5 Avoid copying exactly the historic styles of the district in a new building design.

- This blurs the distinction between old and new buildings and makes it more difficult to visually interpret the architectural evolution of the district.
- An interpretation of a historic style that is authentic to the district may be considered if it is subtly distinguishable as being new.

An interpretation of a historic style that is authentic to the district may be considered if it is subtly distinguishable as being new.

Building and Roof Form

A similarity of building and roof form contributes to a sense of visual continuity in residential areas. In order to maintain this sense of visual continuity, a new building should have basic building and roof forms similar to those seen traditionally.

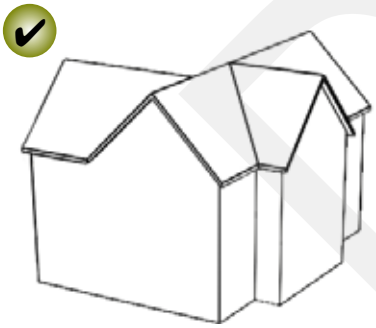
3.6 Use building and roof forms similar to those seen traditionally in the area.

- Use building forms that appear similar to traditional forms.
- Unless necessary, do not use building forms that do not have a traditional orientation to the street.
- Use a pitched or gable roof form where they exist in the surrounding historic context.
- Do not use an exotic roof form on the primary structure.
- Do not use shed roof forms except on porches or small additive forms attached to the primary structure.

Use building and roof forms similar to those seen traditionally in the area.

Design building features to incorporate traditional dimensions.

Construct a new building to be similar in mass and scale to traditional residential structures.



Subdivide the mass of a larger building into smaller "modules" that are similar in size to buildings seen traditionally.

Building Mass and Scale

Traditionally residential buildings had varied heights, articulated masses and pedestrian-scaled front facades. A new building should continue to provide a variety of pedestrian-friendly scales and visually appealing masses. Buildings should not be monolithic in scale or greatly contrast with the existing scale of those seen traditionally in the district.

A sense of human scale is achieved when one can reasonably interpret the size of a building by comparing features of its design to comparable elements in one's experience. Using a building material of a familiar dimension, such as traditional brick or wood lap siding, is an example. Using traditionally sized building features such as windows, doors and porches is also encouraged.

These features are some of the important characteristics of residential buildings and should appear in all new construction.

3.7 Construct a new building to reflect the mass and scale of traditional residential buildings.

- Subdivide the mass of a larger building into smaller "modules" that are similar in size to buildings seen traditionally.
- Design building features to incorporate traditional dimensions. Wall plate heights, window and door head heights and other vertical proportions should match the appropriate scale of the period.
- Design corner buildings to be similar in height to buildings along adjoining blocks.

3.8 Design a house front to convey a human scale.

- Include horizontal elements in the design of residential buildings that help to express the height of floors and that relate visually to similar features in the block. For example, use a porch that is in scale and locate windows such they will also convey human scale.
- Articulate a building mass to create visual interest and convey a three-dimensional form. Provide vertical and horizontal wall offsets to reduce the overall scale of a building.
- Design a new residential facade to respect the traditional proportions of height to width.
- Use floor-to-floor heights that appear similar to those of traditional residential buildings.
- Consider window proportions, pairing and trim in the design.

Design a house front to convey a human scale.

3.9 A facade should reflect dimensions similar to traditional buildings in the district.

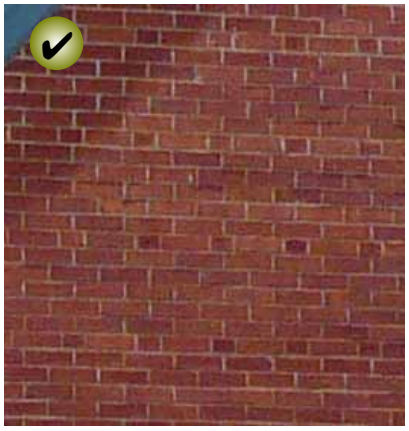
- Where permitted by the base zoning, taller structures should be located to minimize looming effects on lower scaled neighbors.
- The height of first floors should be aligned whenever possible.
- A building should step down toward any lower, adjacent historic properties.

3.10 Keep the shape and proportions of window and door openings similar to those of traditional buildings in the district.

Solid-to-Void Ratio

Most houses in the district have a similar amount of glass on street-facing walls, resulting in a relatively uniform solid-to-void ratio. On a new building this ratio should be similar to that of historic buildings within the district.

3.11 Use a ratio of solid-to-void (wall-to-window) that is similar to that found on historic buildings within the district.



Building materials should be similar in scale, color, texture and finish to those seen traditionally in the district.

Materials

Building materials in any new construction should contribute to the visual continuity of the district. They should appear similar to those seen traditionally.

3.12 Building materials should appear similar in scale, color, texture and finish to those seen traditionally in the district.

- Use wood siding with a weather-protective, painted finish, or masonry (brick, stone or genuine stucco) as the primary exterior building material (preferred approach).
- Consider using alternative materials that are similar to traditional materials in scale, proportion, texture if they have proven durability in the local climate (i.e., cementious fiber board with a smooth finish).
- Do not use highly reflective materials such as glass or polished metal as a primary building material.

3.13 Use masonry that appears similar in character to that seen traditionally.

- Use brick with a modular dimension similar to that used traditionally.
- Consider using stucco for appropriate architectural styles.

3.14 New materials that are similar in character to traditional ones may be compatible with appropriate detailing.

- Alternative materials should appear similar in scale, proportion, texture and finish to those used traditionally.
- It is appropriate to use changes in materials as an accent in building design. This can help to express individual modules or units.

New Secondary Structures

Constructing a new secondary structure is a good way to add more floor area without changing the character of a primary home. The visual impact of such work within the historic district should be minimized.

3.15 Locate a secondary structure to the rear of the lot.

- Traditionally, these are located along an alley edge.
- In areas without alleys, garages were set back, and accessed from the front.

3.16 Locate a garage such that its visual impacts will be minimized.

3.17 A detached accessory dwelling should remain subordinate, in terms of mass and scale, to the primary structure on the lot.

- If a proposed secondary building is to be wider than one lot, break up the mass into smaller modules that reflect traditional secondary structures.

Locate a new building to take advantage of microclimatic opportunities for energy conservation.

Locate secondary structures to the rear of the lot.

Use landscape designs to promote energy efficiency and water conservation.

Use exterior shading devices to manage solar gain in summer months.

Tips for Energy Efficiency in New Design

The conservation of energy is a key objective in site design, building design and orientation, and landscapes. The site design process should include an evaluation of the physical assets of the site to maximize energy efficiency and conservation in the placement and design of a building. Designs should consider seasonal changes in natural lighting and ventilation conditions.

A design should also take into account the potential effect on an adjoining property, in terms of its solar access and ability to implement the same environmental design principles. Careful consideration should be given to balancing sustainable design principles with those related to maintaining the traditional character of the area.

3.18 Locate a new building, or an addition, to take advantage of microclimatic opportunities for energy conservation.

- Orient a building to be consistent with historic development patterns, to the extent feasible.
- Consider seasonal solar and wind exposure patterns when positioning a new building on its site.

3.19 Design a building, or an addition, to take advantage of energy saving and generating opportunities.

- Design windows to maximize daylighting into interior spaces.
- Use exterior shading devices to manage solar gain in summer months.
- Energy-producing devices, including solar collectors and wind turbines, are encouraged where they also respect the character of Rapid City.

3.20 Maximize solar access for all properties.

- New development should minimize impacts to solar access on adjoining properties.
- Shading of south facing facades on adjoining properties should be minimized.

3.21 Use landscape designs to promote energy efficiency and water conservation.

- Use drought tolerant plants to reduce the need for irrigation.
- Plant trees and shrubbery to serve as windbreaks and provide seasonal shading.
- Retain existing mature landscape features that provide shade and protection from wind.
- Group deciduous trees and plants to provide summer shade and allow solar access in winter.
- Use natural storm water retention basins that also serve as amenities.
- Use efficient site lighting to minimize the amount of fixtures needed.

Design a building to allow natural daylighting to the interior.

Energy Efficiency in Building Massing

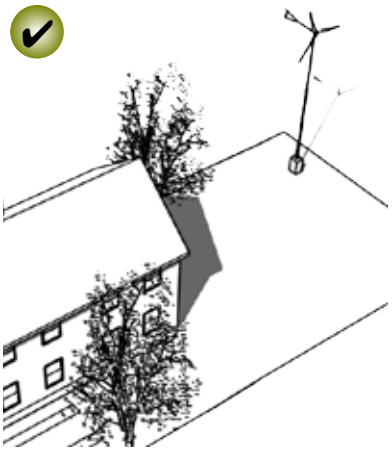
A building should be oriented to maximize the potential for natural daylighting as well as solar energy collection. In doing so, careful consideration should be given to first relating the building's mass to the historic context.

3.22 Shape a building's mass to maximize solar energy potential.

- Design a building to allow natural daylighting to the interior.
- Consider articulating wall planes as a way to provide shade or increase solar access to interiors.
- Orient roofs to accommodate solar collectors.
- Use thermal storage walls on a portion of the south facing building exposure, where appropriate.

3.23 Orient a building to maximize green principles while ensuring compatibility with adjacent, lower-scale structures.

- Positioning the taller portion of a building along a north-south axis to minimize shading on lower scale structures to the north.
- Designing a building mass to minimize shading south-facing facades of adjacent buildings during winter months.



Locating detached turbines in the rear yard where they will be minimally visible is a preferred approach.

Environmental Performance in Building Elements

The elements that make up a building, including windows, mechanical systems and materials, can significantly impact environmental performance. These should be designed to maximize the building's environmental performance, while promoting compatibility with surrounding sites and structures. New materials that improve environmental performance are appropriate if they have been proven effective in this climate.

3.24 Use green building materials whenever possible.

Such materials are:

- Locally manufactured
- Low maintenance
- Materials with long life spans
- Recycled materials

3.25 Incorporate building elements that allow for natural environmental control.

Consider the following:

- Operable windows for natural ventilation
- Low infiltration fenestration products
- Interior or exterior light shelves/solar screens above south facing windows

Solar and Wind Energy Devices

Solar and wind energy devices (i.e., solar panels, wind turbines) should be positioned to have a minimal effect on the character of the district.

3.26 Minimize the visual impacts of energy devices on the character of the district.

- Where feasible, mount equipment where it has the least visual impact.