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Chapter One
Chapter 1

Introduction

1.1 - Introduction

The City of Santa Ana’s Design Guidelines and Development Standards is the result of a comprehensive analysis of the City’s existing design and development guidance documents. The Guidelines contained within this document consolidate the City’s discretionary review documents and provide supplementary design guidance for issues not explicitly stated in the Santa Ana Municipal Code.

1.2 - Objectives

The City of Santa Ana’s Design Guidelines and Development Standards provides a comprehensive source for design guidance Citywide. The primary objectives of this document are:

- To update existing Design Guidelines and Development Standards to reflect changes in local development trends and to offer the City progressive design solutions;
- To have Design Guidelines and Development Standards that are easy to interpret, include graphics and/or photos on every page, and facilitate future expandability;
- To maximize the freedom, creativity and innovation of architectural and landscape design within the City;
- To promote a visually attractive, safe and well-planned community through the incorporation of sound design principles;
- To protect Santa Ana residents from unsafe or unsightly conditions;
- To minimize negative impacts of new development and redevelopment;
- To preserve and maximize the image, character and history of Santa Ana.

This document is intended to promote a desired level of future development quality in Santa Ana that will:

- Contribute to implementing the goals, objectives, and policies provided in the City’s General Plan,
- Stimulate investment in and strengthen the economic vitality of the City,
- Contribute to a positive physical image and identity of the City,
- Assist project proponents in being responsive to City objectives for development, and
- Provide City staff with guidelines for reviewing development proposals.
1.3 PURPOSE AND APPLICABILITY OF THE DESIGN GUIDELINES AND DEVELOPMENT STANDARDS

The way in which land is developed and buildings are built or rehabilitated influences both the overall image of the City of Santa Ana as perceived by residents, visitors and business. The Santa Ana General Plan, through its Land Use and Urban Design Elements, supports quality design throughout the community. Additionally, the City of Santa Ana relies on its Design Review process to pursue excellence in architectural and overall project design – including new development and redevelopment throughout the City.

The Guidelines will be applied to projects throughout the City. The guidelines will be used by City staff, the Development Review Committee, Historic Resources Commission and the Planning Commission in the review of proposed projects as required by the City’s General Plan and Municipal Code.

During its review of applicable projects, Santa Ana Planning staff, the Development Review Committee, Historic Resources Commission and the Planning Commission may use discretion in applying the various provisions in the Santa Ana Design Guidelines to specific projects. It is not anticipated that each guideline will apply equally to every project. In some cases, one or more guidelines may have more design significance than another. The overall objective is to ensure that the intent and spirit of the guidelines are followed and that the project respects its surroundings in terms of scale, character, and orientation.

The purpose of these Design Guidelines, therefore, is to provide comprehensive and consistent design guidance for the development and redevelopment in Santa Ana that reflects the City’s commitment to quality design. To this end, the Santa Ana Design Guidelines are organized to be user-friendly, easy to implement and well illustrated to clearly articulate the City’s overall design objectives.
Chapter Two
Chapter 2

User Guide: How to Use This Document

2.1 Introduction

The User’s Guide provides guidance for optimizing the use of the design guidelines for projects and improvements to properties within the City. The guide includes an overview of how to use the design guidelines and a summary of the Chapters contained within this document.

2.2 How to Get Started

The following process is recommended as a way to begin using these guidelines:

- **Step 1:** Read the Santa Ana Design Guidelines Introduction Chapter to understand the general goals, objectives, and purpose of this document.

- **Step 2:** The Design Guidelines are organized by development type, including the following development types:
  - Citywide Urban Design
  - Streetscape
  - Downtown Urban Design
  - Single and Two-Family Residential
  - Multiple Family Residential
  - Downtown Development
  - Commercial Development
  - Special Use Commercial/Industrial
  - Industrial Development
  - Parking Structures
  - Historic Structures
  - Signage
  - Public Art

Project proponents should consult with the appropriate Chapter of these guidelines. It should be noted that certain projects may require the use of more than one Chapter to satisfy design objectives. For example, an in-fill commercial structure located in the City’s Downtown would consult with the Commercial Design Guidelines, in addition to the Downtown Development Guidelines.
Step 3: Turn to the appropriate design guidelines Chapter(s). The majority of guidelines applicable to your project should be contained within the appropriate Chapter. However, there may be certain conditions where guidelines contained within another Chapter are also applicable to your project. Please consult with Santa Ana Planning Division staff to ensure all applicable guidelines are reviewed.

Step 4: Subsequent to completing Steps 1 through 3, stop by the Santa Ana Planning and Building Agency public counter to review your ideas, identify processes and requirements, ask questions, and discuss potential issues, solutions and approaches. The City of Santa Ana Planning Division will help you with the review and approval process.

Step 5: If you have any additional questions, please call, write, or e-mail the City of Santa Ana Planning Division at:

Phone: (714) 647-5804
Address: 20 Civic Center Plaza
Santa Ana, California
92701
E-mail: webmaster@ci.santa-ana.ca.us

2.3 ORGANIZATION

Chapter 1 - Introduction

This Chapter provides a brief introduction to the context and need for the Design Guidelines and Development Standards manual.

Chapter 2 - User Guide: How to Use This Document

This Chapter provides a brief overview of the contents of the manual and understanding of how to use the manual. A brief summary of each of the Chapters is contained in this Chapter.
Chapter 3 – (Reserved)

Chapter 4 – (Reserved)

Chapter 5 – Downtown Public Urban Design Element Guidelines

This Chapter provides design guidance within the public right-of-way for projects occurring within Santa Ana’s Downtown. Topics addressed in this Chapter include gateways, signage and intersection enhancements.

Chapter 6 – Single Family and Two Family Residential Guidelines

This Chapter contains design guidelines common to single-family and two-family residential units. Topics include site planning, architecture, neighborhood compatibility, and garage location.

Chapter 7 - Multiple Family Residential Guidelines

This Chapter contains design guidelines common to multi-family residential units. Topics include site planning, building siting, architecture, landscaping, parking and circulation, and common open space.

Chapter 8 - Downtown Development Guidelines

This Chapter provides design guidance for historic structures listed in the local Register and infill development within the Downtown area. Topics include site planning, architecture, storefronts, and other privately maintained elements.

Chapter 9 - Commercial Design Guidelines

This Chapter provides the commercial design standards, concepts that are applicable to all general commercial types in Santa Ana. Topics include site planning, architecture, landscaping, parking and circulation.
Chapter 10 - Special Use Guidelines

This Chapter addresses more specific land use types that typically involve greater design challenges. The focus will be on site organization and building design. Other, more specific guidelines will be included when appropriate.

Chapter 11 - Industrial Guidelines

The Industrial Chapter focuses on site design features and architectural guidelines. Topics covered include site planning, architecture, parking and circulation, lighting and landscaping.

Chapter 12 - Parking Structure Guidelines

This Chapter provides design guidance for parking structures. Topics addressed include site design, screening, exterior materials, circulation and landscaping.

Chapter 13 - Historical Structures Guidelines

The purpose and focus of this Chapter is to ensure the preservation of historic structures listed on the local register. Topics include preservation and rehabilitation guidelines, and guidelines for new additions.

Chapter 14 - Signage Guidelines

This Chapter encourages creative and well-designed signs that contribute positively to Santa Ana’s visual environment, expression of local character and development of a distinctive image. These guidelines avoid specifics of zoning (i.e., size, height, etc.).
Chapter 15 - Public Art Guidelines

This Chapter provides specific guidelines for the selection and installation of public artwork. Particular emphasis will be related to the review process, eligible types of artwork, art location, lighting, ownership, and maintenance.

Appendices

Appendix A – Santa Ana Architectural Styles
Appendix B – Fences
Appendix C – Secretary of the Interior’s Standards for the Treatment of Historic Properties
Appendix D – Glossary of Architectural Terms
Appendix E – Incentives for Historic Properties
Appendix F – Historic Precedents for Color
Appendix G – Resources for Historic Preservation
Chapter Four
Chapter 5

Downtown Public Urban Design Guidelines

5.1 INTRODUCTION

The urban design guidelines for Downtown Santa Ana (roughly bounded by the Civic Center to the north, First Street to the south, Mortimer Street to the east, and Ross Street to the west) focus on improvements to public spaces which include streets, sidewalks, and public open spaces. The intent is to create a unified, safe and visually striking downtown environment. The appearance of the public right-of-way contributes to community identity. Visual improvements can act as a catalyst for investment, for property owners and prospective developers.

5.2 PURPOSE

This Chapter is intended to be used as a planning tool for public projects and for developer conditions of approval. These guidelines contain concepts, graphic material, recommendations and design guidance, which can aid in the implementation of public area improvements.

This section identifies streetscape design elements, landscaping, intersection enhancements, entry treatment, public open space, right-of-way detail, and other unique public features within Downtown Santa Ana.

5.3 GENERAL DESIGN OBJECTIVES

A basic goal of the Downtown Public Urban Design Guidelines is to enhance the livability and pedestrian friendly character of the streets in the Downtown area. The major objectives of the Downtown Public Urban Design Guidelines are to:

- Provide high quality design and construction;
- Provide identity to the Downtown;
- Provide for physical comfort;
- Strengthen the spatial definition of the street through landscaping and streetscaping;
- Maintain and enhance the downtown pedestrian environment; and to
- Facilitate alternative modes of travel, including, pedestrian, bicycle, bus, light rail, and automobile.

Santa Ana’s Historic County Courthouse
A livable downtown is a main goal

5.4 PUBLIC IMPROVEMENTS

5.4.1 Public Parking Structures

Downtown Santa Ana is the most intensely developed portion of the City. To augment this urban environment, the City should aim to intensify surface parking lots wherever possible, replacing them with mixed used development that incorporates parking compatible with upcoming projects. General guidelines to achieve these desirable traits are as follows:

- Adequate lighting is necessary for the safe movement of vehicles and pedestrians and for the security of patrons and parked vehicles. Garage lighting should concentrate light on aisles and ramps, with spillover lighting often being adequate to illuminate parking stalls. Interiors should be painted with a light color to transmit light throughout the space.

- Care should be given to prevent the casting of glare and spillover lighting outside of the parking structure.

- Entrance and exiting areas of parking lots and structures should be long enough to minimize vehicle backup onto surrounding streets or within the garage. A minimum of two vehicle lengths should be provided between the street and the garage, but more is desirable.

- Emergency buzzers and telephones should be installed in easily accessible places on each level, in elevators and in stairwells.

- Directional arrows and signage indicating exits, elevators, and emergency buzzers/telephones should be clearly displayed (painted) on walls.

- To promote safety, stairs and glass-cab elevators should be located on the perimeter of parking structures to allow for visibility (Refer to Figure 5-1).

- Parking structures should have landscaping along blank walls on side streets and upper levels.
h. Land uses such as retail, office or other commercial space conducive to an urban Downtown environment should be incorporated along the ground level of structured parking street frontage (Refer to Figure 5-2).

![Figure 5-2: Parking structure with mixed-use on lower level](image)

**5.4.2 Plazas**

Plazas can be a vital component of a city’s downtown. Plazas can promote community activity by accommodating public events or they can simply function as passive open space. Plazas are envisioned to play an important role in the vitality of Santa Ana’s Downtown.

a. A plaza should have an articulated edge (buildings, benches, landscaping, etc.) where feasible, to provide visual interest and additional seating along the edges of the plaza where people may linger out of the traffic flow (Refer to Figure 5-3).

![Figure 5-3: Palm trees are an effective edge for this plaza, which also incorporates colored paving and water features](image)

b. Plaza edges that open to pedestrian through-traffic should be defined without impeding traffic flow, with a planter or low seating wall, pergola with vines, water feature or sculpture.

c. Pedestrian amenities should be provided such as seating, lighting, planters, drinking fountains, distinctive paving, art work, and bicycle racks. They should also incorporate focal points such as sculptures or water features (Refer to Figure 5-3).

d. Soft- as well as hard-surfaced areas should be incorporated into the overall plaza design. Color, form, and texture are an integral part of this.

e. Paving should be unit pavers or concrete with special texture, color, pattern and/or decorative features (Refer to Figure 5-4).
CHAPTER 5 – DOWNTOWN PUBLIC URBAN DESIGN GUIDELINES

f. Any decorative paving used in the plaza areas should complement the paving pattern and color of the pavers used in the public right-of-way.

g. Furniture and fixtures used in the plaza areas should complement those in the public right-of-way.

h. Some covered area along the perimeter of the plaza (i.e., vine-covered pergola) is strongly encouraged to provide protection from rain and/or sun (Refer to Figure 5-5).

i. Separation of active and passive uses is encouraged through placement of planters, street furniture, landscaping, different paving textures and subtle changes in ground plane.

j. Lighting height should be at a pedestrian scale. Plazas should be fully illuminated from dusk until dawn. The overall lighting in the plaza should average two footcandles, and incorporate other pedestrian-oriented lights, such as lighted bollards. Uplighting of trees and other architectural features is strongly encouraged.

5.5 PARKS/PUBLIC OPEN SPACE

Public parks and open space including parks, play areas, and sculpture gardens, are an integral part of Santa Ana’s Downtown, humanizing the urban core and fostering community interaction. Public parks and open space in Downtown Santa Ana should adhere to the following guidelines:

Pocket park in Downtown Santa Ana
a. Public spaces, should be designed, spatially defined and located to accommodate a range of desired activities, and contribute to real and perceived public safety.

b. A well-designed public space should provide ongoing opportunities for human activities that create an interactive physical environment, builds a sense of community, and contributes to livability (Refer to Figure 5-6).

5.6 GATEWAYS AND SIGNAGE

5.6.1 Gateways

Gateways provide a sense of arrival and provide a sense of the character of the community. Gateways, along with signage, can help guide motorists to their destinations. The visual design of gateways should be attractive as well as functional, conveying a ceremonious sense of entry that reflects the area’s desired image and identity. Physical elements of the entry, including roadway geometry, traffic islands, signs, archways, paving materials, and landscape planting materials, should function together to physically define the entry and establish a positive first impression. Figure 5-7 shows two downtown gateway concepts for Santa Ana.

**Figure 5-6:** Public open spaces should function as meeting places and accommodate local events

**Figure 5-7:** Conceptual Downtown Gateway sketches at First Street looking northward on Main Street (top), and Santa Ana Boulevard looking westward from Grand Avenue (bottom).
a. Gateways should be designed to announce the transition and arrival into Downtown Santa Ana. These visual features are civic in emphasis and serve to identify and promote the distinct identity of Downtown Santa Ana.

b. Gateways and entryway areas should assist and enhance the visitors’ experience when entering into Downtown Santa Ana. These features serve as landmarks and should be visible to vehicular, bicycle, and pedestrian traffic.

c. Gateways and entryways should be designed to create a high quality visual environment for the public. These sites can provide an opportunity for architectural features, monuments, public art, banners, signage, flowers, lighting features, trees, and other landscaping.

d. The design of entry and wayfinding signs should be unique to Downtown Santa Ana and should incorporate a distinctive identity.

5.6.2 Directional Street Signage

The type and purpose of signage varies throughout Downtown Santa Ana. Traffic signage is generally regulated by the traffic manual of the State Department of Transportation. Size, color, and format are standardized for warning and regulatory signs. No variation for these signs is permitted, although they should be consolidated wherever possible to minimize clutter.

Flexibility can be exercised by the City in the design of entry and guide signs since these are not regulated by the State. Entry signs should be integrated into the design of each gateway announcing arrival to Downtown Santa Ana. Guide signs include those that announce major attractions such as a museum, arts district, public parking, or any other Downtown venue. (Refer to Figure 5-8)

a. Directional street signs should be incorporated as an integral part of the Downtown. The design should complement surrounding street furnishings to help reinforce the downtown identity and character.

b. Directional street signs located within Downtown Santa Ana should be of sufficient size to be seen by motorists passing by at average speeds of 25 miles per hour.
5.7 INTERSECTION ENHANCEMENTS

Intersections in Downtown Santa Ana are where the paths of people and vehicles come together. They can be the most challenging part of negotiating a pedestrian network. If pedestrians cannot cross streets easily and safely, then mobility is severely limited, access is denied, and walking as a mode of travel is discouraged. Intersections in Downtown should aim to achieve the following primary functions:

- Make pedestrians as visible as possible;
- Make pedestrian and motorist actions as predictable as possible;
- Minimize the width of roadway that pedestrians must cross; and
- Slow vehicular traffic.

Selected intersections within Downtown Santa Ana have been identified as enhanced intersections. These intersections have been classified into two categories: Nodal Intersections and Creative Intersections. These distinctions were based on the Downtown Santa Ana Vision Plan.

The Nodal Intersections listed below are intersections that play a major role in the circulation and operation of Downtown Santa Ana.

- Along the Fourth Street retail corridor from Birch Street to French Street - These intersections set the tone for active pedestrian use, along a thriving retail corridor (Refer to Figures 5-9 and 5-10).

The Creative Intersections listed below are intersections that should infuse creativity and variety into the Downtown Core. These intersections play a major role in the circulation and operation of Downtown Santa Ana.

- Civic Center Drive and Main Street - This intersection serves as one of the main entries to the Downtown core area.

- Third Street and Main Street – This intersection is a focal point with excellent development potential.
Chapter 5 – Downtown Public Urban Design Guidelines

- **Ross Street and Santa Ana Boulevard** – This intersection is an important component of the pedestrian-scaled link between the Civic Center and the Downtown retail development.

- **Along the Sycamore Street Artists Village corridor from 2nd Street to 3rd Street** - This corridor will require special consideration and creative design treatment in order to encourage pedestrian traffic within the Downtown core and Artists Village District. These intersections encompass the District and create a linkage between Artist lofts and commercial/retail development (Refer to Figure 5-11).

![Figure 5-11: Conceptual sketch of the Artists Village with the proposed reconfiguration of the Sycamore Street – Second Street intersection](image)

The following guidelines are recommended for intersection enhancements in Santa Ana’s Downtown:

a. Where traffic signals are provided at enhanced intersection pedestrian crossings, audible signals should be incorporated for the visually impaired.

b. Curb-cut ramps for wheelchair access should be provided at each intersection crossing. Texture or finishes should be applied to the ramp to provide a visual or auditory indication of impending vehicle traffic.

c. Bricks or other unit paving material set in mortar can also be used in high-traffic areas. However, the additional expense in material and labor may limit use of these surfaces to accent areas, such as the entries to buildings.

d. Enhanced intersections should be made similar by the use of common materials and should incorporate the City’s proposed paving pattern.

e. Adequate high mast (35’-50’) street lighting should be installed at each intersection crosswalk to provide for clear nighttime visibility for both pedestrians and drivers.

f. Adequate sight lines should be maintained to give both pedestrians and drivers an unobstructed view at intersection crosswalks.

![Figure 5-12: Interesting paving patterns and colors contribute to creative intersections](image)
g. Creative Intersections should visually communicate connectivity and should be indicative of special areas or districts (Refer to Figure 5-12).

h. Creative Intersections will require special consideration and creative design treatment (Refer to Figure 5-13) in order to encourage pedestrian traffic within the Downtown core and special districts such as the Civic Island or Artists Village.

5.8 MEDIANS AND PEDESTRIAN REFUGE ISLANDS

This Section focuses on the importance of the street median and the different roles that the median serves. The median’s functional and aesthetic value is discussed.

5.8.1 Functional Elements

Medians and pedestrian refuge islands provide a visual separation between driving lanes and help direct traffic. Their primary function is safety. In order to function as safely as possible, it is important that the medians and traffic islands visually contrast with the driving lanes (as seen in Figure 5-14) particularly at night. Visual contrast may be achieved by manipulating color and materials. The following guidelines can be used to assist in color and material selection.

a. Select materials that have a strong color contrast with the pavement. Warm earth tones provide an excellent contrast to black asphalt. These colors are common in clay and concrete paving units. Avoid pavers in the gray range with blue or violet tones.

b. Choose materials and colors that can best withstand staining and fading.

c. Where medians approach pedestrian crosswalks, the medians should stop short of pedestrian crosswalk (Refer to Figure 5-15).
d. Safety islands should be even with the crossing surface and have a crosswalk surface different in color and texture to surrounding surfaces.

e. At intersections, the median width should be wide enough to accommodate a left-turn lane, while retaining enough space (approximately 4 feet) for pedestrian refuge, traffic signal infrastructure and signs.

f. With the exception of plaza areas, raised curbed medians should be constructed as opposed to mountable medians which are prone to uneven settling and can be expensive to maintain.

g. Select landscape materials for medians according to the landscape palette in Section 5.18.3 – Street Trees and Landscaping, and have particular regard for survivability and the need for consistency with landscaping on the road edge and on adjacent lands.

5.8.2 Aesthetic Elements

Medians and pedestrian refuge islands also provide an opportunity to add aesthetic quality to Downtown Santa Ana. Because they are located within the driver’s primary cone of vision they have a greater influence on the overall perception of the community. Designers should take advantage of this and seek to add architectural details that will enhance the overall appearance. This section deals specifically with the aesthetic considerations of median and traffic island design.

a. Medians can be an instrument to better define the core area of the Downtown. Medians can accommodate decorative community banners and entry signs (Refer to Figure 5-16).

b. The narrow areas of median turn lanes usually make maintenance difficult. These areas are best paved with a material that will require little maintenance and provide a sharp color contrast with the pavement.
5.9 PAVING

a. The texture and color of ground level areas is an essential visual element of the urban streetscape.

b. Special paving treatment should be used in the Artists Village District’s street intersections and medians to unify and strengthen the District’s identity.

c. The enhanced paving used in these areas should be a removable modular type “Unit Pavers” (Refer to Figure 5-17).

d. Unit pavers should have various color patterns that range from warm earth tone hues to shades of gray.

e. Paving patterns should be kept as simple as possible. Too many colors can detract from storefronts.

f. A concrete band should be used as a line of demarcation between the public right-of-way and private property. A concrete band can also be used as a transition between unit pavers and asphalt within the designated street intersections.

g. In areas where decorative unit pavers are not appropriate or too expensive, concrete surfaces may be enhanced by aggregate, scoring, broom finish or sand finish.

h. The design, materials, and colors of pedestrian areas should compliment the architectural style of the primary buildings and should make a positive contribution to the aesthetic and function of the site.

i. The use of stamped concrete, exposed aggregate, or colored concrete can and should be used to serve as a traffic calming function to promote pedestrian safety and to minimize the negative impact of large expanses of black asphalt pavement on large parking lots.

j. The function and location of a walkway will dictate the most appropriate type of paving material.

k. A consistent treatment for similar types of walkways in terms of their material and finish is important in visually defining the function of each walkway segment and the continuity of the walkway network (Refer to Figure 5-18).
CHAPTER 5 – DOWNTOWN PUBLIC URBAN DESIGN GUIDELINES

5.10 STREET FURNITURE

Street furnishings can enliven and provide variety to outdoor spaces used by the public. They serve an aesthetic and utilitarian function. Street furniture includes all items placed within the public right-of-way such as benches, bus shelters, trash receptacles, plant containers, tree grates and guards, bicycle racks, bollards, kiosks and fountains. Proper design and placement of such amenities can reinforce the historic nature of Downtown and create a lively and festive atmosphere throughout Downtown Santa Ana. The following general guidelines should be considered when selecting and siting these amenities:

a. A unified “look” is encouraged. The color and appearance of street furniture products should be selected to complement other design elements (Refer to Figure 5-19). Items should be securely anchored to the sidewalk and a graffiti-resistant coating should be applied to street furniture surfaces.

b. The design and selection of street furniture should include considerations for the security, safety, comfort and convenience of the user.
c. Street furniture should be placed to conserve existing sidewalk width and ensure free pedestrian flow (Refer to Figure 5-20).

d. The location and layout of the different elements of street furniture should ensure that each article or structure is designed and situated to be in harmony with both the surrounding furnishings and the area as a whole.

e. Where possible, furnishings should be grouped together. A greater number and type of furnishings should be provided in higher-use pedestrian traffic areas.

f. Provisions to accommodate the physically challenged should be incorporated into the design and siting of furnishings. This includes a provision for space adjacent to walkways for wheelchair and/or stroller parking.

5.11 Lighting

Street lighting can add an aesthetic value and provide safety for Downtown Santa Ana. The following guidelines encourage lighting for Downtown which:

- contributes to the safe and efficient use of each development site;
- enhances site security;
- complements and reinforces the character of the architecture and site design;
- has consistent light fixtures and illumination levels throughout Downtown;
- prevents any lighting from casting glare onto adjacent streets in such a manner as to decrease the safety of vehicular movement;
- enhances and encourages evening activities; and
- provides distinctive character and adds drama to evening experiences of Santa Ana’s vibrant core.

a. Pedestrian streetlights should be compatible in style with the other street furniture. It is recommended that the pedestrian streetlights used should be those suggested by the Santa Ana Main Street Enhancements Study.
b. Streetlight poles are one of the most important elements that establish the look and character of the street (Refer to Figure 5-21). Proper spacing of pole lamps provides an adequate level of nighttime lighting and increases safety. Pedestrian-scaled sidewalk poles are recommended for the Downtown.

d. The type and location of parking area lighting should preclude direct glare onto adjoining property, streets, or skyward.

e. The architectural style of lighting standards in a public parking lot should relate to the overall architectural design of the adjacent development.

f. Uplighting on trees and provisions for seasonal lighting are encouraged.

g. All efforts to reduce glare from street and parking area lights should be undertaken.

h. Accent lighting on architectural and landscape features are encouraged to add interest and focal points.

i. Pedestrian-scaled lighting should be required along all streets and in all public plazas and courts.

j. Pedestrian-scaled lighting fixtures should average between 16’ and 22’ in height and should have a character which complements local historic architecture.

k. Public parking area lighting should not exceed 25’ in height and should be baffled to minimize glare and spillage into the surrounding community.

c. Figure 5-22 illustrates the recommended overhead streetlight. The streetlight is a taller, auto-scale pole recommended for use in Downtown’s medians.
5.12 Benches

a. Benches on sidewalks and other right-of-ways should be made of a durable material such as concrete, painted iron, or hardwood and be designed to minimize the effects from vandalism and skateboarding.

b. Benches should be located in areas on the sidewalk and within public areas where they do not interrupt pedestrian flow (Minimum 4 feet of sidewalk space).

c. Benches should be located in areas of high pedestrian activity such as plazas, fountains, transit stops, monuments, and public art displays.

5.13 Bollards

a. Bollards should be used in areas where there may not be a clear distinction between the street and the sidewalk, such as open plazas adjacent to streets.

b. Internally illuminated bollards (Refer to Figure 5-23) are encouraged to be located in areas that will have pedestrian activity in the evening.

c. Removable bollards should be placed in certain areas where emergency access is identified.
5.14 Bus Shelters

a. New bus shelters should be installed at Downtown transit stops where no benches are currently provided. Older bus benches or shelters should be replaced with models of a uniform design and color.

b. In combination with monument markers and street poles, bus stops should be one of the major identities for the street.

c. Bus shelters should be well lit and placed to the rear of the sidewalk to enhance the security of patrons.

d. Bus stops should be as transparent as possible to increase unobstructed visibility for safety purposes. It is advisable that advertisements on the sides of bus shelters should be minimized to one side (Refer to Figure 5-24).

Figure 5-24: An example of an “open” bus shelter, providing patrons with security and protection from sun and rain

5.15 Trash Receptacles

a. Trash receptacles should be provided near each corner of every major intersection and located along streets at mid-block.

b. Trash receptacles should be located in high-activity areas, such as plazas and other public open spaces.

c. The style and color of trash receptacles should be compatible with the desired style other street furnishings in the Downtown area (Refer to Figure 5-25).

d. Freestanding trash receptacles should be bolted into the ground, have a plastic liner and removable cover.

Figure 5-25: Example of an appropriate trash receptacle for Downtown
5.16 BIKE RACKS

a. Bike racks should be provided at key activity locations, attractions, and other points of interest.

b. The recommended bicycle rack should have a stainless steel finish (Refer to Figure 5-26) to minimize maintenance and wear over time.

5.17 BANNERS

a. Banners are an effective way of advertising special events, (as shown in Figures 5-27 and 5-28), focusing attention on community activities and groups, and establishing downtown identity. Streetlight poles along major streets should be fitted with new hardware to accommodate banners each time banners are replaced.

b. Banners should be used at entryways, medians, and major streets throughout the Downtown to reinforce its identity.

c. The bottom edge of the banner should be at least 14 feet above the sidewalk to minimize vandalism.
5.18 STREE T TREES AND LANDSCAPING

5.18.1 General Guidelines

a. Appropriate street trees should be planted with tree grates on both sides of all commercial streets in the “curb zone” areas.

b. Individual planting beds, trees, and other plant materials are encouraged.

c. Tree grates are recommended for all street trees.

d. Use of trees and other plantings with special qualities (e.g., spring flowers and/or bright fall color) is strongly encouraged to unify the Downtown area with a unique character.

e. Street trees should not be placed in a manner that obstructs pedestrian movements or visually blocks storefront signage and entries (Refer to Figure 5-29).

f. Avoid planting street trees where existing/planned overhead power lines, utility lines, support structures, poles and easements exist.

g. The Fourth Street Retail Corridor has been identified by the City as a distinct character street (Refer to Figure 5-30). A special planting concept was created for Fourth Street and its intersections from Broadway to French Street. It is recommended that this planting concept should be utilized.
5.18.2 Tree Grates and Guards

a. Tree grates and tree guards should be made of cast iron, aluminum, or other metal per City standard.

b. The style and color of the tree grates and guards should be compatible to the style of other Downtown street furnishings.

c. Grate sizes should be a minimum of four feet in diameter. The grates should have an adjustable inner diameter to accommodate the trunk girth as the tree grows.

Figure 5-27: Example of metal tree grates and guards
5.18.3 Landscape Palette/ Location Matrix

The following table is a list of suggested vegetation for Santa Ana’s Downtown. The list includes various trees for street tree applications as well as varieties of shrubs and groundcover for medians and other landscaped areas. All selected species are drought-tolerant and hold up well in urban environments. Sources: City of Santa Ana Public Works Downtown Streetscape Model (2002) and Santa Ana Main Street Enhancement Study (1997).

<table>
<thead>
<tr>
<th>Image</th>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Recommended Location /O.C. Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Platanus racemosa</td>
<td>California Sycamore</td>
<td>Location: California Sycamores should be used to create a “pedestrian greenway” along Sycamore street through the Downtown. Sycamores should also be used as street trees along the Fourth Street retail corridor between clusters of California Palms which will be located at intersections. (See Fourth Street Planting Concept below) Spacing: 40-60’ O.C.</td>
</tr>
<tr>
<td></td>
<td>Arecastrum romanoffianum</td>
<td>Queen Palm</td>
<td>Spacing: Existing and infill/ 20’. Cluster at 15’ O.C.; space groups of three at 45’ O.C.</td>
</tr>
<tr>
<td></td>
<td>Pyrus kawakamii</td>
<td>Evergreen Pear</td>
<td>Location: Use in medians Spacing: 40’ O.C.</td>
</tr>
<tr>
<td>Image</td>
<td>Scientific Name</td>
<td>Common Name</td>
<td>Recommended Location /O.C. Spacing</td>
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<tr>
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</tr>
<tr>
<td>Lagerstroemia crape myrtle</td>
<td>Crepe Myrtle</td>
<td>Location: Use in medians and large planters&lt;br&gt;Spacing: 25’-40’ O.C.</td>
<td></td>
</tr>
<tr>
<td>Dietes vegeta</td>
<td>Fortnight lily</td>
<td>Location: Use in medians&lt;br&gt;Spacing: 5 gal @18” O.C.</td>
<td></td>
</tr>
<tr>
<td>Agave victoriae-reginae</td>
<td>Century Plant</td>
<td>Location: Use in medians</td>
<td></td>
</tr>
<tr>
<td>Lavandula angustifolia</td>
<td>English Lavender</td>
<td>Location: Use in medians and large planters</td>
<td></td>
</tr>
<tr>
<td>Image</td>
<td>Scientific Name</td>
<td>Common Name</td>
<td>Recommended Location /O.C. Spacing</td>
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</tr>
<tr>
<td><img src="https://via.placeholder.com/150" alt="Image" /></td>
<td>Rosmarinus officinalis</td>
<td>Rosemary</td>
<td>Location: Use in medians and large planters</td>
</tr>
<tr>
<td><img src="https://via.placeholder.com/150" alt="Image" /></td>
<td>Grevillea 'Noellii'</td>
<td>Grevillea</td>
<td>Location: Use in medians and large planters</td>
</tr>
<tr>
<td><img src="https://via.placeholder.com/150" alt="Image" /></td>
<td>Strelitzia reginae</td>
<td>Bird of Paradise</td>
<td>Location: Use in planters Spacing: 5 gal @18” O.C.</td>
</tr>
<tr>
<td><img src="https://via.placeholder.com/150" alt="Image" /></td>
<td>Limonium perezii</td>
<td>Sea Lavender</td>
<td>Location: Use in medians</td>
</tr>
</tbody>
</table>
### PLANT PALETTE/LOCATION MATRIX

<table>
<thead>
<tr>
<th>Image</th>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Recommended Location / O.C. Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Aloe barberae" /></td>
<td>Aloe barberae</td>
<td>Tree Aloe</td>
<td>Location: Use in medians</td>
</tr>
</tbody>
</table>
Chapter 6

Single Family and Two-Family Residential Guidelines

6.1 INTRODUCTION

The Single-Family and Two-Family Residential Design Guidelines are intended to assist designers and property owners in understanding and implementing the City's goals for attaining high quality residential development.

The guidelines in this Chapter provide residential development guidance for additions, remodels and new projects on infill sites and second dwelling units.

For ease of use, the term single family shall mean single structure and may include two-family structures.

All single-family detached and two-family attached residential development are subject to compliance with the City of Santa Ana Municipal Code and other applicable codes, policies and ordinances while also incorporating the Design Guidelines contained herein.

6.2 GENERAL DESIGN OBJECTIVES

The objectives of these guidelines are to encourage well designed development that:

- preserves the defining visual characteristics of the neighborhoods,
- encourages efficient floor plan design that discourages illegal dwelling units,
- attains the best possible design that embodies the quality and character desired for Santa Ana,
- fosters sensitivity towards existing structures on the site,
- encourages a variety of design types,
- acknowledges the relationship to adjacent uses,
- promotes pedestrian safety and activity,
- provides adequate open space, and
- Identifies and preserves the authentic historic fabric of building(s).

Figure 6-1: Residential development should feature quality design
Site planning guidelines address compatibility, siting of buildings or additions, orientation and the relationship with adjacent development. The city’s zoning code must always be consulted as the first step of any site design.

a. The arrangement of buildings, additions and open space should incorporate existing physical site features. Avoid extensive modifications to existing features through grading, removal of mature trees or natural features, such as rock outcroppings, streams, etc.

b. The physical proportion of the project should be appropriate in relation to the lot size.

c. The scale and mass of new infill buildings and additions should be compatible with adjacent surrounding properties and/or neighborhood (Refer to Figures 6-3a and 6-3b).

d. Residential uses should be buffered from adjacent uses that may be incompatible. Intensified landscaping, increased setbacks and appropriate building orientation should be utilized as a means of providing adequate separation and buffering between incompatible land uses.
e. Building design should utilize design features such as exterior materials (siding, stone, brick) porches, windows, detached garages, orientation or other elements that are compatible with surrounding development.

f. The orientation of structures and the positioning of site elements such as entries and driveways should complement the existing development pattern.

g. Whenever possible, single-story additions should be placed to the side or rear of the property and carefully placed to minimize changes in the existing appearance of the house from the street.

h. Infill residential development and additions should respect existing onsite relationships of adjacent development, including prevailing setbacks, garage placement, and the existence of porches and entry covers (Refer to Figure 6-4).

i. The style of residential projects should be compatible with the surrounding neighborhood in terms of building mass, form, color, materials, fenestration, roofline and should reflect the predominant architectural style of the neighborhood (Refer to Figure 6-8).

6.3.1 New Residential Communities

a. Staggering of setbacks and building massing is encouraged. Variable setbacks and building massing establish a visually interesting streetscape and avoids monotony (Refer to Figures 6-5).

b. Vary the distance between adjacent homes to create a variety of types/sizes of yards.

c. Location of garages and driveways should maximize the street parking opportunities.

d. Vary driveway and garage locations to add variety to the street scene and diminish the visual impact of garage doors along street frontages (Refer to Figure 6-6).
e. Locating the garage back behind the front facade of the house or locating the garage to the rear of the residence is encouraged. If the garage door faces the street, it should be setback from the face of the house. Avoid garages being the dominant architectural feature facing the street (Refer to Figure 6-7).

f. Detached rear-loaded garages, side loaded-garages, and alley-loaded garages (where alleys exist) should be considered as a means of diminishing the visual impact of garage doors along street frontages.

g. Garage design should maximize the use of alleyways when they exist to reduce facade curb cuts at the residential frontages.

h. Alley loaded garages should be designed in a manner that ensures security. Avoid locating of windows directly adjacent on the alleyway frontage.

6.4 Architectural Guidelines

This section provides general architectural design guidance associated with the design and development of new single-family dwellings, additions and second dwelling units. Please refer to Appendix A for additional information on the defining architectural characteristics of Santa Ana architectural styles.
6.4.1 Scale and Mass

a. The overall design of buildings and additions should be compatible with the scale and mass of surrounding properties and complement the existing streetscape character (Refer to Figure 6-8a and 6-8b).

b. Architectural elements should be designed to eliminate the appearance of box-like buildings. (Refer to Figure 6-9)

c. The scale and mass of two story buildings and additions should be reduced by stepping down the building height toward the street and adjacent smaller structures. A single story element can encourage the transition (Refer to Figure 6-10a).
d. Architectural design that facilitates a transition from single- to two-story through varied roof articulation is encouraged (Refer to Figure 6-10a and 6-10b).

e. A stepback to the upper story of a building should always be provided. A minimum 10-foot front elevation stepback is appropriate when proposing a two-story building in a primarily single-story neighborhood, while a minimum 5-foot front elevation stepback should be provided under all other conditions. A minimum 5-foot side elevation stepback should also be provided in order to preserve privacy and reduce the massing of two-story buildings. (Refer to Figure 6-11).

f. All stepback areas must be open to the sky, and not roofed to provide an effective transition and reduce the mass of two-story buildings.

g. When the front facade has an offset of more than 20 feet, it may be appropriate to reduce the second floor stepback on the portion of the building farthest from the front lot line to 5 feet. When a side facade has an offset of more than 20 feet, it may be appropriate to eliminate the second floor stepback on the portion of the building farthest from the side lot line.
h. The design of a proposed addition should follow the general scale, proportion, massing, and detailing of the original structure and should not eliminate or distract from significant architectural features, materials, or finishes (Refer to Figure 6-12).

Figure 6-12: Second story addition should match scale and mass of existing building

i. Two story buildings and second story additions need to be architecturally integrated into the first story building massing. Avoid second stories that are architecturally independent of the first story (Refer to Figure 6-13).

Figure 6-13: Addition is architecturally independent of existing building

j. When designing a second story to an existing single story building, special consideration should be given to the location and proportion of the addition to ensure that the addition is architecturally integrated to the existing building (Refer to Figure 6-14a and 6-14b).

Figure 6-14a: Addition is not in proportion to the scale of the original building

Figure 6-14b: Addition is not in proportion to the scale of the original building

k. To maintain a sense of balance and proportion, second stories should not exceed two-thirds of the size of the first floor.
l. Avoid creating a two-story structure that may directly overlook into neighboring properties. Offset the location of windows to avoid direct view.

m. Privacy of adjacent uses should be considered in the scale and massing of structures. A minimum 5-foot side yard stepback or increasing the side or rear yard beyond the minimum requirement can help preserve privacy.

n. Utilize architectural details and materials to reduce the scale and mass of structures (Refer to Figure 6-15).

Figure 6-15: Use architectural details to reduce scale and mass
6.4.2 Roof Articulation

a. Roofs should be given design consideration and treatment equal to the rest of the building’s exterior. Roof designs are encouraged to be compatible with the existing neighborhood character (Refer to Figure 6-16).

b. The use of traditional roof forms such as gables, hips and dormers are encouraged. The use of foreign residential roof forms, such as geodesic domes, A-frames and flat roofs are inappropriate (Refer to Figure 6-17).

c. Articulate roof to reduce horizontal and vertical mass and scale. Avoid long ridges, except when it is a defining feature of the style.

d. Roof elements and design features including, but not limited to pitch, slope, materials, roof type, eaves, dormers, fascia boards should be consistent on all elevations of the building, including those that are not visible from the public right-of-way.
Figure 6-17: Examples of appropriate and inappropriate roof forms
e. The roof style, pitch, materials and other roof design features on an addition should match that of the existing structure (Refer to Figure 6-18).

f. Roof materials, colors and patterns should be consistent with the architectural style of the building. This is especially important when the material, color and pattern are a defining architectural characteristic of the style. For example, a red, barrel tile roof is consistent with Spanish and other Mediterranean revival styles, while slate and wood shingles are traditional materials for Craftsman, Prairie, Tudor, and Victorian styles homes (Refer to Figures 6-19a and 6-19b).

g. When flat roof are appropriate, such as Spanish style, decorative tile coping or cornices are required.

6.4.3 Architectural Imagery

a. The transition of public and private spaces between the street and the building is an important residential neighborhood characteristic. Main entries and elevations should provide a visual connection to the public sidewalk. Primary entrances should face the street with a connecting walkway to the public sidewalk (Refer to Figure 6-20).
b. The home’s main entry should be its focal point. Include the use of properly-scaled special roof elements, columns, porticos, recesses, pop-outs, or other architectural features.

c. Front porches are encouraged to create a positive interface with the semi-public front yard areas (Refer to Figure 6-21).

d. Architectural elements such as windows, doors, cornices, etc. should create a rhythmic composition, taking into consideration scale, style, and proportion of architectural elements.

e. Doors, windows and other openings should be located to present a balanced appearance to the elevation. Oversized elements should be avoided.

f. Each elevation should be consistent in form, materials and type of ornamentation.

g. All elevations should have the same level of detail and ornamentation.

h. The ratio of solids to voids should be balanced on all exterior walls. Voids can be doors and windows, but also niches, recesses and vents. To visually enlarge voids, window trim, shutters and wall recesses can be added (Refer to Figure 6-22).
i. Plain, blank exterior walls should be avoided. Offsets of wall planes, varied textures, openings, recesses, and design accents are strongly encouraged to add visual interest. The use of niches, wall trim, and ornamental accents is strongly encouraged (Refer to Figures 6-23a and 6-23b).

![Figure 6-23a: Avoid blank exterior walls](image)

![Figure 6-23b: Exterior architectural details are strongly encouraged](image)

j. Additions should incorporate the distinctive design features of the original house such as:

- Window size, shape, rhythm, type, material and method of operation;
- Exterior materials;
- Roof style, pitch, material and roof elements;
- Finished floor height;
- Color; and
- Trim and decoration
(Refer to Figure 6-24).

k. Additions should preserve significant architectural features, details, and materials of the existing building.
6.4.4 Porches

a. Porch design should establish a strong connection between the building facade and the streetscape.

b. Porches should be architecturally integrated into the existing design of the structure. Avoid incompatible materials or design elements.

c. Porch elements such as columns should provide enough mass and scale to appear they are supporting roof elements of a porch. Avoid columns that appear thin or weak (Refer to Figure 6-26).

d. Porches should have a minimum depth of five feet.

e. Do not enclose existing porches if it is a defining feature of the building (Refer to Figures 6-27a and 6-27b).
**6.4.5 Exterior Materials and Colors**

The choice and mix of materials on residential structures is important. Materials should be high quality, consistently applied and should be chosen to complement other materials. Piecemeal additions and frequent changes in materials should be avoided (Refer to Figure 6-28).
Figure 6-28: Avoid piecemeal additions and architectural features that do not complement the original style of the building.
a. Inappropriate materials for exterior applications include:

- Plastics/Plastic Laminates
- Rolled roofing/rock
- Corrugated fiberglass, metal or plastic
- Rock Veneers using low-quality manufactured or imitation rock
- Plywood or similar
- Highly reflective materials
- Unfinished concrete
- Unfinished metal, aluminum or similar material

b. Exterior materials and architectural details should complement each other. Avoid introducing elements that are not complementary (Refer to Figure 6-29).

[Figure 6-29: Avoid introducing materials that are not complementary to the building style. Red roof tiles are not complementary with cottage style.]

c. The architectural features of a single building should be stylistically consistent. For example, “Spanish” detail is consistent with smooth, hand-troweled plaster (stucco) with mission tile roofs. Colonial style should have Colonial trims, while a Craftsman Style home should have Craftsman style trims. See Appendix A for typical features of common architectural styles in Santa Ana (Refer to Figure 6-30).

[Figure 6-30: Architectural details should be consistent with building style]

d. Exposed gutters and downspouts, unless designed as a significant architectural feature of the overall theme, should be colored to match fascia or wall material.

e. Siding material should be of high quality, durable construction. Wood is the preferred material for siding.

f. Avoid replacement of existing siding material with stucco or other materials that are inconsistent with the existing style and design of the structure.

g. When rehabilitation or replacement of wood siding may be cost prohibitive, appropriate replacement materials may be considered, such as high quality vinyl or metal. However note that the cost of material and installation of these alternatives are only approximately 13% less expensive than authentic wood siding. Accordingly, the City strongly
encourages the use of authentic wood siding for replacement/repair purposes (Refer to Figure 6-31).

h. When replacing wood siding with alternative materials, the new material should have the same dimension, profiles, textures and colors that mimic the original wood siding.

i. Colors and materials should be durable and not readily deteriorate with exposure to the elements.

j. Colors should be harmonious and compatible with the neighborhood. Avoid highly contrasting materials.

k. Colors should be non-reflective. The use of bright, primary colors is discouraged.

6.4.6 Windows

a. In addition to ventilation, illumination and egress, windows provide interest and character to a building (Refer to Figure 6-32). The window arrangement on an elevation, its configuration, size and detailing, such as muntins, Mullions, molding and exterior trim, needs to complement the architectural style and other architectural elements of the house. Avoid window details that are not consistent with the architecture of the entire building.

b. Window sizes need to be proportional to the wall size and to the architectural style.
c. Windows are to be treated with the same level of design and detailing as other elements (Refer to Figure 6-33).

d. When proposing an addition or replacing windows, the existing window pane pattern, rhythm, style, proportion of solid to void, method of operation, sash frame width, etc. should be maintained. Materials for new windows may be different but must resemble the original design.

e. Windows that are simple in form are encouraged. Avoid window shapes that are not complementary along any wall plane (Refer to Figure 6-34).

f. A window’s method of operation should complement the window shape and architectural style of the house. For example, long and narrow windows should operate as single or double hung (Refer to Figure 6-35).
g. When window repairs, additions or change-outs are made, the entire elevation should be reviewed for consistency. The elevation should match either by replacement with windows that match others existing on the elevation or by changing out all windows on that elevation to match (Refer to Figure 6-36).

- When two or more elevations are viewable from the public right-of-way, then those elevations need to be consistent in terms of window style, material and exterior trim (Refer to Figure 6-37).

- Special exceptions can be made for specialty windows, such as bay windows, or to preserve the architectural fabric of a structure.

h. The use of exterior window trim, shutters, or any other architectural element that aids with the transition between a wall and a window is highly desirable and encouraged. When repairing or replacing windows the exterior window trim needs to be preserved (Refer to Figure 6-37).

i. Window treatments, such as muntins, mullions, molding or other elements should complement the architecture of the building. Exterior window treatments should possess the same level of design character as other elements.

j. A balanced and consistent placement of windows on the elevations is required. The existing rhythm of the window placement (such as windows always placed in 2’s or 3’s) should be maintained on additions or when replacing windows (Refer to Figure 6-37).

6.4.7 Doors

a. Doors should complement the architecture of the entire structure. Avoid the use of inappropriate styles.
6.5 INTERNAL CIRCULATION

a. The overall internal circulation of a home should eliminate access conflicts. During the design stage, project proponents should carefully consider the internal circulation of a house, especially when proposing additions. Ease of access to all rooms within the house and alternative routes during an emergency should be considered.

b. Second floors should be accessed from centrally located interior stairs linking circulation paths on each level.

c. Exterior stairs are inappropriate as they are detrimental to the neighborhood by creating a multi-family image. Exterior stairs may be conducive to the creation of illegal dwelling units and are thus prohibited.

d. When designing additions, proposed bedrooms should be adjacent (vertically and/or horizontally) to existing bedrooms and clearly connected to them via common corridors; while proposed common living areas, such as family, living, dining, etc. should be located adjacent (vertically and/or horizontally) to existing common living areas in the existing house.

e. The size of the common living areas of a home, such as living rooms, dining areas, kitchen, family room, etc, needs to be in proportion to the number of bedrooms provided in a home to properly accommodate the occupants. The area occupied by the common living areas needs to be roughly equal or larger to the area occupied by the bedrooms.
f. Designs that are conducive to the transitioning into uses beyond single family homes are not allowed. The presence of more than two master suites, or homes with more than five bedrooms are features that may facilitate this transition.

g. Designs that are conducive to creating additional units on a single lot are not allowed. The presence of any of the following features may be considered conducive to the creation of additional units:

- Lack of overall functional integrity between the proposed room addition and the existing structure. For example, separate bedroom wings in a home, or proposed bedrooms separated from the existing by room for other uses like laundry, kitchens, family rooms, halls, foyers, entrances, etc.

- Awkward circulation patterns between the addition and the existing unit that enable the separation of the existing structure and the room addition.

- Corridors or openings less than four feet wide connecting the existing structure to the new addition that may be closed by a simple door and jamb.

- Pocket areas or room with no specific use, which may function as a break between the existing and the addition that interrupt the relationship of the spaces in a structure.

- Direct access to the new room addition, independent from the existing structure, connected to a corridor serving only the addition.

- Excessive number of exterior doors. Especially 3-ft. width doors in addition to the front entrance and a backyard door.

- Plumbing in a family room or elsewhere other than bathrooms, kitchens or laundry rooms.


- Multiple living rooms and/or plumbing and laundry facilities not integrated into the functional layout of the structure, frequently located so as to function as a shared facility in a fashion often found in multi-family setups.
- Additional parking or garages exceeding the requirements for the permitted use.
- Staircases that have landings near or at an exterior wall, adjacent to an exterior door or window, or at a hall or foyer that are easily enclosable.
- Plumbing facilities on the upper floors other than bathrooms directly adjacent to bedrooms.
- Two-story additions that include an independent entrance, and family, den or living rooms in the lower level and bedrooms and bathrooms on the upper floors.
- Plumbing in accessory structures.
- Designs that facilitate independent access from the exterior, such as corridors adjacent to an exterior wall that lead directly to bedrooms, especially when multiple 3-foot wide doors are provided to the exterior.

h. All homes should provide washer and dryer facilities which should be within the footprint of the main house and accessed through the interior of the house. Laundry facilities should be in an enclosed room and may not be located on the exterior of buildings.

6.6 ACCESSORY STRUCTURES AND SECOND DWELLING UNITS

Accessory structures and second dwelling units need to complement the overall architectural features of the primary structure on a site.

a. A new accessory structure, such as a garage or garden shed, or a second dwelling unit should be architecturally

Figure 6-42: Laundry facilities should be fully enclosed and provide direct access from the interior of a structure
compatible by incorporating key character-defining elements of the main building. Some of the key elements to consider include:

- Roof pitch and style;
- Building proportions;
- Exterior materials, such as siding and roofing;
- Door and window style; and
- Color

b. Locate accessory structures in the rear of the property out of view from the street.

c. Whenever possible, second dwelling units should be in the rear of the property out of view from the street.

6.6.1 Garages

a. For proper functioning, 2-car garages must have 20-foot x 20-foot interior clear dimensions.

b. Oversized garages and detached garages with plumbing are not allowed, as they are conducive to the creation of illegal dwelling units.

c. A minimum 4-foot clearance is needed when laundry facilities, water heaters or mechanical systems are placed within an attached garage.

d. Detached garages should be appropriate in scale and architecturally compatible with the primary residential structure.

e. The required minimum depth of the unobstructed approach to the detached garage is dependant upon the encroachment into the line of direct access to the parking space. See Figure 6-44 for dimensions.

6.6.2 Porte-Cocheres

a. Porte-Cocheres should be architecturally integrated to the main house, with details that mirror the level of ornamentation found on the main house.
b. Porte-cochere should be attached to the main house and located on the driveway that leads to a detached garage.

6.6.3 Patios – General Guidelines

Patios can be defined as enclosed, covered and uncovered and are located in the rear yard. The following guidelines address the three primary patio types.

a. Solid roof components should match the main structure in color.

b. Avoid elements that do not complement the architecture of the primary residence.

6.6.3.1 Enclosed Patios Covers

Enclosed patio covers shall be used only for recreational outdoor living purposes. Enclosed patio covers shall not be used as a carport, garage, storage, or habitable room.

a. Enclosed patio covers are required to maintain the same yard setbacks as the required setback for the primary structure on the site.

b. Enclosed patio cover square footage may not count toward open space requirements. Minimum open space requirements should be maintained.

c. Enclosed patio covers should not exceed 12 feet in height.

d. Roof may be flat.

6.6.3.2 Covered Patios

Covered patios are considered unenclosed and provide a solid or open-frame roof (and do not meet enclosed patio cover standards).

a. Covered patios may count toward open space requirements.

b. Covered patios shall maintain 10-foot minimum rear yard setback.

c. Covered patio roofs may be “flat.”

d. Covered patios should not exceed 12 feet in height.
CHAPTER 6 – SINGLE-FAMILY RESIDENTIAL GUIDELINES (ONE- AND TWO-FAMILY UNITS)

6.6.3.3 Uncovered Patio

Uncovered patios are considered unenclosed, non-roofed and open.

a. Uncovered patios may count towards open space requirement.

6.7 MECHANICAL EQUIPMENT, WATER HEATERS AND OTHER APPURTEANCES

a. All conduit, piping, cabling, junction boxes and other appurtenances should be underground, within the wall cavity, and not exposed to the exterior.

b. Mechanical equipment such as air-conditioning units, utility meters, transformers, satellite dishes, etc. should be screened and not visible from the street. Equipment must be fully screened with an architecturally compatible screen.
c. Mechanical equipment such as air-condition units, utility meters, transformers, water heaters, satellite dishes, etc. may not be located on the front elevation.

d. On new homes or when additions are proposed, water heaters should be located within a building’s footprint.

e. Water heater enclosures are discouraged. When used, enclosures should be architecturally compatible with the primary structure and fully enclosed.

f. Solar panels should not directly face to the street and should be installed in recesses into the roof structure, whenever possible. Solar panels should be fully integrated into the roof structure.

g. When possible, consider the installation of solar panels on accessory structures, patios or ground mounted in the rear yard, away from public view.

6.8 OPEN SPACE AND LANDSCAPE DESIGN GUIDELINES

a. To preserve the quality of life and privacy in single-family dwellings, a minimum of 1,200 square feet of usable, continuous, non-front yard open space should be provided.

b. The area to be counted towards satisfying the open space requirement includes the rear yard and any other contiguous open space area that:
   - Is immediately adjacent to the required rear yard;
   - Measures at least 15 feet in any direction;
   - Is a landscaped area or open patio.

c. Areas with driveways, enclosed patios, etc. shall not be counted except that on detached garages up to 200 square feet of driveway adjacent to the garage may be counted towards usable open space.

d. Landscaping should be used to frame, soften and enhance the quality of residential environment and to buffer residential structures from noise or undesirable views.

e. Provide landscaping in all areas other than approved driveways and walkways within the front yards of single-family detached house lots. This landscaping should include trees and/or shrubs as well as groundcover. The use of concrete, pavement or other hardscape is not allowed other than in driveways and walkways.
f. The use of drought-tolerant trees, shrubs and groundcovers is encouraged. Drought-tolerant vegetation is acclimated to the weather and soil conditions of the area and, therefore, has a higher transplant success rate and requires less maintenance.

g. All right-of-way landscaping should utilize low-water-use plant material whenever feasible with an emphasis on ease of maintenance.

h. Parkways in residential areas are the responsibility of the property owner. These areas are to be landscaped with lawn or groundcover in addition to street trees. Cement, decorative rock, pressed concrete, brick or other non-landscape materials may be allowed if they are an integral part of the overall landscape design. These materials can only be used in conjunction with plant materials.

6.9  FENCES

Fences of appropriate materials and design can do much to contribute to the neighborhoods. The guidelines below are intended to supplement the regulations identified in the City of Santa Ana’s Zoning Code. Appendix B describes fence types appropriate for many of the architectural styles existing in the City.

a. Fences should be designed to complement the architectural style and character of the main dwelling unit and the neighborhood. Fences of wood, natural stone/wood, iron, brick and stucco are appropriate materials.

b. Fences should be kept as low as possible and meet City code requirements while still performing their intended decorative or screening functions.

c. The design of gates should match the fence pattern, design and materials (Refer to Figures 6-52a and 6-52b).
d. Walls should not run more than 50 feet without a change in wall plane. Use of pilasters and planters are encouraged.

e. Front yard fences in an exaggerated design or with a fortressing look are inappropriate.

Figure 6-53: Example of inappropriate fence

6.10 DRIVEWAYS

Figures 6-54a through 6-54f provide graphic representations of the requirements for various driveway, access and circulation configurations for residential development, including:

- Corner lot garage attached or detached facing a side street;
- Interior lot detached garage facing an alley;
- Interior lot circular driveway;
- Interior lot attached garage not facing a street;
- Interior lot porte-cochere with garage;
- Interior lot detached garage facing a street; and,

a. Adequate space should be provided between two adjacent driveways. Driveways should be far enough apart to allow planting and growth of landscaping materials to minimize the appearance as a single driveway.

b. Driveways should be located as far as possible from street intersections to reduce potential vehicular conflicts.

c. Driveways requiring vehicles to back out onto arterial streets are discouraged.
Figure 6-54a: Examples of parking, access and circulation configurations
Figure 6-54b: Examples of parking, access and circulation configurations
Figure 6-54c: Examples of parking, access and circulation configurations
INTERIOR LOT ATTACHED GARAGE NOT FACING STREET

Figure 6-54d: Examples of parking, access and circulation configurations
INTERIOR LOT PORTE-COCHERE WITH GARAGE

property line

property line

rear yard

reversal

property line

property line

(Interior Dimensions)

front yard

sidewalk

parkway

street

porte cochere (covered access)
1) within 3-feet of property line, no unprotected openings are permitted per CBC
2) supports and structure must architecturally match the house
3) Compliance with parking regulations shall be provided prior to approval
4) 10-feet minimum clearance for access shall be maintained

Figure 6-54e: Examples of parking, access and circulation configurations
Figure 6-54f: Examples of parking, access and circulation configurations
d. For single-family residential and two-family residential property, if there is no existing curbcut and driveway, a new curbcut and driveway may be permitted, provided it leads to a new two-car garage.

e. For existing curbcuts that are nonconforming (they do not lead to a legal parking area or a garage which never existed or was demolished under permit), removal of the cut is not required in conjunction with the approval of a room addition or expansion.

- New curbcuts are required to lead to a legal parking area.

- If a garage was demolished without benefit of permit, the curbcut will have to be removed in conjunction with a room addition or expansion.

f. Walkways leading to the primary entry of a residence should not be combined with required driveways. Landscape strips, planters, or other softscape materials should be used to separate driveways from walkways. Maximum width for walkways should be four feet (Refer to Figure 6-55).
Figure 6-55: Illustrations of appropriate residential driveways and walkways
g. Side and front yards should not include paved driveways.

h. Driveways should be paved with not less than 4" of Portland cement concrete.

6.11 CIRCULATION, PARKING, ACCESS, SIDEWALKS AND WALKWAYS

Circulation, parking and access guidelines are designed to eliminate parking and circulation conflicts and ensure that entries and exits to the property be located to minimize any interference with the flow of street traffic and maximize efficiency of on-site circulation.

a. Proposed circulation systems should respect the hierarchy of street classifications. New project streets should connect with adjacent existing public streets to form a continuous neighborhood network.

b. Streets that run generally east and west are encouraged because they maximize the number of lots with boundaries running north and south, thereby increasing the likelihood and desirability of houses sited with solar access to the south.

c. Parking is not permitted in a public alley per the Vehicle code or within 12 feet of the alley centerline. Parking adjacent to a public alley must comply with Figure 6-57 on the following page.

d. Alley access approval is the responsibility of Santa Ana’s Public Works Agency. Generally, alley access is permitted by Public Works except under the following conditions:
   - The use is inconsistent with the neighborhood,
   - The alley is the primary site access,
   - The access is “through” to the adjacent public street, and;
   - The alley is substandard in width or improvements.

6.11.1 Sidewalks and Walkways

a. Public sidewalks should be designed for the ease and convenience of residents and visitors. At a minimum, sidewalks should be 5 feet in width and be separated from streets by a parkway or planting strip of a minimum of 4 feet 6 inches.
b. Sidewalks should be provided on both sides of collector, local, subdivision and cul-de-sac streets.

c. Walkways should lead directly into the residence and should minimize intrusions in required yards. Such walkways should be a maximum of 4 feet in width.

6.12 NEIGHBORHOOD ENTRIES

This section provides design guidance for neighborhood entries. Neighborhood entry guidelines seek to establish identity, provide distinguished features appropriate to a neighborhood and establish a unifying element for neighborhoods. The following guidelines apply to neighborhood entries in single-family residential development.

a. Neighborhood entries in Santa Ana are encouraged to provide distinguished entry design features such as monument signs, markers, ornamental landscaping, open space areas, and enhanced paving.

b. Entry features should be designed as integrated elements of the overall development, not as afterthoughts.

c. Low groundcovers should be used at entrances to maintain proper visibility. For safe viewing at all intersections, a sight-line triangle with minimum 25-foot clear sightline should be maintained.

d. Limit the height for structures and other visual obstructions to 30 inches with the 25-foot sightline triangle area. Trees must be trimmed with 7 feet clearance from canopy to top of sidewalk.
6.13 Walls

Walls provide security and privacy in addition to screening unsightly views. Walls can be utilized with landscaping to enhance and buffer the appearance of development. The following guidelines apply to walls and fences in single-family residential development.

a. The height of specialty walls should be minimized.

b. Walls should be architecturally enhanced and utilize materials such as decorative masonry, wrought iron, or a combination thereof. Tiered planting should be used to soften the appearance of perimeter walls.

c. Walls should not run more than 50 feet without a change in wall plane. Use of pilasters and planters are encouraged (Refer to Figure 6-62).

d. Perimeter walls for residential tract development should maintain a minimum of 5-foot setback from the streetside property line.

e. Walls should be designed in such a manner as to create an attractive appearance to the street and to complement the style and character of the homes and the neighborhood.
6.14 **COMMON OPEN SPACE**

a. Each neighborhood should incorporate passive and active open spaces such as tot-lots, playgrounds, small parks, playing fields, and/or public squares. Some of these open space areas may be integrated with community facilities, schools, and larger regional parks.

b. Open space should be located within a walkable distance from all residential structures.

c. Natural amenities such as existing mature trees, views, and topographic features should be preserved and integrated into the design of open spaces.
6.15 LIGHTING

Lighting levels should vary depending on the specific use and site conditions. The overall consideration should be to provide lighting levels sufficient for safety. Lighting should illuminate steps and other grade changes and enable the unlocking of doors or identification of visitors. Lighting should also minimize opportunities for theft and vandalism.

a. Lighting should be designed to shine downward and eliminate skyward glare. Lighting should be arranged to prevent direct glare into adjacent dwelling units and onto neighboring uses/properties.

b. Street lighting should be installed on both sides of the street no less than 150 feet apart.

c. Pedestrian-scaled lighting should be located along all pedestrian routes of travel.

d. All lighting in parking areas and alleyways shall be arranged to prevent direct glare of illumination onto adjacent units.

e. Consideration should be taken in selecting the type of bulb used for streetlights to ensure consistency with existing fixtures and lighting standards.
Chapter Seven
Chapter 7

Multiple Family Residential Guidelines

7.1 INTRODUCTION AND PURPOSE

The multi-family design guidelines are intended to foster quality developments and to provide a pleasant residential environment within the context of higher density.

Multi-family buildings in Santa Ana should contribute to the sense of community by carefully relating to the scale and form of adjacent properties, and by designing street frontages that create architectural and landscape interest for the pedestrian and neighboring residents. As defined for purposes of this section, multi-family includes all “attached” dwelling units. Cluster townhomes, and attached courthomes are considered multi-family units. Apartment complexes are also included as multi-family.

7.2 GENERAL DESIGN OBJECTIVES

The design guidelines for multi-family developments are based on the following objectives.

- Establish multi-family residential architectural designs that complement various neighborhood characteristics and that support high quality development.
- Provide attractive, functional, and convenient site arrangements.
- Identify landscape materials and designs that enhance the appearance of multi-family housing developments and contribute to the overall quality of the community.
- Provide for amenities appropriate to the different age groups of multi-family residential developments within an area.
- Apply the principles of Crime Prevention Through Environmental Design (CPTED) to enhance safety and security within multi-family residential developments.

7.3 SITE PLANNING, COMPATIBILITY AND LOT DESIGN

This section describes the site planning and lot design guidelines for multi-family residential development. Site planning guidelines address compatibility, siting of buildings, orientation and the relationship with adjacent development. It should be noted that siting of the structure(s) and accessory buildings are controlled by specific zoning or land use regulations. These regulations should be consulted as the first step of any multi-family residential site planning.
**General Site Planning Guidelines**

a. Multi-family residential development should be compatible with other development in the immediate area through the use of complementary building arrangements, buffers, and avoidance of overwhelming building scale and visual obstructions (Refer to Figure 7-1).

![Figure 7-1: Multi-family development should be compatible with adjacent development](image1)

b. Developments should relate directly to the adjacent street, and present an attractive and interesting facade to passersby (Refer to Figure 7-2).

![Figure 7-2: Development should be related directly to the street](image2)

c. The orientation of the buildings and the positioning of other such elements on the site such as entrances, parking lots, and driveways must be seriously considered and planned to assure both a viable and attractive site design.

d. Buildings should be generally oriented parallel to streets with varying setbacks to provide visual interest and varying shadow patterns (Refer to Figure 7-3).

![Figure 7-3: Buildings sited parallel to the public street](image3)

e. Appropriate setbacks and landscaping should be used to buffer the edges of multi-family projects and adjacent land uses (Refer to Figure 7-4).

![Figure 7-4: Provide buffering through setbacks and landscape](image4)
f. Buildings should be oriented to promote privacy for individual residential units to the greatest extent possible.

g. Clustering of multi-family units should be a consistent site-planning element. Large projects should be broken up into groups of structures (Refer to Figure 7-5).

7.4 ARCHITECTURAL GUIDELINES

Architectural Imagery

a. There is no particular architectural “style” proposed for multi-family residential structures in Santa Ana. The primary focus should be on constructing a high quality residential environment.

b. A visual balance or rhythm should be a characteristic of the physical design of multi-family buildings, their components and spaces around them (Refer to Figure 7-6).

c. All building elevations should be considered in the evaluation of any new construction, additions or alterations. Side and rear views of a building should not be minimized because of their orientation away from the public right-of-way. The same or compatible design features should be continued or repeated upon all elevations of a building.
d. Architectural elements such as bays, bay windows, recessed or projecting balconies, verandas, porches and other elements that add visual interest, scale and character to the neighborhood are encouraged (Refer to Figure 7-7).

e. The incorporation of balconies, porches, and patios within multi-family structures is required for both practical and aesthetic value. These elements should be integrated to break up large wall masses, offset floor setbacks, and add human scale to structures (Refer to Figure 7-8).
f. Doors, windows or other openings should be uniform in design and located to present a symmetrical appearance to the elevation except where the variations are an integral and necessary part of the exterior design.

g. Boxy and monotonous facades and large expanses of flat wall planes are strongly discouraged (Refer to Figure 7-9).

h. All mechanical equipment whether mounted on the roof or ground should be screened from public view. Utility meters and equipment should be placed in locations that are not exposed to view from the street and must be screened. All screening devices are to be compatible with the architecture and color of the adjacent structures.

i. All support structures within multi-family residential developments (i.e., laundry facilities, recreation buildings and sales/lease offices) should be compatible in architectural design with the rest of the complex.

**Mass and Height**

a. Buildings should incorporate smaller-scale architectural forms such as bays, recessed or projecting balconies, and dormers to visually reduce the height and scale of the building and emphasize the definition of individual units (Refer to Figure 7-10).

Figure 7-9: Use details to reduce mass and scale

Figure 7-10: Examples of various window styles that create visual interest on a building facade
b. In order to “scale down” facades that face the street and adjacent residential structures, it is desirable to set back portions of the upper floors of new multi-family buildings (Refer to Figure 7-11).

![Figure 7-11: Set back street-facing facades to scale down appearance.](image)

Figure 7-11: Set back street-facing facades to scale down appearance.

Facade Articulation

a. Boxy and monotonous facades that lack human scale dimensions and have large expanses of flat wall planes should be avoided (Refer to Figure 7-13).

![Figure 7-13: Avoid boxy and/or Monotonous building facades](image)

Figure 7-13: Avoid boxy and/or Monotonous building facades

b. Building facades that enclose stairwells should include residential-type windows to reduce the visual bulk of the stairwell and enhance safety. Building facades enclosing elevator shafts should use architectural treatments to reduce visual mass (Refer to Figure 7-14).

c. To provide visual interest and avoid an identical appearance, garage doors should incorporate architectural detailing that is consistent with the overall development’s architectural design.

Entryways

a. Courtyard doors or gates used at building entries should be attractively designed as an important architectural feature of the building or development.

c. Varied building heights are encouraged, both to provide visual interest and give the appearance of a collection of smaller structures. Building heights at the development’s edge should be considered within the context of the project’s surroundings, the adjacent uses, and the distance from adjacent buildings. The development’s building height should create a transition from the heights of adjacent existing residential development, rather than form abrupt height changes (Refer to Figure 7-12).

![Figure 7-12: Example of using varying building heights.](image)

Figure 7-12: Example of using varying building heights.
b. Individual entries should have a strong relationship with a fronting street, internal walkway, or courtyard, as appropriate to the overall siting concept. A transitional area from the public space or walkway to the private dwelling unit entry, such as a porch, steps, or landscaped walkway should be provided (Refer to Figure 7-15).

c. Each dwelling unit’s entry should be emphasized and differentiated through architectural elements such as porches, stoops, roof canopies, and detailing. Opportunities should be provided for residents to personalize their entry by providing ground level space or a wide ledge for potted plants (Refer to Figure 7-16).
Stairways

a. Not more than three second floor dwelling units should be served by a single flight of exterior stairs. Where appropriate for the architectural style, the stairway design should be open to allow views for natural surveillance (Refer to Figure 7-17).

![Figure 7-17: Open stairways allow natural surveillance](image)

b. Where prefabricated metal stairs are used, additional design features such as screen walls, enhanced railings, or accent colors should be used to enhance appearance. The additional design features should be consistent with the overall building design.

c. Stairways should be constructed of durable material that is compatible with the design of the primary structure.

Roof Articulation

a. Roofs should provide an equal level of design treatment on all elevations and provide design details that reduce horizontal and vertical mass and scale.

b. Roofs should be given design consideration and treatment equal to the adjacent roof forms (Refer to Figure 7-18).
Materials and Colors

Building Materials

a. The development’s dwelling units, community facilities, and parking structures should be unified by a consistent use of building materials, textures, and colors. Exterior columns or supports for site elements, such as trellises and porches, should utilize materials and colors that are compatible with the entire development (Refer to Figure 7-20).

c. Roof elements and design features (e.g., pitch, materials, eaves, dormers, etc.) should be consistent on all elevations, including those that are not visible from the public right-of-way.

d. Carport roofs should not lack in form. Incorporate the roof pitch and materials of the main buildings (Refer to Figure 7-19).

b. Building materials should be durable, require low maintenance, and be of comparable quality and image to what is used in the surrounding neighborhood. Frequent changes in building materials should be avoided.

c. Color should be used as an important design element in the development’s appearance. The predominant colors for the dwelling units and accessory structures should be natural or muted tones. Appropriate use of more than one predominant paint color is encouraged. Compatible accent colors are encouraged to enhance important building elements.
d. Materials such as brick, stone, copper, etc. should be left in their natural appearance. Such materials should not appear thin or artificial. Veneer should turn corners and avoid exposed edges (Refer to Figure 7-21).

![Appropriate Veneer](image)

**Figure 7-21: Veneer materials should turn corners and avoid exposed edges**

e. Inappropriate materials for exterior applications include:

- Plastics/Plastic Laminates
- Asphalt shingles
- Corrugated fiberglass, metal or plastic
- Rock Veneers using manufactured or imitation rock
- Plywood or similar
- Highly reflective materials
- Unfinished concrete
- Unfinished metal, aluminum or similar material

f. Exterior materials and architectural details should complement each other. Avoid introducing elements, features, additions that are not complementary.

g. A single building should be stylistically consistent. For example, “Spanish” detail is consistent with stucco buildings with mission tile roofs; period trims on otherwise contemporary-style buildings are inappropriate.

h. Colors and materials should be durable and not readily deteriorate with exposure to the elements.

i. Colors should be non-reflective. The use of bright, primary colors is discouraged. Colors and materials should be subdued or flat-toned so as not to produce excessive reflected glare from the sun.

7.5 PARKING, ACCESS AND CIRCULATION GUIDELINES

Circulation, parking and access guidelines are designed to eliminate parking and circulation conflicts and ensure that entries and exits to the property be located to minimize any interference with the flow of street traffic and maximize efficiency of on-site circulation.
Site Entries

a. The site entry driveway location should be coordinated with existing or planned median openings. Driveways should also line up with driveways on the opposite side of the public roadway.

b. Vehicular entries provide a good opportunity to introduce and identify multi-family developments. The site entry should be treated with special hardscape and landscape elements that will give individual identity to the project (i.e. specimen trees, shrubs, flowering plants, etc.) (Refer to Figure 7-22).

c. Special entry features, such as entrance paving, landscape treatment, planters, special wall treatment, gates, and specialty lighting and any other entry features should be used to generate visual interest at entries (Refer to Figure 7-23).

d. The main site entry design should incorporate rough-textured concrete, textured paving, or interlocking pavers to delineate the site (Refer to Figure 7-23).

Parking

a. Large parking areas where cars would dominate views and increase perceived density should be avoided. Parking areas should be divided into a series of small parking courts with convenient access that relates to adjacent dwelling units. For security reasons, dwelling units should have sight lines out to the parking areas, but these views should be partially filtered through use of appropriate landscaping, such as trees (Refer to Figure 7-24).
b. Parking areas should be located within the development’s interior and not along street frontages. Carports and tuck-under parking should not be visible from a public street.

c. Parking structures, garages and carports, should be located where they do not obstruct natural surveillance.

d. Special accents that define the main entry, create territorial reinforcement, and provide visual interest are strongly encouraged. Examples include architectural detailing, specialty lighting, textured paving, a hardscape decorative border strip along the driveway, and accent plant materials (Refer to Figure 7-25).

e. Carports, detached garages, and accessory structures should be designed as an integral part of the development’s architecture. They should be similar in material, color, and detail to the main buildings of the development (Refer to Figure 7-26).

f. For convenience, parking spaces should be assigned, but the parking space numbering system should not identify the dwelling unit that is assigned to the space.

g. Where garages are utilized, garage doors should not appear flush with the exterior wall (Refer to Figure 7-27).
h. In developments utilizing a gated entry to parking areas, gates shall be set back to provide proper stacking of motor vehicles.

**Pedestrian Circulation**

Pedestrian circulation should provide safe, efficient access to facilities and dwelling units for residents, encourage opportunities for casual social interaction, and allow natural surveillance by residents. The following guidelines apply to pedestrian circulation in multi-family development;

a. Convenient pedestrian connections should be provided to adjoining residential developments, commercial projects, and other compatible land uses.

b. Pedestrian access to adjacent existing or planned open space areas and corridors should be provided for the development’s residents (Refer to Figure 7-28).

c. Cross circulation between vehicles and pedestrians should be minimized. A continuous, clearly marked walkway should be provided from the parking areas to main entrances of buildings (Refer to Figure 7-29).

d. Walkways should be located to minimize the impact of pedestrians on the privacy of nearby residences or private open space. Avoid siting a walkway directly against a building. A landscaped planting area between walkways and building facades is strongly encouraged (Refer to Figure 7-30).

![Figure 7-28: Provide access to adjacent open space corridors](image1)

![Figure 7-29: Design elements should minimize pedestrian and vehicular conflicts](image2)
Dwelling Access

a. Access to dwellings should provide a unique identity for the individual unit, allow opportunities for social interaction and increase natural surveillance.

b. The main entry to each dwelling unit should be clearly visible from the nearest public circulation walkway. A porch, covered stoop, or similar entry feature should be provided at each unit’s front entry (Refer to Figure 7-31).

c. Stairwells should be centrally located to the units served and should be visible from as many units as possible.

d. To minimize the outdoor clutter that can accumulate in private open space areas, private storage space for strollers, bicycles, etc., should be provided for each dwelling unit. Its location should be either inside the unit, or outside and immediately adjacent to the unit.

e. Walkways and access to dwelling units should be designed to facilitate the moving of furniture by considering minimum widths, heights, and turning angles.

7.6 SUPPORT FACILITIES AND SITE AMENITIES

a. All support facilities (i.e., laundry facilities, recreation buildings, and sales/lease offices) should be compatible with the architectural design with the rest of the complex by incorporating a few key character-defining elements. Some of the key elements to consider include:

- Roof pitch and style;
- Building proportions;
- Exterior siding and roofing materials;
- Door and window style; and
- Color

b. Support facilities should be well lit and oriented to be visible from a public right of way.

c. Support facilities should be sited to maximize their accessibility and use by residents.
Outdoor Play Areas

a. Onsite outdoor play areas can provide children with a safe and interesting environment, and allow parents to easily view play areas in order to supervise play activities. Children, especially those in the five to twelve-year age group, tend to play throughout the entire grounds of a development, not just in designated play areas. Therefore, their needs, as well as maintenance requirements, should be important design considerations.

b. Children’s play areas should be visible from as many units as possible and from private open space areas. Direct, convenient access from ground level, private open space to the communal play area is encouraged (Refer to Figure 7-32).

c. Outdoor play areas should be located adjacent to laundry rooms, community centers, or similar common facilities. Play areas should not be located near public streets, parking, or entry areas unless physically separated by appropriate walls, fencing, or dense landscaping.

d. Hard surface areas for outdoor activities (e.g., bicycle riding, skating, rope jumping, and hopscotch) should be provided. These active play areas should be safely separated from vehicular use areas.

e. In large developments, separate, but not necessarily segregated, play areas or informal outdoor spaces should be provided for different age groups for safety reasons. Small developments may combine play areas (e.g., a tot lot incorporated into a larger activity area for older children) (Refer to Figure 7-33).

f. Seating areas should be provided where adults can supervise children’s play and also where school-age children can sit. Seating location should consider comfort factors, including sun orientation, shade, and wind.

Mailboxes

a. Mailboxes should be located in highly visible, heavy use areas for convenience, to allow for casual social interaction, and to promote safety. A bench or seating area in close proximity to the mailbox location is strongly encouraged, and a trash receptacle should be located adjacent to the mailboxes (Refer to Figure 7-34).
**b.** Incorporation of design features, such as a built frame consistent with the development’s architectural style, is encouraged (Refer to Figure 7-35).
7.7 COMMON SPACE GUIDELINES

a. Common open space provides opportunities for casual social interaction and safe play areas for children, and it reduces the perceived density of the development. Private open space serves as an outdoor room for residents and a protected play area for toddlers.

b. Residents should have access to useable open space for recreation and social activities. Open spaces should be conveniently located for the majority of units (Refer to Figure 7-36).

c. Open space areas should be sheltered from the noise and traffic of adjacent streets or other incompatible uses.

d. A series of connected open space areas of varying shape, appearance and usage are encouraged. Smaller areas may directly relate to a cluster of units, while the larger areas may serve several clusters as common open space (Refer to Figure 7-37).

e. Boundaries between private and common open spaces should be clearly defined by low walls or plant materials.

f. Buildings should be sited and designed so that windows of neighboring units do not overlook private open spaces likely to be used for private activities.

g. Private open space should be provided adjacent to the units it serves and should be immediately adjacent to the public right-of-way or common open space (Refer to Figures 7-38 and 7-39).
h. Buildings should be oriented to create courtyards and open space areas, thus increasing the aesthetic appeal to the area.

7.8 Public Safety Through Design

Public safety can be enhanced through the application of design considerations that contribute to the reduction in opportunities for crime, fear and negative perceptions. The following guidelines apply to multi-family residential development.

a. Open spaces, courtyards, circulation corridors, and individual living unit entrances should be designed to be as visible from as many dwelling units as possible (Refer to Figure 7-40).

b. Front porches, back porches and/or decks, which permit casual observation of streets and alleys, are encouraged.

c. All site entrances should be visible from a public street or alleyway and very well lighted.

d. Delineate the separation between public and private spaces with paving, building materials, grade separations or with physical barriers such as landscaping (Refer to Figure 7-41).
e. Lighting should be sufficient for sidewalk and street illumination. Pedestrian scale lighting fixtures that provide good levels of lighting are encouraged.

f. Traffic calming features should be integrated into the design of streets. On-street parking, speed tables, gateway treatments, chokers, medians, and chicanes contribute to safety by slowing traffic and make it less attractive to through traffic.

g. Use the concept of natural surveillance, or “eyes on the street,” by promoting features that maximize the visibility of people, parking, and building entrances (Refer to Figure 7-42).

h. Use the concept of territorial reinforcement by promoting features such as landscape plantings, paving designs, and gateway treatments that define property lines and distinguish private space from public space.

i. Use the concept of natural access control by designing streets, walkways, building entrances, and development entries to clearly indicate public routes and to discourage access to private areas.

**Ability for Surveillance**

a. Windows and entries should be placed to maximize natural surveillance of the site. Sight lines from dwelling units to the parking area should be provided.

b. The management/rental office should be located in a central, visible location, and community meeting rooms and other amenities should also be located close to other heavily used areas (Refer to Figure 7-43).

c. Laundry rooms should be located adjacent to the children’s play area to facilitate supervision. Doors and walls should have windows to allow natural surveillance both into the laundry room and outside to the surrounding area (Refer to Figure 7-44).
b. Building entrances and individual dwelling unit entries should be accentuated by architectural elements, lighting, and/or landscaping to further emphasize their private nature.

Access

a. Doors to community facilities should contain some transparency and be key-controlled by residents. Courtyard gates and shared building entrances that access individual units should automatically lock when closed.

b. All front doors in individual dwelling units should have a peephole or other feature to allow residents to see who is at the door before opening it. To prevent break-ins, doorknobs should be 40 inches from any windowpane. Single cylinder dead bolt locks should be installed on the exterior doors of all individual dwelling units. Sliding glass doors should have one permanent door on the outside and the inside moving door should have a locking device and a pin (Refer to Figure 7-46).
7.9 Landscaping

Landscaping serves many functions in a multi-family housing development. Plant materials can create unique identity, visually connect areas, soften the architecture, provide shade, and screen unattractive areas. Landscaping is important to site design and safety/security issues, as it helps to define outdoor space and edges and can be used to discourage graffiti. An attractive, well-maintained landscaped environment contributes to overall resident satisfaction in the development and it also enhances the appearance of the surrounding neighborhood.

Use of Landscaping

a. Landscape design and selection of plant materials are an important component in multi-family developments. The development’s budget should provide for quality landscaping design, proper installation, and plant sizes that will “fill in” and beautify the development within a reasonable period of time.

b. Use of landscaping is encouraged to define and accent specific areas such as building and parking lot entrances and the main walkways to community facilities (Refer to Figure 7-47).

c. Plant materials should be used to define the territorial edge between public and private space, buffer adjacent uses, when appropriate, and screen service areas.
Landscape Design

a. Landscaped areas should generally use a three-tiered planting system consisting of ground cover; shrubs and vines; and trees. Grass is a high-maintenance ground cover that should be used primarily for active recreation areas. Grass should not be used in narrow strip areas; groundcover or shrubs are more appropriate.

b. Different landscape designs and plant materials should be used in the various courtyards and common open space areas of the development to create an individual identity for each space (Refer to Figure 7-48).

c. Landscape designs that emphasize water-efficient plants are encouraged. Water-intensive landscaping, such as grass, should be concentrated in areas of high visibility and use.

d. Vines and climbing plants on buildings, trellises, perimeter walls, and fences are encouraged, both to provide an attractive appearance and to minimize graffiti (Refer to Figure 7-49).

e. Landscape plantings should be used to help define property lines and distinguish private space from public space by creating a strong edge through a distinct change of plant material, form, height and/or color.

f. Trees and shrubs should be selected based on their mature size and root characteristics. Plants with root systems that uplift hardscape materials should be avoided.
g. Landscape materials should be used to help screen trash enclosures and mechanical equipment so that they are not exposed to view from the street or major walkways within the development.

h. Trees and shrubs should not be planted so close together that they create maintenance and security problems at maturity. They should not completely obstruct views into the development from the public right-of-way, especially views to dwelling entries and common open space areas.

i. Tree height and spread should consider the location of light standards in order to avoid conflicts and maintenance problems as the tree grows (Refer to Figure 7-50).

j. The following design concepts are encouraged in all developments:

- Use specimen trees and accent plant materials at major focal points, such as the entry to the development or where major walkways intersect with the common open space area.

- Use landscaping to help define the edges of common open space areas and to distinguish the boundary between private and common open space areas.

- Use plantings to soften building lines and the area between the property line and building (Refer to Figure 7-51).

- Use dense landscaping to physically separate children’s outdoor play areas from vehicular parking or entry areas.

- Use trees to create canopy and shade, especially in parking areas and passive open space areas. Trees with open branching structures and less dense foliage should be used to allow “filtered” views to parking lots for security purposes.
Hardscape materials should be consistent with the architectural design or style of the development. The use of interlocking pavers, scored concrete, or rough-textured concrete to define site entries is strongly encouraged. Stamped concrete or colored concrete is not recommended due to excessive maintenance and repair costs associated with its use.

7.10 WALLS AND FENCES

Walls and fences provide security and privacy in addition to screening unsightly views. Walls and fences can be utilized with landscaping to enhance and buffer the appearance of development. The following guidelines apply to walls and fences in multi-family residential development.

a. The design of walls and fences, as well as the materials used, should be consistent with the overall development’s design. Fence and wall color should be compatible with the development and adjacent properties. Paint color used on fences should be common colors readily purchased and kept readily available on the development’s premises.

b. Visually penetrable materials (e.g., wrought iron or tubular steel) should be used in areas of high activity (i.e., pools, playgrounds) and areas adjacent to street frontage (Refer to Figure 7-52).

c. Wall design and selection of materials should consider maintenance issues, especially graffiti removal and long-term maintenance. Concrete capstones on stucco walls are encouraged to help prevent water damage from rainfall and moisture.

d. Individual dwelling unit patio and rear yard fences and walls visible from the development’s open space should be no higher than 42 inches for security reasons. Outdoor privacy walls between units, however, may be higher. To increase privacy, it is encouraged that the privacy walls be solid (Refer to Figure 7-53).
e. Perimeter walls should incorporate various textures, staggered setbacks, and variations in height in conjunction with landscaping to provide visual interest and to soften the appearance of perimeter walls. Chain link fencing is not permitted (Refer to Figure 7-54).

f. Screen walls, sound walls and retaining walls should have a maximum height dependant on necessity and location. Avoid utilizing excessive heights (Refer to Figure 7-55).

g. The proportion, scale, and form of the walls adjacent to homes should be consistent with the building’s design.

h. Long continuous perimeter walls are discouraged. Perimeter walls should be broken by up by pillars or staggered setbacks. The maximum “run” of a perimeter wall should be 100 feet.

i. The colors, materials and appearance of walls and fences should complement the architecture of the buildings. Fencing, where screen is not specifically required, may be of decorative iron or similar material.

7.11 LIGHTING

a. Lighting levels should vary depending on the specific use and conditions, but the overall consideration should be to provide lighting levels sufficient enough to create a perceived sense of security and safety.

b. Street lighting should be installed along internal circulation streets. Lighting should be designed to shine downward and eliminate skyward glare. Light standards should be residential/pedestrian in scale and be spaced appropriately for the fixture, type of illumination and pole height.

c. Lighting in parking areas should be arranged to prevent direct glare into adjacent dwelling units and onto neighboring uses/properties.

d. Pedestrian-scaled lighting should be located along all walkways within the development. Lighting bollards should be minimized, as they do not illuminate large enough areas and are subject to vandalism. Light standards 12 feet in height are recommended as they allow proper illumination, discourage vandalism, and have a pedestrian scale (Refer to Figure 7-56).
e. When appropriate, wall-mounted lighting may be incorporated. Wall-mounted lights should be architecturally compatible and pedestrian scaled (Refer to Figure 7-57).

7.12 MISCELLANEOUS

Refuse, Storage, and Equipment Areas

a. Refuse facilities should be adequately located so as to provide unobstructed disposal vehicle access.

b. Refuse and storage areas should be completely screened from ground level view using appropriate materials such as solid shrub massing or walls (Refer to Figure 7-58).
c. Landscaping should be incorporated into the design of refuse, storage, and equipment areas to mitigate unsightly views. Avoid refuse facilities that do not provide sufficient screening (Refer to Figure 7-59).

b. Seating opportunities should be provided in both sunny and shaded areas. Seating in areas that offer opportunities for social interaction and informal surveillance, (e.g., a bench near the communal mailbox area or benches near tot lot areas and laundry rooms) are strongly encouraged (Refer to Figure 7-60).

c. A variety of sitting area designs, from formal arrangements (benches) to informal arrangements (low walls or steps) are encouraged. In general benches should be located in areas that have some provision for shade.

d. A drinking fountain located near each children’s play area is encouraged. Drinking fountains should be “high/low” to accommodate various age groups and disabled persons.

e. Onsite trash receptacles should be located in or adjacent to high use areas (e.g., community facilities, play areas, and laundry rooms).

Site Furniture

a. The design, selection and placement of all site furnishings (e.g., tables, benches, bollards, bike racks and trash receptacles) should be compatible with the overall site design and architectural character of the development.
8.1 INTRODUCTION AND PURPOSE

The purpose of this Chapter is to aid building owners, developers, tenants, merchants, architects, and contractors with preservation and adaptive reuse projects in the City’s Downtown. The guidelines are intended to promote high standards of architectural design and building construction that reflect the rich history and culture of the Downtown area.

The guidelines contained in this Chapter are organized in two sections to accommodate Downtown’s unique architectural and land use characteristics. The first section addresses guidelines for historic structures since downtown has several buildings and a district listed on the local, state and national Register of Historically Significant Properties. The second portion of this Chapter addresses guidelines for infill projects as well as remodel and additions of non-historic buildings.

8.2 GENERAL DESIGN OBJECTIVES

In an effort to promote the vitality of Downtown and to establish a commitment to the quality and experience of Downtown, the following general design objectives and recommendations for maintaining and rehabilitating buildings are provided.

- Preserve Structures with Notable Historic and Architectural Value

Many older buildings have historic significance, distinctive design, or characteristics exemplifying the best in past styles of development. Their character-defining features should be preserved.

- Preserve Original Building Facades and Storefronts

Preserve the original facades/storefronts that are distinctive due to their age, cultural significance, or unique architectural style. The use of original facade components is encouraged. Use of traditional facade components (such as bulkheads, balconies, arches, etc.) creates patterns and alignments that are familiar to the pedestrian and help establish a sense of scale.
Chapter 8 – Downtown Development Guidelines

- Preserve the Character Defining Features of the Downtown District

The Downtown District contains numerous features that contribute to the overall character. Preserving these unique features will contribute to the preservation of the District’s overall character.

- Provide Business Signage that Supports Traditional Downtown Character

The size and design quality of signs in Downtown should be compatible and contribute to the architectural character of a building’s facade while at the same time enlivening the streetscape.

- Ensure Architecture that is Sensitive to Pedestrian Scale and Encourages Pedestrian Activity

Strengthen the pedestrian experience throughout Downtown through preservation and enhancement of architecture, and through the function and arrangement of buildings and parking areas in Downtown. Pedestrian-oriented architecture includes amenities such as plazas, courtyards, outdoor dining, meandering paths, view corridors, and attractive landscaping.

- Screen Parking Lots, Utilities and Other Appurtenances

The Downtown environment must be simplified and made attractive through the screening of distracting elements such as rooftop equipment and the installation of underground utilities, as well as the beautification of unsightly elements such as parking lots, structures, and utilities.

8.3 A Brief Historic Overview of Downtown:

Founded in 1869 by William Spurgeon, and selected as Orange County’s seat since the county’s creation in 1889, Santa Ana’s downtown soon became the commercial and civic center of the county. By the end of the 1880s, five city blocks of brick commercial buildings along Fourth Street defined Santa Ana’s downtown business district, with the heart of the city at the intersection of Fourth and Main Streets. Following national trends, downtown Santa Ana experienced a decline in the 1950s and lost its competitive commercial edge to the suburbs. The 1970s and 80s witnessed the demise of many downtowns, as they were razed to make room for new, modern buildings. Many invaluable examples of architecture were destroyed in
Santa Ana and around the country in the 1970s and 80s before preservation groups rallied to save them.

In 1984, the Downtown Santa Ana Historic District was listed on the National Register of Historic Places. This district is composed of two sub-districts: the North and the South sections, and as illustrated in Figure 8-1 includes buildings which remain from the early part of the century when they served as the commercial core of Santa Ana and as the retail center of the larger Santa Ana region.

The predominantly two story business blocks with ground level retail uses and upper story residential or office uses are complemented by a scattering of taller structures, the largest of which is six stories. The buildings date from the late 1870s to the post earthquake reconstructions of 1934. They include commercial buildings, churches, fraternal halls and civic buildings which remain as a collection of historically and architecturally significant buildings that typify a complete small city urban environment as it would have existed in the first third of the century. The district is represented by several stylistic eras, but the dominant image is set by the preponderance of 1920s Spanish Colonial Revival influence commercial architecture.

Despite some facade changes of the 1950s and later, the district has retained the better part of its historic and architectural integrity.

In the 1990s, the city embarked on an effort to individually list properties of historic and architectural significance on a local register. To this end, the City adopted a Register of Historical Properties, created a Historic Resource Commission, and adopted a Chapter 30 to the Santa Ana Municipal Code. The Downtown Santa Ana Historic Districts, as shown in Figure 8-1, is significant as the largest and most representative collection of downtown commercial buildings in Orange County. The presence of this rich cultural and historic fabric in a relatively young county, makes the composition of Santa Ana’s downtown an architectural gem which should be preserved for future generations to experience.

The Downtown District

The Downtown area, as shown in Figure 8-2, is generally bounded by Civic Center Drive to the north, First Street to the south, Spurgeon

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1 National Register of Historic Places Inventory-Nomination Form, April 1984
Street to the east and Flower Street to the west.

Figure 8-2: Downtown District Boundaries.

The Downtown area has developed into five distinct areas of unique and complementary development, including:

**Fourth Street Retail Corridor and Fiesta Marketplace** – A thriving, Hispanic retail area centered at Fourth Street and Main Street including Fiesta Market Place, a mixture of historic and new buildings integrated into a unique shopping experience.

**Artists Village** – Centrally located in Santa Ana’s historic downtown, the Artists Village is a premier location for emerging artists to live and work. The area has studios, galleries, small live performance theatres and restaurants, and is the home for the Orange County Center for Contemporary Art (OCCCA) and CSUF Grand Central Art Center.

**Live/Work Studios** – Live/work lofts adjacent to historic City Hall are characterized by high ceilings, exposed structural elements, operable windows and hardwood floors. The lofts include one and two story units available for purchase. The lofts are located at the northeast corner of Second Street and Main Street, in the heart of the Artists Village.


**CSUF Grand Central Art Center** – In an effort to support the artists in the area, California State University, Fullerton and the City of Santa Ana have combined efforts to create an Art Center in the heart of the Artists Village. The facility has student apartments, galleries, student studio space, and classrooms. There is also a small live performance theatre, a restaurant and a fine art printmaking studio.

### 8.4 Historic Building Guidelines

This section applies to downtown properties listed on the city’s Register of Historical Properties and properties located within the Downtown Historic District, listed on the National Register of Historic Places. The
preservation, restoration, and rehabilitation of historic structures provide an excellent means to recognize the City’s rich heritage. Renovation, restoration, and expansion increase property values in the area when done in a responsible and sensitive manner. However, when done in an insensitive manner, it can destroy the character defining features of a building and ultimately erode the historic fabric of downtown.

The following guidelines are based on the Secretary of the Interior’s Standards for the Treatment of Historic Properties (The Standards) (see Appendix C for the complete standards). The Standards provide general information to determine appropriate architectural treatment of historic properties. They are written in broad and general terms to apply to many conditions.

In a commitment to the preservation of historic properties, the City, the State, and the Federal government have adopted several types of incentives designed to make the investment in these properties more profitable (see Appendix E for a list of incentives). Additionally, if you plan on pursuing Federal tax credit for your project, please contact the State Historic Preservation Office (SHPO) in Sacramento prior to beginning any proposed work. Removing or altering any exterior or interior features of the structure prior to SHPO consultation could immediately disqualify the eligibility of a project for tax credits. If you would like to take advantage of the available incentives, please contact the City of Santa Ana, Planning Division for additional information.

The guidelines focus on rehabilitation, adaptive reuse, and on preservation of historically significant structures. Property owners looking for guidelines to assist with the restoration of their building are encouraged to explore the websites referenced in Appendix G.

**8.4.1 General Guidelines**

Before embarking on any exterior modification, owners should understand the
historical significance and architectural style of their building. Appendix A provides a summary of the different architectural styles present in Santa Ana. It presents a starting point for research of an architectural style. More specific information can be found through the History Room in the main Santa Ana Library, which contains old photographs, in books about the style that describe typical features, and by observing similar buildings in the neighborhood.

a. Owners should conduct research before alterations or rehabilitation are considered. Research should include determining the appearance of the building at the time of original construction. Obtaining resources such as historical photographs and illustrations will provide insight into a building’s original features and character, which should always be preserved. These resources may be obtained from the History Room in the Santa Ana Library, architectural books, and private libraries open to public such as the First American Title Co. in Santa Ana.

b. Owners should also conduct a physical examination of the structure to determine if the significant historic fabric has been altered and is recoverable or restorable or can be reconstructed.

c. When replacement of an architectural feature is necessary, and original material cannot be used, substitution material should incorporate the design, color and form which conveys the visual appearance of the original material.

d. The character-defining features of the style need to be preserved and not removed or altered (Refer to Figure 8-3).

e. When historic construction materials cannot be replaced or matched, care should be taken to match the original pattern, thickness, color, width (siding) and texture as closely as possible with available materials. Simulated replacement materials (e.g. artificial stone) are highly discouraged. It is always better to repair than replace.

f. When an entire piece of a building is missing (e.g. original porch columns), research can be very helpful in understanding the functional and aesthetic ideas behind the original style and form.

Figure 8-3a: Original 1929 Orange County Savings and Trust Co. Building

Photo courtesy Guy Ball
g. Rehabilitation efforts should not try to create or add a preconceived concept of history, but should reuse the existing or appropriate features.

8.4.2 Components of a Building

Historic buildings in the Downtown area range in architectural style, function, and use. However, with the exception of specialty uses buildings, there is a certain identifiable pattern typical of a downtown building. The first floor is designed with pedestrian traffic in mind and generally composed of the storefront and the main building entrance. Above the storefront is the body of the building. The main features of the body are the windows and wall treatments. The body of the building may vary from one to several stories in height. Lastly, most historic downtown buildings have a decorative roofline to terminate the building. These are generally comprised of cornices, cupolas, dormers, etc.

8.4.3 Storefront Guidelines

The storefront generally experiences the greatest amount of change during the life of a building. Original storefront design is the best guideline for any refurbishment or alteration. Inappropriate renovations can negatively affect the character of the building and the streetscape. The following guidelines are provided to encourage appropriate storefront renovation.
CHAPTER 8 – DOWNTOWN DEVELOPMENT GUIDELINES

Transom Window: the area of glass above the display window. In many cases, this area has been filled in, painted over, or utilized for signage. Transoms help break up the large sheets of glass at the street frontage. Transom windows can be clear, tinted or stained glass.

Bulkhead: A bulkhead is the space located between the pavement/sidewalk and the bottom of a traditional storefront.

Cornice: Cornices help to reduce scale through defining stories. A cornice can be constructed of wood framing, plywood and moldings with a sloping sheet metal cap to shed water. The cornice spans the top of the storefront, often covering a structural beam or unfinished brick.

Display Window: Display windows are primarily constructed of glass. Display windows are typically designed to be recessed into the storefront opening, between piers. The display window sill slopes downward for drainage.

Pier: Piers frame the storefront and define space between adjacent buildings and/or storefronts. Piers typically match the design and detailing of a facade’s upper stories.

a. Original storefronts should preserve the historic and functional features. Elements to a storefront that define the overall historic character of a building should be preserved.

b. Where only part of the original storefront remains (limited remodeling has occurred), the storefront should be repaired, maintaining historic materials where possible, including the replacement of extensively deteriorated or missing parts with new parts based upon surviving examples of transoms, bulkheads, pilasters, signs, etc.

c. Avoid altering storefront features that help to define the overall historic character of a building. The historic integrity of a storefront should not be diminished by alterations. (Refer to Figure 8-5).
d. When storefronts are in the process of preservation, deteriorated or damaged elements should be stabilized and/or protected to avoid further deterioration.

e. Materials that comprise a storefront (e.g., masonry, metals, and wood) should be protected and maintained through appropriately applied treatments such as paint and rust removal, cleaning and protective coating. Original storefront materials should not be removed.

f. Storefront elements should only be repaired by means of recognized preservation methods. Improper repair techniques should never be employed.

g. When all methods of preservation have been employed to a storefront the greatest extent feasible, limited in-kind replacement is allowed. Avoid use of
h. Storefronts of historic buildings should not be modified through tinting, or reflective materials. Avoid the use of reflective coatings or other treatments on glass surfaces.

i. Where the original storefront is completely missing (extensive remodeling has occurred), the first priority is to reconstruct the storefront based upon historical, pictorial and physical documentation. If not practical, the design of the new storefront should be compatible with the size, scale, proportion, material and color of the existing structure.

j. Existing materials, details, proportions, patterns of materials, and openings should be considered when additions or building renovations would affect an existing building’s appearance.

k. All existing historic storefront decoration/ornamentation should be preserved. Decoration/ornamentation reinforces the traditional character and adds a richness of detail that is often irreplaceable at today's costs. Details of the decoration/ornamentation lend a unique character to individual buildings and to the downtown as a whole (Refer to Figure 8-6).

l. Existing building elements incompatible with the original facade design of the building should be removed. These include excessive use of exterior embellishments and "modernized" elements such as metal grilles, stucco, siding, or other materials.

m. Metal aluminum canopies have a thin, unsubstantial and “tacked on” appearance inconsistent with the desirable design concept for Downtown. When not of historic significance, existing metal canopies should be removed and, if appropriate, replaced with fabric awnings, consistent with the architectural style of the building (see Awnings).

**8.4.4 Doors, Entries and Canopies**

The following guidelines apply to doors, entries and canopies:

a. Entries and canopies should be protected through the application of appropriate surface treatments such as cleaning, rust and paint removal, and protective coatings.
b. Entries and canopies should not be altered in a way that significantly diminishes the overall historic character of a building (Refer to Figure 8-7).

c. Historic entry and porch features should be repaired rather than replaced.

d. When all efforts to preserve existing features have been exhausted, limited replacement in kind is allowed. Any new work should match the original features in materials, design, color and texture.

e. When in kind replacement applies to a limited number of features, the entire entry or porch should not be replaced.

f. Avoid removal of original entrances and canopies when the building has been re-oriented to accommodate new entrances.

g. Avoid the alteration of service entrances so they appear to be formal entrances.

h. When an entrance, canopy or porch is completely missing, efforts should be made to design and construct a new entry that is compatible with the historic character of a building. If reconstruction is desired, the design should be based on historical, physical or pictorial documentation.

i. When additional entries or porches are added to secondary elevations, the design should be consistent with the overall character of the building. Such additions should be limited to secondary elevations.
Figure 8-9a: Example of original door style

Figure 8-9b: Example of inappropriate use of security door

j. Original doors and door hardware should be rehabilitated and restored, provided they comply with ADA requirements.

k. If new replacement doors are necessary, they should be compatible with the historical character and design of the structure.

l. Avoid the use of security doors or other additions that cover, block or degrade original architectural features. When possible, security features should be located within the interior of a building (Refer to Figure 8-9b).

8.4.5 Windows

The following guidelines apply to windows and the individual components of a window including glazing, hardware, trim and other character-defining features:

a. When preserving windows, the window and other functional or decorative features should also be included. These features can include window frames, molding, sashes, muntins, mullions, glazing, sills, jambs, shutters and blinds (Refer to Figure 8-10).
b. The historic appearance of a window should not be changed. Avoid replacing materials, finishes or colors that would result in a noticeable change in appearance.

c. Windows should be replaced only when significant efforts to repair have been exhausted or deteriorated or missing parts are beyond repair. Replacement windows should match the original window in material, design, color and size.

d. Window trim should always be preserved never covered, or obscured in any way.

e. Window hardware such as hinges, sash lifts locks or other components should be reused. Avoid replacement of otherwise usable parts.

f. For preserving wood and metal components that make up the components of a window, protection and maintenance should be applied through the gentle use of surface treatments including rust and paint removal, cleaning and protective coatings.

g. Windows should be made weatherproof through the application of caulking and/or weather strip. The application should not compromise or negatively affect the historic integrity of the window and the window’s components (Refer to Figure 8-11).

h. Repair of window frames and sashes should be done through patching, piecing-in, consolidating or otherwise reinforcing the using recognized preservation methods.

i. The installation of floors or ceilings that cut across glazed areas of windows is appropriate. The exterior form and appearance of windows is not to be altered.
Figure 8-12: Preserve the character of a window by preserving the original features

A. Window Replacement

a. When historic windows or window components are completely missing, replacements may be used provided they are an accurate restoration using any one of the following:

b. A new design that is compatible with the window opening and is compatible with the existing historic character of the building may be acceptable if it preserves original features (Refer to Figure 8-12)

c. The incorporation of new windows on the rear or other non-primary elevations may be appropriate. Such windows should be compatible with the overall design of the building, but should not duplicate the fenestration pattern and/or detailing of a primary elevations

d. Avoid the creation of a “false” historic appearance when windows are replaced.

e. When windows are added or changed, the new design should be sympathetic to and compatible with the facade theme of adjacent development.

f. Introducing or changing the location, size, and shape of windows or other openings that alter architectural rhythm or character of the original building is not permitted.

g. When replacing windows, consideration should be given to the original detailing and framing materials. If possible, the original windows and frames should be saved and restored. Missing, rotting or broken sash, frames, mullions and muntins should be replaced with a like material.

h. If the original window openings have been altered, the openings to their original configuration and detail should be restored. Blocking or filling original window openings should be avoided.

i. Where transom windows (see Storefronts) exist, every effort should be made to retain this traditional storefront feature. If the ceiling inside the structure has been lowered, the ceiling should be sloped up to meet the transom so that light will penetrate the building (Refer Figure 8-13).
j. Windows of historic buildings should not be modified through tinting, or reflective materials. Avoid the use of reflective coatings or other treatments on glass surfaces.

8.4.6 Exterior Walls

The following guidelines apply to wall elements of historic buildings:

A. Masonry

a. Masonry, including brick, stone, terra cotta, concrete, adobe, stucco and mortar, should be cleaned only when necessary to stop deterioration or remove heavy soiling. Cleaning should only employ generally accepted methods for historic structures. Surface tests should also be undertaken to ensure a particular cleaning method is appropriate. Sandblasting, or other abrasive treatments are an inappropriate method of surface cleaning (Refer to Figure 8-14).

b. Avoid the alteration or removal of masonry features that are important character defining features (Refer to Figure 8-15).

c. Avoid applying paint or other coatings such as stucco to masonry that has historically been unpainted or uncoated.
d. Paint should not be removed from historically painted or coated masonry. When painting or coating is applied, it should match the original in type and color.

e. When repainting or recoating masonry surfaces, colors should be historically appropriate to the building and any applicable district.

f. Masonry features should be repaired through patching, piecing-in or other reinforcement using generally accepted methods of preservation.

g. When mortar joints are in need or repair or replacement, new mortar should be duplicated in strength, composition, color and texture. Avoid repointing mortar with synthetic caulking compounds.

h. Repair of masonry and stucco should remove only damaged material and replace with new stucco the duplicates the original in strength, composition, color and texture (Refer to Figure 8-16).

i. When all preservation methods have been exhausted, limited in kind replacement is allowed. Only extensively deteriorated or missing elements should be replaced. The new replacement should match the original in material, design, color and texture.

B. Exterior Plaster (Stucco)

a. The repair of older exterior plaster (stucco) is always preferred over replacement, but when extreme deterioration is present, total replacement may be necessary to ensure proper bonding. The replacement should match the original in design, color and texture.
b. It is important to pay attention to the texture and pattern of the original stucco. Most of the older stucco in the United States will have a smooth, hand-troweled finish (also known as sand or float finish). Although the method to implement the texture may utilize modern equipment, the finished patterning should be true to the original.


C. Wood

a. Exterior wood features should be retained and preserved to the greatest extent feasible. Historic wood features should be repaired whenever possible rather than replaced.

b. If original to the structure, protective coatings, such as paint, should be retained. When coatings are deteriorated, they should be removed and replaced to match.

c. When all methods of preservation have been exhausted, limited replacement in kind is allowed. New work should be consistent with the original in material, design, color and texture. Replacement should be limited to only the features or components necessary to be replaced.

D. Architectural Metals

a. Architectural metal, including columns, capitals, window hoods, and stairways should be preserved to the greatest extent feasible.

b. Architectural metals should be cleaned to remove corrosion prior to painting or application of protective coatings. Cleaning should employ generally accepted methods and should avoid the use of highly abrasive agents. Avoid use of grit blasting or inappropriate chemical agents.

c. Avoid alterations of architectural metals that are significant character-defining elements. Architectural metals should not be altered in a manner that diminishes the overall historic character of a building.

d. Architectural metals should be repaired rather than replaced. When significant deterioration is apparent, only those features which are severely deteriorated may be replaced.

e. The historic color or finish of architectural metals should be preserved. Avoid the application of paint or other coatings to metals that are originally meant to be exposed (Refer to Figures 8-17 and 8-18).
f. Avoid removal of the patina of historic metals, such as copper or bronze. The patina may serve as a protective coating and should be preserved.

g. When architectural metals are subject to heavy use (e.g. doors), protective coatings may be applied provided it does not diminish the historic character of the metal.

h. When all methods of preservation have been exhausted, limited in kind replacement may be appropriate. In kind replacement should be historically consistent in design, material, color and texture.

**8.4.7 Roofs**

The following guidelines apply to roof elements of historic buildings:

a. Avoid significantly changing, damaging or destroying roofs that are important in defining the overall historic character of a building in such a way that it diminishes the overall historic character.

b. Avoid changing the configuration of a roof through the addition of new features such as dormer windows, vents, skylights or other elements that diminish the historic character.

c. Avoid removal of historic materials such as slate, clay tile, wood or architectural metal.

d. Avoid addition of paint or other coatings that are not historically used on the original roof structure.

e. When all methods of rehabilitation have been exhausted, limited in kind replacement is allowed. The replacement should be consistent with the overall form and detailing.

f. Avoid removal of original roof features such as cornices, dormers or cupolas when they are beyond repair. Original roof features should be replaced and not removed. Replacement should be as limited as possible and provide replacement that is consistent with the building's historic character.

Figure 8-18: Preserve architectural metals
g. Whenever possible, original gutters, downspouts and vents should be repaired and not replaced. If they are too deteriorated to repair, then they should be replaced with like materials to match the original design. Even these very utilitarian elements can contribute to the overall character of the structure, such as copper downspouts.

8.4.8 Awnings

a. Original awnings, when present, should be preserved. Original awnings and hardware should be rehabilitated and repair to the greatest extent feasible.

b. Awnings should complement the historic quality of the facade. Avoid the use of awnings that do not match the period of architecture.

c. To preserve the historic quality of the facade, the use of retractable awnings, with open sides is encouraged.

d. When awnings deteriorate, efforts should be made to match the replacement to the original in material, color, and quality.

e. When replacement of canvas or similar material is necessary, the new material should be of a complementary color and pattern.
**8.4.9 Secondary Facades**

a. Secondary facades should preserve existing character-defining elements. Avoid over-improving secondary facades (Refer to Figure 8-20).

b. When entrances or other ingress/egress is required on secondary facades, the design should be consistent with the historic character of the primary character-defining elevation.

c. If the secondary facade is architecturally significant or displays a distinct plan characteristic of the neighborhood, it should be preserved (Refer to Figure 8-21).

![Figure 8-20: Example of secondary facade modification](image1)

![Figure 8-21: Secondary facades that are character-defining should be preserved](image2)

**8.4.10 Lighting**

a. Original light fixtures and lighting schemes should be preserved. Avoid altering the original placement of lighting fixtures.

b. Lighting fixtures and associated hardware should be repaired rather than replaced. When components to a fixture are missing or deteriorated beyond repair, those components may be replaced provided they are consistent in design, material, color and texture.

c. Repair of lighting fixtures should incorporate generally accepted methods for the restoration of metal components, finishes and electrical components.
8.4.11 Maintenance

The following guidelines provide guidance for the appropriate maintenance of historic structures. Persons engaging in maintenance of historic structures should also consult with contractors specializing in the maintenance of historic structures:

a. Surface cleaning should be undertaken with the gentlest means possible. Sandblasting and other harsh cleaning methods that may damage historic building materials should not be undertaken.

b. Waterproofing, weatherproofing and graffiti proofing sealers should be used only after cleaning and repair is completed.

c. Historic structures and architectural features should provide proper drainage so that water does not stand on flat horizontal surfaces or accumulate on decorative features.

d. When appropriate, protective coatings should be applied to architectural elements provided they do not alter the historic character of the original elements.

e. Existing mechanical equipment should be regularly cleaned to prevent accelerated deterioration. Mechanical systems should provide adequate ventilation and be accessible.

8.5 Seismic Retrofit of Historic Structures

The following guidelines apply to the seismic retrofit of historic structures. All structures in Santa Ana are subject to minimum seismic standards, as provided in the City’s Building Code. Project applicants should consult with Santa Ana Planning and Building Agency staff.

a. Historic materials should be preserved and retained to the greatest extent possible and not replaced wholesale in the process of seismic strengthening.

b. New seismic retrofit systems, whether hidden or exposed, should respect the character and integrity of the historic building and be visually compatible in design.

c. Seismic retrofit should preserve the original configuration of the storefront.

d. Seismic work should be “reversible” to the greatest extent possible to allow removal for future use of improved systems and traditional repair of remaining historic materials.

8.6 New Construction and Remodel of Non-Historic Building Guidelines

This section provides guidelines for the infill construction, additions and remodel of buildings not currently on the Historic Register.

Downtown Santa Ana includes a variety of architecture. It has an interesting mix of traditional downtown commercial architecture, Art Deco, and numerous structures of the Period Revival style. Therefore, the design guidelines in this section are not intended to specifically control any particular architectural style. Instead, they encourage a quality and completeness of design that will contribute to the overall improvement of the downtown’s “built-out” environment.
8.6.1 Architectural Guidelines

A. Building Form and Mass

a. The use of standardized “corporate franchise” architectural styles is discouraged. Architectural styles must consider compatibility with surrounding character, including building style, form, size, materials, and roofline (Refer to Figure 8-22).

b. Height and scale of new infill developments within Downtown should complement existing structures and provide a sense of human scale and proportion (Refer to Figure 8-23).

c. Multi-story buildings should be made less imposing by physical stepping back from the street level.

B. Rhythm and Proportion

a. The predominant difference between upper story openings and street level storefront openings (windows and doors) should be maintained (Refer to Figures 8-24 and 8-25).

b. When an infill building is proposed, the common horizontal elements (e.g. cornice line, window height/width, and spacing) found in neighboring structures should be used to maintain a similar architectural rhythm.

c. When a proposed infill building facade is wider than the existing facades on the street, the infill facade should be broken down into a series of appropriately proportioned components to continue and/or complement the existing facade rhythm.
pedestrian scale. This can be partly achieved by articulating the separate floor levels and increasing the level of detail at the street level (Refer to Figure 8-26).

c. Common design features should be continued or repeated on all building elevations for new construction only. Side and rear elevations of a building should be given design treatment equal to that of others.

D. Roof Articulation

a. Roofs should be given design considerations and treatment equal to that of the rest of a building’s exterior.

b. Roofs and rooflines should be continuous in design except where there is a major change in an element of a building elevation.

c. Roofline elements including parapet walls should be developed along all elevations, regardless of orientation away from the right-of-way.

C. Wall Articulation

a. Long, blank, unarticulated street-facing facades shall be avoided. Monolithic street wall facades should be "broken" by vertical and horizontal design elements.

b. Building facades should be detailed to create visual interest and promote
d. Roofs should be flat or sloped. Radical roof pitches that create overly prominent or out-of-character buildings such as A-frames, mansards, and geodesic domes should be avoided.

e. Flat roofs should include ornamental cornices and edge details.

f. The visible portion of sloped roofs should utilize materials complementary to the architectural style of the building and other surrounding buildings.

g. Roof-mounted mechanical or utility equipment is required to be screened. The method of screening should be architecturally integrated with the structure in terms of materials, color, shape and size. Equipment should be screened by solid building elements (e.g. parapet wall) instead of add-on screening (e.g., wood or metal slats). Mechanical equipment should not be visible from any angle or any height outside of the building.

b. Exterior materials, textures and colors should be appropriate for the architectural style or theme of the building and contribute to the visual quality of the streetscape.

c. Colors and materials should be durable and not readily deteriorate if exposed to the elements.

d. Natural, light colored (e.g. neutrals such as off-white, beige and sand) base walls of buildings and other large expanses are encouraged unless otherwise dictated by architectural style.

e. Use color to accent architectural details.

f. No more than three colors should be used on any given facade, including “natural” colors such as unpainted brick or stone.

g. Chimneys, roof flashing, rain gutters, downspouts, vents and other roof protrusions should be finished to complement or accent adjacent colors and materials.

8.6.2 Storefront Design Guidelines

Although the storefront is only one of the architectural features of a facade, it is perhaps the most important visual element in the Downtown streetscape. Historically, the traditional storefront had few decorative elements other than those details that were repeated across the face of the building in order, integrating it into the character of the facade. Emphasis was typically placed on the windows and their contents to clearly project the products and services offered within. The composition of a traditional downtown storefront generally includes the following elements:

![Figure 8-26a: Roof should use materials complementary to the style](image)

E. Materials and Colors

a. Materials should be compatible with materials used on the adjacent buildings.
A. General Guidelines

a. The first two floors of any building shall be compatible with the pedestrian tradition of Downtown. Storefronts, shops, restaurants, and theaters enhance the visual experience of Downtown by providing inviting window displays and opportunities to view inside at the business activities are encouraged.

B. Entries/Doorways

a. The main entry to Downtown buildings should be emphasized at the street in one or more of the following ways:

- Flanked columns, decorative fixtures or other details;
- Recessed within a larger arched or cased decorative opening;
- Covered by means of a portico (formal porch) projecting from or set into the building face (refer to zoning guidelines for allowable projections);
- Punctuated by means of a change in roofline, a tower, or a break in the surface of the subject wall.

b. Buildings at corner locations should provide a prominent corner entrance to street level shops or lobby space, in a manner consistent with main entries.

c. Doors to retail shops should provide a high percentage of glass to increase visibility.

d. Security grates, grilles, or wrought iron bars over doors should not be used.

C. Windows

a. Storefronts should be comprised predominantly of transparent surfaces (windows). Storefronts with blank or solid (wall) areas degrade the quality of the pedestrian atmosphere.

b. Storefront windows should be as large as possible and 18 inches off the ground (bulkhead height). By limiting the bulkhead height, the visibility to the storefront displays and retail interior is maximized. Maximum bulkhead heights for new storefront design should be approximately 36 inches.
c. Use of clear glass (at least 88% light transmission) on the first floor is recommended.

d. Windows such as clerestory windows, skylights, or greenhouse windows and wells that increase natural lighting are strongly encouraged.

e. Security grates, grilles, or wrought iron bars over windows should not be used.

**D. Awnings**

a. Awnings are encouraged. Awnings should have a single color or two-color stripes and coordinate with the architectural divisions of the building.

b. Awnings are encouraged over first and second level windows and doors.

c. Where the facade is divided into distinct structural bays (sections defined by vertical architectural elements, such as masonry piers), awnings should be placed between the vertical elements rather than overlapping them (Refer to Figures 8-27b and 8-28).

d. The awning design should respond to the scale, proportion and rhythm created by these structural bay elements and "nestle" into the space created by the structural bay (Refer to Figure 8-29).

e. The traditional slanted, retractable awning is most appropriate for traditional storefronts and is encouraged versus contemporary barrel or box styles.

f. Aluminum awnings or canopies are strongly discouraged unless consistent
with the original architectural style (Refer to Figure 8-30).

Figure 8-30: Aluminum awnings are discouraged unless consistent with original architectural style

Figure 8-31: Example of storefront detailing

g. Awnings should be of durable, commercial grade fabric, canvas or similar material having a matte finish.

h. Awning frames and supports should be of painted or coated metal. The finish should complement.

i. Glossy, shiny plastic, or similar awning material is not recommended.

**Storefront Details**

There are a number of details, often thought of as mundane that may be incorporated into storefront design to add visual richness and meet functional need. (Refer to Figure 8-31). Details include:

a. Light fixtures, wall-mounted or hung with decorative metal brackets.

b. Decorative scuppers, catches, and downspouts, preferably of copper.

c. Balconies, rails, finials, corbels, plaques, etc.

8.7 **SECONDARY (REAR) FACADE AND ENTRANCES**

While front entries are primary, attention to rear entrances is encouraged, especially in locations visible from parking areas and pedestrian circulation.

a. An awning can soften rear facades and provide a pleasant protected space.

b. Signs should be modestly scaled to fit the casual visual character of the alley or rear parking area.

c. Security lighting should be modest and focus on the rear entry door. The rear entry door should be similar to the front door.

d. Selective use of tree planting, potted plants and other landscaping can subtly improve a rear facade.

e. Refuse containers and service facilities should be screened from view by solid masonry walls with metal doors. Use landscaping (shrubs and vines) to screen walls and help deter graffiti.
8.8 LIGHTING

a. Lighting fixtures and luminaries should be provided to complement the architectural style and be compatible with the development where they are located. On each project site, all lighting fixtures should be from the same family of fixtures with respect to design, materials, color, fixture, and color of light.

b. All exterior doors, aisles, passageways and recesses should be equipped with a lighting device providing a minimum maintained one foot-candle of light at ground level during hours of darkness. Vandal resistant covers should protect lighting devices.

c. Older style light fixtures should be provided for any new development in the Downtown area. Light fixtures should be provided at a spacing of approximately one every 75 feet.

d. Decorative accent lighting and fixtures above the minimum one foot-candle illumination levels of surrounding parking lots should be provided at vehicle driveways, entry throats, pedestrian paths, plaza areas, and other activity areas.

e. All artificial illumination should be installed, directed and shielded to confine all direct rays within the property. Lighting should minimize glare onto adjacent property.

f. Lighting should be provided in a relatively even pattern with ground level foot-candle illumination levels not varying by more than four to eight foot-candles.

g. Site lighting should not exceed five foot-candles of illumination within 50 feet of a property zoned or used for residential purposes or is a sensitive land use [as defined by 41-130 (h)].

h. Illumination to a minimum maintained one foot-candle should be provided at steps, ramps and other potentially hazardous grade differentials.

i. Wall mounted lights may not extend above the height of the wall or parapet to which they are mounted.

8.9 SIGNAGE

The following are general design guidelines for creating well-designed signs in Downtown. For additional sign guidelines refer to Chapter 14 of this Design Manual.

8.9.1 Building Signs

a. Signs should be consistent with the scale of building elements within the facade. Over-scaled signs are should never be used.

b. The determination of sign size shall take into consideration adjacent facades.

c. Fewer words make a more effective message. Use of symbols is encouraged only if they are easily recognizable.

d. Internal illumination is permitted on channel letters only. Signs without channel letters must be illuminated externally.
8.9.2 Storefront Signs

a. Signs shall be placed over business entrance within an architecturally established area or unbroken area of the building face.

8.9.3 Awning, Canopy and Marquee Signs

Figure 8-32: Awning signs should be permanent

a. Only permanent signs that are an integral part of the awning or canopy are allowed.

b. Lighting should be directed downwards onto awnings signs.

c. Awning signs should not be internally illuminated.

8.9.4 Convenience Signs

Figure 8-33: Example of convenience sign

a. The use of convenience signs at the street frontage should be minimized.

b. When using convenience signs, the design, placement and scale should not obstruct free flow of pedestrians or reduce lines of sight.

8.10 Open Space and Site Amenities

The following guidelines apply to open space and site amenities for private development within the Downtown District. Project applicants should also refer to Chapter 5: Downtown Public Urban Design Guidelines to ensure consistency between public and private property.

A. Site Planning - General

Project site planning is one of the most important determinants of the look and feel of Downtown Santa Ana. Site planning involves the relationship between the project, the street and adjacent structures. The intent of the following site planning guidelines is to preserve and reinforce the traditional pedestrian-oriented character of Downtown Santa Ana.

The locations of structures and other facilities are controlled by specific zoning regulations. The city’s zoning code should always be consulted prior to any site design.

B. Setback and Street Orientation

a. The first floor of any commercial building within Downtown should be built directly at the front property line and parallel to the street.
b. Primary building entrances should be oriented to the major street frontage and public sidewalk.

c. Create continuous pedestrian activity in an uninterrupted sequence by minimizing gaps between buildings.

d. Utilize building indentations and inconsistent setbacks to create small outdoor dining areas, plazas, and similar public open space areas along the street wall.

e. When possible, create mid-block pedestrian paseos and linkages to parking lots or activity areas.

C. Pedestrian Amenities and Landscape

a. Landscape plans should consider the scale and mass of a building and its relationship to the scale of the street and neighboring properties.

b. Buildings should consider the incorporation of landscaping at store frontages. On private property, this can be accomplished by raised planters, sidewalk cutouts, or portable planters. Building setbacks should easily accommodate landscape planters. Annual color, shrubs, vines, and ground covers are well suited to these sites. (Refer to Figure 8-35)

c. Boxed and container plants in decorative planters of ceramic, terra-cotta, wood, or stucco with tile accents should be used to enhance building frontage in Downtown (Refer to Figures 8-36 and 8-37).
d. Landscaping should be incorporated into seating areas. Landscaping should include a permanent and automatic irrigation system.

e. Expansive horizontal or vertical surfaces comprised of a single material can be segmented or interrupted with vines or foliage. Vines can be used to complement a building’s architecture or soften unarticulated surfaces. Vines can also be used to enhance or screen fences and trash enclosures.

f. Courtyards, gardens, and fountains are very desirable in Downtown. Landscaping within courtyards, both public and private, should include a balance of hard and softscape materials provide shaded seating areas and other pedestrian amenities (Refer to Figure 8-38).

D. Plazas and Courtyards

a. Exterior spaces, plazas, courtyards and outdoor eating areas are encouraged. Relate the scale of plazas and courtyards to the surrounding structure.

b. A visual feature should be provided in plazas. This can be a sculpture, fountain, or a display pond.

c. Any decorative paving used in the plaza areas should complement the paving pattern and color of the pavers used in the public right-or-way.

d. Ample seating should be provided in plaza areas. Seating locations should consider pedestrian concept and protection from the elements.

E. Site Furniture

a. Site furniture, including benches, bollards, trash receptacles, bicycle racks, newspaper racks, and kiosks should complement existing development (Refer to Figure 8-39).
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Figure 8-39: The use of site furniture should be complementary to adjacent development

b. Site furniture should maintain a clear passage for pedestrians. Avoid obstructing walkways and sidewalks.

c. Street furnishings should be placed to eliminate clutter and any potential pedestrian/vehicular conflict.

d. Kiosks/directories should be provided adjacent to vehicular and pedestrian entrances and pedestrian nodes. Kiosk siting should maximize visibility and minimize traffic hazards or obstructing views.

e. Tree grates should be utilized at street edges and passages to provide a continuous walking surface. Tree grates should be a minimum of four feet in diameter.

f. Tree guards should be provided to protect trees in high activity areas. Tree guard design should be consistent with the adjacent development and should coordinate with other street furnishings.

F. Lighting

a. Lighting fixtures and luminaries should be provided to complement on-site open space and amenities. On each project site, all lighting fixtures should be from the same family of fixtures with respect to design, materials, color, fixture, and color of light (Refer to Figure 8-40).

b. Exterior pathways, walkways or other pedestrian areas should provide sufficient illumination to provide a sense of security and an adequate level of off-site surveillance.

c. When placing lighting fixtures and luminaries, consideration should be given to the extent of landscape growth affects the function of lighting. Landscaping such as trees and shrubs should be placed and maintained so that it does not obscure or deteriorate on-site illumination.

Figure 8-40: On-site lighting should complement open space and amenities
### 8.11 Parking and Miscellaneous Guidelines

#### A. Parking

a. Parking should not be located between the front building wall and the front property line.

b. Parking should be located behind buildings whenever possible. When off-street parking in the rear is not possible, parking must be screened from view by landscaped berms and/or low walls.

c. Parking lot entries should be located on side streets or alleys to minimize pedestrian/vehicular conflicts. Driveways should be kept to the minimum number and width required for the project.

d. Vehicles entering parking areas should not be required to enter a street to move from one location within the same parking facility or premises. Parking areas should be interconnected where possible.

e. Design parking areas so that pedestrians walk parallel to moving cars in parking aisles. Minimize the need for the pedestrians to cross parking aisles and landscape islands to reach building entries.

#### B. Mechanical Equipment and Utilities

a. All utilities should be completely screened from view.

b. Screening for mechanical equipment and utilities should be constructed of a solid opaque material, sealed and painted to match the existing building.

c. When multiple pieces of equipment are located on a roof structure, individual equipment screens are discouraged. A continuous single equipment screen is required.

d. Exterior plywood and metal mesh is not permitted as a screen method, unless it is consistent with the overall building design.

e. Mechanical equipment screens shall be of quality construction and meet all requirements of the Santa Ana Building Safety Division.

f. Roof-mounted mechanical equipment should be located so that it is not visible at a minimum of 300 feet from the edge of the building.

### 8.12 Additional Resources

To further assist preservation efforts and the development of appropriate infill development, the following Appendices are provided;

**Appendix A: Santa Ana Architectural Styles**

This Appendix provides an overview of architectural styles predominant in the community.

**Appendix B: Fence Design**

This Appendix provides an overview of fence design for most of the predominant architectural styles in the City.
Appendix C: Secretary of The Interior’s Standards for Rehabilitation

This Appendix contains the full text of the Secretary of Interiors Standards for Rehabilitation of Historic Buildings.

Appendix D: Glossary of Architectural Terms

This Appendix provides a listing of commonly used architectural terms.

Appendix E: Incentives for Historic Properties

This Appendix provides an overview of currently available incentives for the preservation of historic properties.

Appendix F: Historic Precedents for Color

This Appendix provides an overview of the historic precedents for the use of exterior colors for various architectural styles.

Appendix G: Resources for Historic Preservation

This Appendix provides a listing of resources available for research.
Chapter 9

Commercial Design Guidelines

9.1 INTRODUCTION AND PURPOSE

This Chapter provides general design guidelines and concepts applicable to commercial development throughout the City.

Commercial development includes a broad range of development types. Project applicants should also reference Chapter 10 for additional standards that may be applicable to commercial projects.

- Preserve buildings and site features that have cultural or historical significance.
- Design building forms and elevations that contribute to the overall quality of the built environment;
- Utilize landscaping as an integral component to overall project design;
- Design site access, parking, and circulation systems in a logical, safe manner.

9.2 GENERAL DESIGN OBJECTIVES

The design of commercial development in Santa Ana should consider the following general design objectives:

- Consider scale and character of adjacent uses and demonstrate sensitivity to the influences of the surrounding area;
- Preserve buildings and site features that have cultural or historical significance.
- Design building forms and elevations that contribute to the overall quality of the built environment;
- Utilize landscaping as an integral component to overall project design;
- Design site access, parking, and circulation systems in a logical, safe manner.

9.3 SITE PLANNING GUIDELINES

9.3.1 Grading

a. Grading of commercial developments should be sensitive to the natural surroundings.

b. Grading should emphasize and accentuate scenic vistas and natural landforms.

c. Property should be graded to prevent surface water from draining onto neighboring properties.
9.3.2 Building Siting

a. The siting of buildings should recognize the particular characteristics of the site and should relate to the surrounding built environment in pattern, function, scale, and character.

b. Building siting and design should encourage pedestrian activity.

c. Buildings should face the primary street frontage and provide direct linkages to the public sidewalk (Refer to Figure 9-3).

d. When possible, freestanding buildings should be sited along street frontages. Buildings sited along street frontages in conjunction with landscaping treatment helps to screen parking areas (Refer to Figure 9-3).

Figure 9-3: Whenever possible, place freestanding buildings along street

9.3.3 Compatibility

a. Commercial development should be buffered from residential as much as possible. Building orientation, landscaping, and increased setbacks should be used to provide adequate separation between incompatible uses (Refer to Figure 9-4).

b. Commercial development use should not face residential streets.

c. Commercial development should provide primary access from the front of the building. Avoid public access to the rear of structures when adjacent to potentially incompatible uses.

9.3.4 Pedestrian Activity Areas

a. Development should provide site amenities and other design features that encourage pedestrian utilization (Refer to Figure 9-5).

b. When possible, buildings should be clustered to create courtyards, plazas, and outdoor dining areas (Refer to Figure 9-6).
c. The creation of pedestrian activity areas at mid-blocks locations are strongly encouraged (Refer to Figure 9-9).

d. Pedestrian activity areas should provide site amenities that encourage pedestrian use. Benches, seating areas, bike racks, public art, water features and other appropriate amenities are strongly encouraged.

e. Pedestrian activity areas should provide a sufficient level of shade for pedestrians. Landscaping, canopies, trees, or other methods of providing shaded areas are strongly encouraged.

f. The finished floor of ground-level uses should not be significantly above or below the sidewalk.

9.4 ARCHITECTURAL GUIDELINES

There are no specific architectural styles required for commercial buildings. However, innovative and imaginative architecture is encouraged. These guidelines do not promote a particular architectural style. The guidelines are presented to encourage a quality and completeness of design that will contribute to the overall quality of built environment.
9.4.1 Architectural Imagery

a. The use of standardized “corporate franchise” architectural styles are strongly discouraged.

b. Architectural styles should be compatible with the surrounding character, including a building style, form, size, materials, and roofline.

c. Design features must be consistent on all elevations of a structure. Side and rear elevations should not be minimized because they are oriented away from public view (Refer to Figure 9-11).

d. Buildings should emphasize a single architectural style, properly articulated and detailed for that style. Mixtures of styles and details, such as a mansard roof on a Spanish Colonial Revival building, is strongly discouraged.

9.4.2 Building Facade

a. Building facades should be articulated with architectural elements and details. Buildings should be segmented in distinct massing elements. Vertical and horizontal offsets should be provided to minimize large blank walls and reduce building bulk (Refer to Figures 9-12a and 9-12b).
b. Primary building entries should be easily identified and provide a prominent sense of entry. The use of projections, columns, entry lobbies or other design elements are strongly encouraged.

c. The size and location of doors and windows should relate to the scale and proportions of the overall structure.

d. Windows should be provided at storefront locations.

9.4.3 Roof Articulation

a. Roofs should be given design considerations and treatment equal to that of the rest of the building exteriors (Refer to Figure 9-15).

b. Roofs and rooflines should be continuous in design throughout a commercial development. Full roofs are encouraged (Refer to Figure 9-15).
c. Roofline elements, including parapet walls, should be developed along all elevations.

9.4.4 Materials and Colors

a. Exterior materials, textures and colors should complement the architectural style or theme of a building (Refer to Figure 9-16).

b. Colors and materials should be durable and weather resistant.

c. The use of natural stone is encouraged.

d. Gutters and downspouts should be located on the exterior of structures.

9.5 PARKING AND CIRCULATION GUIDELINES

9.5.1 General Guidelines

a. Parking spaces should be sited to produce the shortest route of travel from a building entrance.

b. Parking spaces should be dispersed and located closest to all accessible entrances.

c. Site access and internal circulation should promote safety, efficiency, convenience, and minimize conflict between vehicles and pedestrians.

d. The use of common or shared driveways between adjacent uses is strongly encouraged. Shared parking and access agreements are encouraged (Refer to Figure 9-18).
CHAPTER 9 – COMMERCIAL DESIGN GUIDELINES

Figure 9-18: Shared parking and access agreements are encouraged

e. Unobstructed visibility and clear delineations between pedestrian paths and vehicular travel aisles should be provided (Refer to Figure 9-19).

Figure 9-19: Pedestrian paths should provide clear, unobstructed visibility

9.5.2 Parking Lot Design

a. Parking lots should be designed with a clear hierarchy of circulation. Major access drives with no direct access to parking spaces; major circulation drives with little or no parking; and parking aisles for direct access to parking spaces.

Figure 9-20: Parking lot circulation should be clearly defined

b. Dead-end aisles should not be used. The use of “hammer head” or vehicle turn around area may be acceptable in limited cases, but is not encouraged as a general solution to dead ends (Refer to Figure 9-21).

Figure 9-21: Avoid dead-end parking lot configurations

c. Travel aisles should be aligned to avoid vehicles competing for the same travel aisle space while making left-hand turns (Refer to Figures 9-22 and 9-23).
9.5.3 Site Access

a. The number of site access points to a parking lot should be minimized and located as far as possible from adjacent street intersections. Parking lot access points should not interfere with function of adjacent roadways.

b. When commercial development is adjacent to residential uses, commercial access should not front on residential uses.

c. When parking is provided on an access drive, the parking aisle should have the same width as the curb cut (Refer to Figure 9-24).

d. Entries and exits to parking facilities should be limited in number and should minimize interference with the flow of street traffic (Refer to Figure 9-25).

e. Entry driveway throats should be designed with enough distance to minimize the interference with street traffic. A minimum throat distance of 60 feet is recommended, but may vary based on unique site conditions.

f. Driveway access locations should consider existing or planned median openings and adjacent driveways.
i. Loading and services areas should be separate from the primary public access.

j. Driveway design should utilize decorative pavers, textures or other appropriate elements to distinguish from drive aisles or secondary access points.

9.5.4 Drop-off Areas

On-site drop-off areas should be adjacent and parallel to streets and/or drive aisles and allow vehicles to get out of the main flow of traffic and stop. These include bus stops and pedestrian pick-up/drop-off areas (Refer to Figure 9-29).

g. To ensure visibility for vehicles entering and exiting the site, unobstructed sight lines at corners and mid-block should be provided. Visual obstructions at entrances and exits are prohibited within a fifteen-foot diagonal cut-off (triangular area). The location of utilities within these areas should be avoided (Refer to Figures 9-26, 9-27 and 9-28.)

h. The design of the driveway throat from the intersection to the first internal drive aisle should prevent stopped vehicles from blocking internal circulation.
9.5.5 Pedestrian Circulation

a. Pedestrian circulation should be clearly delineated and separate from automobile circulation. The use of landscaping, walkways, and decorative hardscape to delineate pedestrian circulation should be used to the greatest extent feasible. Minimum width of walkways should be 4 feet with no obstructions (Refer to Figure 9-30).

![Figure 9-30: Use landscaping and/or special paving to delineate pedestrian pathways](image)

b. Pedestrian crossings at driveways and major circulation aisles should be accentuated by extending pedestrian sidewalks into the parking aisle/lane.

c. Design parking areas so pedestrians walk parallel to moving cars. Parking lot design should minimize the need for pedestrians crossing parking aisles and/or landscape islands to reach building entries (Refer to Figures 9-31 and 9-32).

![Figure 9-31: Parking aisle alignment with inappropriate pedestrian circulation](image)

![Figure 9-32: Parking aisle alignment with appropriate pedestrian circulation](image)

d. The design and placement of building entrances in relation to parking and the internal and external circulation system should consider access to persons with disabilities.
e. Clearly defined access between primary building entries and the public sidewalk should be provided in all commercial developments (Refer to Figure 9-33).

Figure 9-33: Clearly defined access between the public sidewalk and primary building entries should be provided.

9.6 LANDSCAPING GUIDELINES

9.6.1 General Guidelines

a. Landscaping should be considered an important design element in an overall plan for development (Refer to Figure 9-34).

Figure 9-34: Landscaping should enhance the visual quality of commercial development

b. Landscaping should enhance the quality of commercial developments by framing and softening the appearance of buildings, screen undesirable views, buffer incompatible uses and provide shade.

c. Landscaped areas should incorporate a three tiered planting system: 1) trees, 2) shrubs and vines, and 3) grasses (Refer to Figure 9-36).

d. The following landscape design concepts should be utilized in all project design.

- use of specimen trees (36-inch box or larger) in groupings and rows at major focal points, such as project entries and pedestrian gathering areas;
- use of flowering vines on walls and arbors where appropriate;
- use of planting to create shadow and patterns against walls;
- use of trees to create canopy and shade, especially in parking areas and passive open space areas; and
- use of berms and vines on walls to screen parking areas, refuse, storage, and equipment areas.
e. Areas not utilized by structures, storage, paved walks, driveways or parking should be landscaped.

f. Landscaping at the base of buildings should soften the transition between building and parking lot. Consideration should be given to the scale and bulk of a building and its relationship to the scale of adjacent development (Refer to Figure 9-37).

g. Planters and pots placed in building recesses and adjacent to blank walls are encouraged. Planters and pots provide visual interest, color accents and enrich sidewalks, courtyards, and plazas. Planter and pot materials should complement the building architecture (Refer to Figure 9-38).

h. Self-watering planters are strongly encouraged.

i. Drought tolerant plants and irrigation systems should be utilized whenever possible.

### 9.6.2 Scale and Spacing

a. Landscaping should be in scale with adjacent buildings and be of appropriate size at maturity.

b. Landscaping should be spaced so it does not adversely impact on-site lighting, restrict access to emergency facilities, or interfere with installation and maintenance of overhead or underground utilities.

### 9.6.3 Parking Lot Landscaping

a. Parking lot landscaping should accent primary driveways, frame major internal circulation aisles, and highlight on-site pedestrian pathways (Refer to Figures 9-39 and 9-40).

b. Parking lots should be separated from the street frontage by a landscape buffer to reduce visual impacts (Refer to Figure 9-40).
c. Parking lot landscaping should contribute to minimizing environmental impacts such as noise, light, and exhaust.

d. Parking lots with more than 250 spaces should provide continuous landscape planting strips between every row of parking. Trees planted in planting strips for shade should be at a rate of 1 tree at a minimum of 34’ on center. This strip should be a minimum of 7-feet in width not including a 6-inch wide curb and a 12-inch wide concrete mow strip on both sides.

e. Parking lots with more than 250 spaces should create large planting islands at the ends of parking rows that are a minimum of 500 square feet, with a 7-foot wide minimum-planted width. They should be planted with shade trees, low shrubs and/or groundcover and should be protected by a 6-inch high curb on all sides and a 12-inch wide concrete step-off area adjacent to parking spaces.

f. Parking lots with more than 250 spaces should provide interior planting islands between parking spaces at an average of every 10 parking spaces to avoid long rows of parked cars. The planting islands should be a minimum of 153 square feet and be protected by a 6-inch high curb on all sides and a 12-inch wide concrete step-off area adjacent to parking spaces.
9.6.4 Landscape Maintenance and Irrigation

a. A Landscape Maintenance Plan shall be submitted to the City of Santa for approval. Landscaping should be maintained on a regular basis to ensure it does not interfere with on-site lighting, restrict access to emergency facilities, or interfere with maintenance of utilities.

b. Root barriers should be provided for any tree placed in a paved location, or where roots could damage adjacent paving/curb surfaces. All trees within 5 feet of hardscape should be planted with root barriers.

c. Automatic sprinkler controllers should be installed to ensure landscaped areas are properly watered. Irrigation systems should be designed to prevent run-off and over spray.

d. Irrigation system controls should be designed and installed to reduce the potential of vandalism by placing controls in appropriate enclosures.

9.7 Lighting

a. The type and location of lighting should minimize direct glare onto adjoining properties. Lighting should be shielded to confine all direct rays within the property (Refer to Figure 9-43).

b. Lighting should be designed to satisfy functional as well as contribute to overall design quality.

c. Lighting should be provided in a relatively even pattern with ground level foot-candle illumination levels not varying by more than four to eight foot-candles.

Figure 9-43: Lighting should avoid spillover onto adjoining properties

Figure 9-44: Lighting should be scaled to the pedestrian
d. Accent lighting, when provided, should complement exterior color and materials (Refer to Figure 9-44).

e. Site lighting should not exceed more than 5 foot-candles of illumination with 50 feet of a property used as or zoned residential.

f. Security lighting should be designed as part of a comprehensive lighting plan.

g. Vehicle entrances, driveways, parking and service areas, pedestrian entrances, walkways, and activity areas should have a sufficient level of lighting to provide security and safety. A minimum of 1 foot-candle should be provided.

h. Parking lot lighting fixtures should not exceed 35 feet in height. When within 50 feet of residentially zoned properties, fixtures should not exceed 20 feet (Refer to Figure 9-46).

i. Pedestrian-scaled lighting for sidewalk and street illumination is encouraged.

j. Light fixtures and structural supports should be architecturally compatible with the theme of the development.

k. Lighting should be used to accent on-site public art, specimen trees, and architectural features (Refer to Figure 9-47).
l. Light standards within parking lots should be designed with raised bases to protect them from damage by vehicles.

m. Wall mounted lighting should not extend above the height of the wall or parapet to which they are mounted.

n. Lighting should not be animated.

o. Overhead service wires or exposed conduit should be avoided.

p. Lighting fixtures with exposed bulbs should not be used.
9.8 MISCELLANEOUS

9.8.1 Site Furniture

a. Street furnishings (i.e. benches, bollards, trash receptacles, bicycle racks, and newspaper racks) should be compatible with the design of adjacent development (Refer to Figure 9-50).

b. The siting of street furnishings should not create pedestrian/vehicular conflicts.

c. Legible and appropriately scaled kiosks/directories should be sited near vehicular and pedestrian entrances.

d. Tree grates should be provided along street edges and locations where a continuous-level walking surface is needed (Refer to Figure 9-49).

e. Tree grates should be provided to protect trees in high activity areas. Tree gate design should be compatible with adjacent development and other street furniture.

f. The design of newspaper boxes should be consolidated into one rack. Racks should be attractive on all sides (Refer to Figure 9-51).
g. Public telephones should provide enclosures that are consistent with the prevailing streetscape furniture and architecture (Refer to Figure 9-52).

h. Bike racks, bike corrals or similar facilities should be consistent in design of adjacent streetscape furniture.

### 9.8.2 Refuse, Storage and Equipment Areas

a. Refuse, storage and equipment areas should be screened from public streets and/or neighboring residential properties. Screening should be compatible with the design of adjacent architecture (Refer to Figure 9-53).

b. The design of refuse, storage and equipment areas should incorporate landscaping to screen from view.

c. Refuse storage areas that are visible from upper stories of adjacent structures should provide an opaque or semi-opaque horizontal cover/screen to reduce unsightly views. The screening should be compatible with the design of adjacent development.

d. Refuse storage areas should be located outside the required setbacks and screened from street visibility. The enclosure should be located so that the doors do not interfere with landscaping, pedestrian, or vehicle path of travel and allow for trash truck access.

e. Dimensions of refuse enclosures should not exceed the reasonable space required for anticipated uses.

f. Refuse enclosures should be designed solely for refuse.

g. Utility equipment should be located at the rear of the development.

### 9.8.3 Loading/Unloading Zones

a. Loading and unloading zones should be located to minimize interference with traffic flow.

b. Loading and unloading zones should provide adequate space for maneuvering into and out of a loading position. These areas should be designed to integrate with the entire development (Refer to Figure 9-54).

c. Loading and unloading zones should be located and designed to minimize direct
exposure to public view. Landscaping to reduce the visual impact whenever possible (Refer to Figure 9-55).

**Figure 9-54: Loading delivery and utility equipment areas should be located at the rear of the development**

**Figure 9-55: Provide a wall and landscaping between loading/unloading zones in compatible uses**

**9.8.4 Walls and Fences**

a. Walls and fences should be kept as low as possible while performing their functional purpose. Heights of commercial walls and fences should be kept to a minimum height to avoid a “fortress” image.

b. Landscaping should be used in combination with walls to visually soften blank surfaces. Vines are strongly encouraged (Refer to Figure 9-56).

c. Colors, materials and appearance of walls and fences should be compatible with the development. Opaque materials, such as plywood boards, sheet metal, etc. are not allowed.

d. Perimeter walls should be constructed of decorative masonry block or similar material. The use of chain link fencing is not permitted (Refer to Figure 9-57).
Chapter 10
Special Use Guidelines

10.1 INTRODUCTION AND PURPOSE

The guidelines contained in this Chapter provide supplementary design guidance addressing the more challenging development types within the City of Santa Ana. Certain types of development present design challenges that require unique solutions. Development types in this Chapter include:

- Offices
- Vehicle Dealerships (new/used)
- Service Stations and Car Washes
- Auto Repair Services
- Drive-through Establishments
- Big Box Retail
- Mini-Storage Facilities
- Mixed Use Projects
- Telecommunication Facilities
- Religious Institutions

Development applicants should consult the Commercial, Industrial, and Downtown Development or other applicable Guidelines in addition to the guidelines contained within this Chapter.

10.2 OFFICES

10.2.1 Description

Office development is typically located within Santa Ana’s commercial and professional districts. Although appropriate for these districts, office uses have physical and functional characteristics that are not typical of traditional commercial and industrial development. These features include:

- Scale of buildings are typically larger
- Intensity of development is lower
- Higher utilization of on-site parking
- Uses typically occur in multi-story buildings
- Fewer public entries
- Buildings not typically featured directly on the street frontage
- Consistency in types of tenants

Figure 10-1: Example of contemporary office building in Santa Ana

10.2.2 Site Organization

a. Office buildings should consider the characteristics of the site and should relate to the surrounding built environment in function, pattern, and scale.

b. Office buildings should have a strong presence on the street. No parking should be permitted between the front of the building and the street. Surface parking should be located at the rear of the site or at the side of the building (Refer to Figure 10-2).
c. Development at corner locations should provide creative architectural and site design features. Art objects, plazas, or other appropriate features are strongly encouraged.

### 10.2.3 Building Design

a. Office development over two stories in height or 50 feet in length should incorporate variations in vertical and horizontal wall planes to reduce scale and massing (Refer to Figure 10-3).

b. Multi-story office development should be sited to minimize conflicts with adjacent residential uses.

c. Primary building entries should be well defined and provide a ‘sense of entry’ for the building. The use of high quality exterior finishes, architectural features such as columns, canopies, etc. is strongly encouraged (Refer to Figure 10-4).

d. Office buildings should have the primary entry visible from the public street and be accessible from pedestrian pathways or parking areas.

### 10.3 Vehicle Dealerships (New/Used)

#### 10.3.1 Description

Vehicle dealerships specialize in the sale and servicing of new and used automobiles. The sale and services of automobiles present a variety of design challenges. These features include:

- Outdoor storage and display for vehicles
- Vehicle display oriented toward the street
- On-site vehicle servicing and repair
- Vehicle drop-off and Pick up areas
- Use of heavy equipment and machinery

d. All storage areas should be screened from view from the public street and any adjacent residential area.

### 10.3.3 Building Design

a. Enclosed storage areas should be architecturally consistent with the primary structure on a site.

b. Service uses should be contained entirely within a building of solid (e.g. masonry) construction. The access points to the service bays should not face the public street.

c. Vehicle washing areas should be designed and located so they are not visible or audible from public streets or residential areas.

d. Ancillary structures should be complementary to the architecture of primary buildings on a site and located to not interfere with vehicular and pedestrian circulation.

### 10.3.4 Other

a. The use of public address systems is discouraged. Should a public address system be utilized, noise should not impact adjacent properties.

b. Compressors and other pneumatic equipment should be located on the interior of a site to minimize noise impacts on adjacent properties.

c. Storage facilities should be provided on-site for vehicle, parts, and potentially hazardous materials (oil, lubricants, etc.). Storage facilities should be enclosed entirely within.
10.4 SERVICE STATIONS AND CAR WASHES

10.4.1 Description

Service Stations and Car Washes are uses often characterized by unique site features, such as:

- Intensive on-site vehicle utilization
- On-site repair and servicing
- Large expanses of paving
- Use of equipment and machinery
- Use of potentially hazardous materials

10.4.2 Site Organization

a. Building elevations containing service or repair bays should not face toward a public street or toward residential uses within 300 feet of the property.

b. Structures on a site should be grouped together and integrated into the overall design of a site.

c. When commercial development abuts a service station, two-way vehicular access that is integrated with the adjacent development should be provided.

d. A fuel delivery truck lane should be provided through the site with minimum turning radius of 40 feet and provide for right side unloading of the vehicle into underground tanks.

e. Site design for projects located at street corners should provide structural or strong design elements to anchor the corner. This can be accomplished using built elements or with strong landscaping features (Refer to Figure 10-9).

f. Storage facilities should be enclosed within the primary structure on the site.

g. The siting of self-serve carwash bays, drying and vacuuming areas should not conflict with on-site vehicle circulation. These areas must also be designed to mitigate noise impacts on surrounding properties.
h. Self-service car wash bays, and drive-through car wash facilities should be designed to ensure all drainage is confined on-site.

i. When commercial development abuts a services station, two-way vehicular access integrated with the adjacent development should be provide where feasible.

10.4.3 Building Design

a. Building elevations facing public streets should be architecturally detailed. Building design should be given equal design consideration on all elevations.

b. Service station building design should consider the context of the site and area. Corporate or franchise design is strongly discouraged.

c. The roof of structures, including pump canopies, should incorporate full roof treatments with a low to moderate pitch. Flat roof structures or mansard roof applications are strongly discouraged (Refer to Figure 10-11).

Figure 10-9: Provide strong landscape and design elements at corner locations

Figure 10-10: Canopies and primary structures should be architecturally compatible

Figure 10-11: Examples of pump canopies

PUMP CANOPIES SHOULD INCORPORATE FULL ROOF TREATMENTS WITH LOW TO MODERATE PITCH
d. Pump island canopies should be designed with a hip, gable, barrel vaulted, or other roof system to match the architecture of primary structures on the site (Refer to Figure 10-10).

e. High quality, durable building materials should be used. Service stations and car washes should incorporate facade material to produce texture design. Reflective, glossy, and fluorescent surfaces are discouraged.

f. Car wash equipment should be enclosed within a permanent structure. Self-serve vacuuming equipment should be screened.

g. Car wash building design should incorporate noise control measures that minimize noise generated by machinery, blowers or other mechanical equipment.

h. When service stations/car washes include retail uses, a minimum of fifty percent of the storefront facing a public street should be unobstructed, clear glass.

i. When service stations/car washes include retail uses, cash registers should be clearly visible from adjacent public streets.

j. When service stations/car washes include retail uses, a clearly defined pedestrian path should be provided from required on-site parking to the primary customer entrance.

10.4.4 Circulation and Parking

a. Fuel trucks should be able to enter and exit a site with ease. Maneuvering to park and unload should be minimized (Refer to Figure 10-12).

![Figure 10-12: Fuel truck driveways should not obstruct on-site circulation](image)

b. The location of filling pumps, carwash bays, or other on-site facilities should be designed to avoid vehicle stacking or overflow onto adjacent streets.

c. Self-service facilities, such as water and air, or telephone should be located so that they do not obstruct on-site circulation. Separate parking facilities should be provided.

d. Parking for on-site retail uses should be located in close proximity to the primary customer entry.
10.4.5 Landscaping, Walls, Fences

a. When service stations/car washes front public streets, a berm and hedge should be provided for screening. (Refer to Figures 10-13, 10-14 and 10-15).

b. A landscaped planter should be provided along the footprint of the entire building at pedestrian and vehicle entries.

c. Required perimeter walls and fencing should provide flowering vines at regular intervals to discourage graffiti.

d. Security fencing, in addition to required perimeter walls should be decorative and consistent with adjacent architecture.

e. Service bays should be provided with roll-up (or-similar) doors. All operating mechanisms should be located within the interior of the structure. (Refer to Figure 10-16).
10.5 AUTO REPAIR SERVICES

10.5.1 Description

A major problem with older auto repair and service facilities is inadequate storage for vehicles being serviced, resulting in cars, etc. being parked on the street, sidewalks, landscaping, and neighboring properties. Additionally, auto repair service facilities can be problematic uses due to noise, traffic, and the presence of hazardous materials.

10.5.2 Site Organization

a. The interior of service bays should not be visible or audible from adjacent public streets, residential structures within 300 feet, or active open space.

b. Sufficient space should be provided for vehicle drop-off. Site design should provide space for vehicle stacking during peak hours.

c. High quality, durable building materials should be used. Reflective, glossy, and fluorescent surfaces are discouraged. (Refer to Figure 10-18).

10.5.3 Building Design

a. Building design should be clean and simple, stylistically consistent, and related to surrounding buildings through use of similar scale, materials, colors, and/or detailing.

b. Building structures should be permanent. Lightweight metal or other temporary appearing structures are discouraged.

c. Special design considerations should be made for the storage of oil, lubricants and other potentially hazardous materials.

d. Compressors and pneumatic equipment should be located entirely within enclosed structures.

e. Building elevations facing public streets should provide a minimum fifty percent of the storefront as clear glass.
10.5.4 Circulation and Parking

a. When auto repair services occur on through lots, driveways should not occur on streets with adjacent residential uses.

b. Parallel parking should be avoided.

c. A clearly defined pedestrian walkway should be provided from the required on-site parking to the primary customer entrance.

10.5.5 Landscaping, Walls, Fences

a. Landscaping should be incorporated on street front setback areas, along the building base, adjacent to customer entries, and along property lines visible from offsite or from customer access areas (Refer to Figures 10-19 and 10-20).

c. A five-foot minimum landscaped planter should be provided along the footprint of the entire building, expect at pedestrian and vehicle entries.

d. Required perimeter walls and fencing should provide flowering vines at regular intervals to discourage graffiti.

e. Security fencing, in addition to required perimeter walls should be decorative and should be consistent with adjacent architecture.

f. Barbed wire, if allowed, should be mounted below the top of the masonry wall and screened from view. Chain link fencing should never be used.

10.5.6 Other

a. Public Address systems should not be used in outdoor areas. Any Public Address system should confine noise to within an enclosed building.

b. When auto repair services front public streets, a berm and hedge should be provided. A minimum 3-foot height is recommended.
b. Adequate storage/trash areas should be designed to accommodate disposal of junk parts packing from parts shipments, and used oil and lubricants pending recycling.

**10.6 HOTELS AND MOTELS**

**10.6.1 Description**

Hotels and Motels can be considered both a commercial and residential-type use. Therefore, the design and orientation of hotel and motel development must consider both the impacts of hotel/motel uses on adjacent development and the impacts from adjacent development. The following guidelines should apply to hotel and motel development in Santa Ana.

**10.6.2 Site Organization**

a. The primary visual presence along the major street frontage should be the building and driveway approach, not the parking lot (Refer to Figure 10-21).

b. Delivery and loading areas should be screened to minimize impact on incompatible uses.

c. Loading and unloading areas should be located in the rear of the building lot.

d. Recreational facilities such as swimming pools should be designed to offer privacy to facility users and to minimize noise impact on adjacent uses.

e. When Hotels and Motels abut public or private streets, a minimum landscape setback of 20 feet should be provided. Landscape setbacks from interior property lines should be at least 5 feet.

f. Hotels and Motels should provide common open space. Fifty percent of the common open space should be provided at ground level with a minimum area of 20 feet by 20 feet landscaped. Common open space should be a minimum of 1,000 square feet and maximum of 7,500 square feet. A ratio of 50 square feet of common open space for each guest room is recommended.

**10.6.3 Building Design**

a. All sides of a building should be architecturally consistent.

b. The scale of buildings should be related to surrounding development patterns. Upper floors should be set back to lessen the appearance or mass and bulk (Refer to Figure 10-22).

c. For structures over two stories, access to guestrooms should be provided from interior hallways. Avoid room entrances directly adjacent to parking lots or exterior walkways (Refer to Figure 10-23).
d. Exterior building materials should include natural stone (marble, granite, slate, etc.) and/or cultured stone. The choice of materials should be complementary to the design of the entire structure.

e. Mechanical equipment of all types, including swimming pool equipment, should be located to minimize impacts on adjacent uses. Air conditioning units should not be visible from public streets.

f. Walkway, stairway, and balcony railings and other similar details should be architecturally consistent with the basic building design (Refer to Figure 10-24).

g. For long-term stay business hotels, guest rooms should provide a minimum of 220 square feet of net usable space.

h. For long-term stay business hotels, guest rooms should provide a kitchen inclusive of a kitchen sink with disposal, cooking appliances, refrigerator, dry food/utensil storage and food preparation area with a clear workspace of 30 inches.

i. For long-term stay business hotels, laundry facilities should be provided at a recommended minimum rate of one washer and dryer for each 30 guest rooms.

j. A minimum of 2,500 square feet of meeting/conference space should be provided. In determine square footage a ratio of 20 square feet per guest room is recommended. Long-term stay business hotels should provide a minimum of 1000 square feet of meeting space.
k. An interior lobby should be provided for all hotels and motels. Lobby space should provide a minimum of 1,000 square feet, with a common fireplace and ceiling heights of at least 12 feet. For long-term stay business hotels, interior lobbies should be a minimum of 500 square feet, with a 50 percent of the floor area having a ceiling height of at least 12 feet.

l. Guest rooms should be pre-wired for telephone, cable and internet service.

m. Hotel and Motels, excluding long-term stay business hotels, should provide a minimum 2,500 square foot restaurant, unless facilities are located in close vicinity.

10.6.4 Parking and Circulation

a. A porte-cochere and/or covered drop-off zone for vehicles and pedestrians, independent of drive aisles, should accommodate guest loading and drop-off and serve as the primary entry to the hotel (Refer to Figure 10-25).

b. The primary pedestrian walkway should be a minimum of eight feet wide. Primary walkways are those that connect pedestrians from the street to the main entry and from a building to on-site amenities. All secondary walkways on a site should be a minimum of four feet in width, exclusive of vehicle overhangs.

10.6.5 Landscaping, Walls, Fences

a. In addition to all standards that may apply to Hotel/Motel development, the site should be landscaped according to commercial landscape design standards and guidelines.

b. Walls and Fences along side a rear property lines should be designed to complement the architecture of the primary buildings on a site. Decorative elements, or flowering vines should be incorporated.

c. When walls and fences are adjacent to parking, driveways and pedestrian access points, a maximum height of 3 feet should be used. Decorative elements, or flowering vines should be incorporated.

d. A 5-foot minimum landscaped buffer should separate ground floor units from on-site walkways, parking facilities and other on-site amenities.

Figure 10-25: Example of covered drop-off area.
10.6.6 Other

a. Hotel and Motels should provide outdoor and indoor amenities for guests. The design of amenities should be consistent with the architecture of primary structures on the site. Amenities should include spa, pool, weight room/training stations and a business center.

b. Landscaped areas should separate ground floor units from pedestrian walkways, project amenities and drive aisles/parking areas.

c. Decorative walls or fences should be incorporated along the perimeter of the property (Refer to Figure 10-26).

10.7 Drive-Through Businesses

Drive-through businesses include restaurants, banking institutions with drive up teller/ATM access pharmacies, or other similar facilities. Drive-through businesses require additional site design considerations to mitigate vehicular access, on-site circulation visual and noise impacts.

It should be noted that drive-through businesses are prohibited downtown.

The following supplementary guidelines should be incorporated into any development providing drive-through service.

Figure 10-27: Example of a drive-through business in Santa Ana

10.7.1 Site Organization

a. The primary visual presence along the major street frontage should be the building, not parking or a drive-through lane. Buildings should be “built to” the minimum front setback lines.

b. Menu board speaker placement should protect adjacent residential areas from excessive noise. Drive-through aisles should be located away from adjacent residential structures.

c. The main entrance should be sited at the maximum distance from drive-through aisles.

d. Drive-through lanes should accommodate vehicle stacking at menu board and at pickup windows to ensure adequate circulation (Refer to Figure 10-28).
e. Adequate space should be provided for loading and unloading. Loading and unloading facilities should not interfere with on-site vehicular and pedestrian circulation.

Figure 10-28: Example of typical drive through design.

10.7.2 Building Design

a. All building elevations, whether such elevations function as the front, side, or rear of the building should be architecturally detailed.

b. Buildings should incorporate a full roof with built-in roof top equipment wells hidden through wood/metal trelliswork (Refer to Figure 10-29).

Figure 10-29: Equipment concealed with a horizontal wood trellis

c. Outdoor eating areas are encouraged. The design of outdoor spaces should provide details such as trellis, low walls, fountains, etc.

d. If the drive-through is a pad building for a shopping center, the architecture should be compatible with the design of the center in which it is located (Refer to Figure 10-30).

Figure 10-30: Drive-through businesses should be architecturally compatible with other buildings in the same commercial development

e. Franchise identifying features should only be located on the main structure.
f. Exterior doors, equipment rooms, service/employee entries should provide complementary architectural treatment.

10.7.3 Other

a. Drive-through aisles should be screened from the view of street frontage and adjacent parking areas. Landscaped berms, low masonry walls, or thick shrub landscaping should be utilized (Refer to Figure 10-31).

![Figure 10-31: Screen drive-through aisles from street frontages](image)

b. The following drive-through design features are recommended:

- A drive-through lane with a minimum length of 160 feet, including the following:
  - A distance of 80 feet from the center of the pick-up window or the pay window, whichever is first to menu board; and,
  - A distance of 80 feet from the order or menu board to the beginning of the drive-through lane.

- Separation of the drive-through traffic from pedestrian traffic, vehicular traffic and parking.

- The drive-through lane should be a separate and distinct lane; it should be distinctly separate from the parking area.

- Drive-through lane widths should be a minimum of 10 feet and 12 feet at curves. Curve radius should be a minimum of 24 feet.

- Driveway interference – queuing and circulation must not interfere with ingress and egress at driveways.

![Figure 10-32: Delineate drive-through aisles and driveway entry and exit with enhanced paving](image)
10.8 “BIG BOX” RETAIL DEVELOPMENT

10.8.1 Description

Big Box retail development describes commercial development characterized by larger than average retail square footage under one roof. Big Box retail development requires extensive parking to accommodate higher than average parking demand. The following guidelines shall apply to all Big Box retail development.

10.8.2 Site Organization

a. Parking lots for big box retail should not occur entirely in front of the building.

b. The number of entrances and exits should be designed and located to avoid interference with traffic flow along adjacent streets (Refer to Figure 10-34).

c. A variety of roof types are encouraged. Distinct and interesting rooflines instead of flat roofed structures are recommended.

d. A substantial cornice should be used at the top of a parapet wall or roof curb. (Refer to Figure 10-35).

e. The big box building should contain an identifiable base, extending two or more feet up from the finished grade (Refer to Figure 10-35).

f. Base materials should be highly resistant to damage, defacing and general wear and tear. Precast decorative concrete, stone masonry, brick and commercial grade ceramic tile are examples of acceptable base material (Refer to Figure 10-35).
CHAPTER 10 – SPECIAL USE GUIDELINES

Figure 10-35: Design big box retail buildings with distinctive architectural features. Avoid plain, box-like structures

Figure 10-36: Articulate facades with insets, arcades, and window recesses

g. Big box buildings should be designed with liner shops with entrances from interior and exterior of the big-box buildings to create a more human scale setting (Refer to Figure 10-35b).

Figure 10-35b: Example of big box with integrated liner shops

h. Exterior wall treatments such as arcades, portico’s, insets, colonnades, and wing walls should be used to successfully mitigate the appearance of the typical big-box building appearance (Refer to Figure 10-36).

Figure 10-36: Articulate facades with insets, arcades, and window recesses

i. The base of the building should be surrounded on all four sides by landscaping or enhanced pedestrian pathways.

j. Outdoor storage areas should be consistent with the architecture of the primary building. The outdoor display of merchandise in front of the business, or in any other area not expressly designed for such display, is prohibited (Refer to Figure 10-37).

Figure 10-37: Outdoor storage areas should be consistent with the architecture design of the primary building

10.8.3 Other

a. The design of loading areas should prevent truck back-up maneuvers from or onto the public rights-of-way.
b. Loading should be located and designed to minimize direct exposure to public view. These areas should be screened with landscaping to reduce visual impacts. (Refer to Figure 10-38).

10.9 MINI STORAGE FACILITIES

10.9.1 Description

Mini Storage facilities are characterized by individually accessible storage facilities contained within an enclosed building. Mini storage facilities provide design challenges related to architectural compatibility, screening, and security. The following guidelines shall apply to mini storage facilities.

10.9.2 Site Organization

a. Storage areas/mechanical equipment should not be located near or oriented toward residential neighborhoods.

b. Sufficient space between drive aisles should be provided for vehicle loading and unloading areas.

10.9.3 Building Design

a. Mini storage facilities should be architecturally compatible with the adjacent development. Design should be capable of being integrated into a commercial, retail, or industrial environment.

b. Full roofs or the appearance of full roofs is encouraged. The use of exterior elevation windows is encouraged. Even if these windows are nonfunctional.

c. An R&D type of building design is encouraged. At a minimum, mini-storage facilities should provide an upgraded tilt-up appearance, consistent with the design guidelines for industrial development.
d. To reduce the impact of long, unarticulated surfaces, the use of windows, or other design features on exterior elevations is strongly encouraged. Windows on exterior elevations need not be operable, and utilized only for decorative purposes.

e. Potentially noisy activities, such as automated gates, delivery and unloading areas should not be oriented toward residential development, unless appropriate screening is provided.

10.9.4 Landscape, Walls, Fences

a. The design of access control gates should complement the design of perimeter walls and primary structures on a site. Access control gates should be transparent, and provide a clear line of site at access locations (Refer to Figure 10-41).

b. A fence or solid masonry wall should be provided around the perimeter of the facility. The fence wall should be decorative and landscaped.

c. Storage areas should screen the public’s view from adjoining properties through appropriate screening techniques.

d. Security lighting should not direct glare onto adjoining properties.
10.10 MIXED USE PROJECTS

10.10.1 Description

Mixed-use projects are defined as developments that combine commercial/office and residential uses or structures on a single lot, or as components of a single development. The uses may be combined either vertically within the same structure, or spread horizontally on the site in different areas and structures (Refer to Figure 10-42).

The primary design issue related to mixed use projects is the need to successfully balance the requirements of residential uses with the needs of commercial uses. The following guidelines apply to mixed use development.

10.10.2 Site Organization

a. Separate entrances should be provided when residential and commercial uses are provided in the same structure.

b. Site access drives and parking facilities for residential uses and commercial uses should be separated.

c. Access drives should incorporate distinctive architectural elements and landscape features to differentiate access to commercial and residential parking areas.

d. Loading areas and refuse storage facilities should be placed as far as possible from residential units and be completely screened from adjacent residential development.

e. The location and design of refuse enclosures should minimize potential nuisances from odors (Refer to Figure 10-43).

10.10.3 Building Design

a. Architectural style and use of materials should provide compatibility throughout the entire mixed-use project (Refer to Figure 10-44).

b. Structures with heights greater than three stories should set back to minimize the appearance of mass and bulk.
CHAPTER 10 – SPECIAL USE GUIDELINES

introduce the potential for adverse visual impacts due to siting and design requirements. The following guidelines encourage the minimization of such impacts through facilities design and siting.

10.10.4 Circulation and Parking

a. When enclosed parking is provided for the entire complex for residential and commercial uses should provide separate parking.

b. Parking lot security lighting for the commercial uses should not spill over into the residential areas.

10.10.5 Landscaping, Walls, Fences

a. Appropriate screening should be provided for all roof-mounted equipment.

10.11 TELECOMMUNICATION FACILITIES

10.11.1 Description

Telecommunications facilities include poles, towers, antennas, support facilities and components. Telecommunication facilities
10.11.2 Site Organization

Telecommunication facilities should be located to minimize their visibility. The use of landscaping is encouraged to screen the facility, where necessary.

10.11.3 Facilities Design

a. All telecommunication facilities should be designed to blend into the existing natural or built environment to the greatest extent possible. Co-location of facilities is encouraged (Refer to Figure 10-46).

b. Telecommunication facilities mounted onto existing buildings are encouraged. Every effort should be made to conceal the facility within or behind existing architectural features.

c. Roof-mounted facilities should be placed and screened appropriately to limit the visual impact on the building’s silhouette.

d. Facilities should be screened on all four elevations.

e. Telecommunication facilities mounted below a building parapet should blend with the existing building’s architecture. Facilities should be painted consistent with the design features and materials of the building (Refer to Figure 10-47).
f. All telecommunication facilities should use materials, colors and textures that will blend with the natural setting and built environment.  (Refer to Figure 10-48).

g. Telecommunication facilities should be painted with compatible, non-reflective paint.  The color should blend with the surrounding environment.

10.11.4 Other

a. Co-location of facilities (use of the same site by multiple carriers) is preferred. Applicants should seek all opportunities to co-locate facilities.

b. Telecommunication facilities should be as small as possible and the minimum height necessary without compromising reasonable reception or transmission.

c. Ground-mounted telecommunication facilities should be screened with landscaping of sufficient height and depth.

10.12 RELIGIOUS INSTITUTIONS

10.12.1 Description

Religious institutions include a wide variety building types typically utilized by faith-based organizations. Religious institutions are characterized by higher profile architectural design and significant on-site parking requirements. In addition, Religious institutions may be located in a variety of land use districts including commercial, industrial and residential. The following guidelines apply to the design and development of religious institutions and related ancillary use and structures:

10.12.2 Site Organization

a. Religious institution siting is recommended at corner lots. Locating these type uses at corner lots minimizes potential impacts on adjacent properties.

b. The orientation of buildings and the positioning of other elements on the site, such as entries, parking lots, and driveways, should be designed to minimize traffic and noise impacts on adjacent properties.

c. Religious institutions should be placed at the minimum required setback. The building’s facade should be parallel to the street.

d. Avoid locating parking between the front of the building and the street. Parking should be located at the rear and/or side of the property.

e. Exterior space, plazas, and courtyards are encouraged and should relate to the surrounding structures to allow large gatherings.

f. Site design should ensure minimal shadow impacts onto adjacent properties.

g. Ancillary uses such as schools, multi-purpose rooms and offices should be integrated into the overall design of the site.

10.12.3 Building Design

a. Height and scale of religious institutions should complement adjacent structures.
b. Building facade should be detailed in such a way to make them appear smaller in scale.

c. Building elevations facing streets, whether they function as the front, side, or rear or the building should be architecturally detailed to avoid being perceived as the back of the building.

d. Long, blank, unadorned, facades are strongly discouraged. Monolithic facades should be broken up by the provision of vertical and horizontal design elements.

e. Rooms located within a structure should be accessible from an interior corridor. Separate exterior entrances to rooms are discouraged.

### 10.12.5. Landscaping, Walls, Fences

Screening and buffering should be provided between the church property and adjacent residential uses to minimize any potential impacts.

### 10.12.4 Circulation and Parking

a. Parking should be located in close proximity to the primary entrance. A safe pedestrian path should be provided from all parking areas to the main entrance.

b. Parking should be screened from public view by walls and landscaping or other appropriate methods.

c. Non-contiguous parking areas are strongly discouraged as they are not conducive to proper circulation.

d. Passenger pick up/drop off areas should not interfere with on-site and off-site vehicular and pedestrian circulation.
Chapter Eleven

Industrial Design Guidelines
Chapter 11

Industrial Design Guidelines

11.1 INTRODUCTION AND PURPOSE

The following industrial/design guidelines seek to assure high quality development in Santa Ana’s industrial districts by:

- Establishing a consistent quality of design for all types of industrial development;
- Ensuring industrial development considers the function and character of adjacent use;
- Creating industrial development that contributes to the overall design quality of the City of Santa Ana.

11.2 GENERAL DESIGN OBJECTIVES

The design of industrial development in Santa Ana should:

- Establish attractive, inviting, and functional siting of buildings and parking areas.
- Contribute to reinforcing or establishing a distinct architectural image.
- Consider the scale, proportion and character of adjacent development.

11.3 SITE PLANNING GUIDELINES

General Guidelines

a. The City’s zoning code should always be consulted as the first step of any industrial development project.

b. Building orientation and positioning of other elements on a site (e.g., entrances, parking lots, and driveways) should be planned to assure both a viable, safe, and attractive site design.

c. Extensive landscaping, increased setbacks and appropriate building orientation and massing should provide adequate buffering between industrial and residential uses.
d. Site planning for Industrial development should be sensitive to adjacent development.

e. The main elements of a good industrial site design should include (Refer to Figure 11-3):

   - clearly defined site ingress and egress (1);
   - service areas located at the sides and/or rear of buildings (2);
   - convenient public access and visitor parking (3);
   - screening of storage, work areas, and mechanical equipment and buffering from adjacent land uses (4);
   - storage and service area screen walls, as required by the Zoning Ordinance (5); and
   - emphasis on the main building entry and landscaping (6).

11.4 ARCHITECTURAL GUIDELINES

The following guidelines are not intended to specifically control any particular architectural style. Rather, they encourage a quality and completeness of design that will contribute to the overall quality of development.

11.4.1 Architectural Imagery

a. Building entries should be clearly identifiable and integrated within the overall building design. Use projections, columns, distinctive materials and colors to articulate entrances (Refer to Figure 11-4).

b. Avoid long, blank facades. The same or compatible design features should be continued or repeated on all building elevations. Side and rear views of a building should be given similar design attention (Refer to Figures 11-5 and 11-6).
Chapter 11 – Industrial Design Guidelines

11.4.2 Scale and Mass

a. New industrial development or redevelopment should be similar in scale and massing of adjacent development and should establish a smooth transition between uses. If a different scale for new development is required for functional reasons, the new development should provide a transition between adjacent buildings.

b. Vertical and horizontal offsets should be integrated within building facades to minimize building bulk (Refer to Figure 11-7).

c. Vary building heights/massing and setbacks to define different functions such as offices and warehousing is encouraged.

d. When adjacent to residential uses, uses or activities above the first floor should consider the privacy of residents when placing windows, balconies or other accessible spaces.

11.4.3 Roof Articulation

Roofs should be given design considerations and treatment equal to that of the rest of the building’s “exterior” and should be integrated within the architectural theme of industrial buildings. Rooflines of industrial buildings should include variations to avoid long, continuous planes, demonstrating special design treatments where there is a major change in an element of a building elevation.

a. Rooflines of industrial buildings should include variations to avoid long horizontal rooflines. Long, horizontal rooflines should be minimized through articulating a building’s facade, alternating roof heights, providing variations in materials and color’s or other appropriate methods (Refer to Figure 11-7).

b. Roofline elements including parapet walls should be developed along all elevations, regardless of orientation away from the right-of-way.
c. Dependant upon the architectural style of a structure, industrial buildings are encouraged to use decorative roof elements such as cornices to enhance a building’s roof edge.

d. When sloped roofs are incorporated into a design, equipment wells should be used to continue the existing pitch and roofline.

11.4.4 Materials and Colors

a. All exterior materials, textures and colors should be appropriate for the architectural style or theme of the building and should contribute towards the quality of the streetscape (Refer to Figure 11-8).

b. Materials should be chosen to withstand vandalism, accidental damage, and exposure to the elements. Avoid materials with high maintenance such as stained wood, clapboard, or shingles.

c. Use various materials (i.e. masonry, concrete texturing, cement or plaster) to produce effects of texture and relief that provide architectural interest (Refer to Figure 11-9).

d. Compatible colors on a single facade or composition should add interest and variety while reducing building scale and breaking up plain walls. Light, neutral colors should be used on industrial buildings to help reduce their perceived size. Contrasting trim and color bands can help break up blank surfaces (Refer to Figure 11-10).

e. Building additions and other exterior structural modifications should be consistent with the materials and colors of the primary structures on a site.

f. Brightly colored industrial park buildings are strongly discouraged. Bright or contrasting colors should be used for trim or accents only.
g. Large expanses of highly reflective surfaces should be minimized to reduce heat and glare onto adjacent development.

### 11.5 Parking and Circulation Guidelines

#### 11.5.1 General Guidelines

a. Parking lots and cars should not be the dominant visual elements of industrial sites. Large expansive paved areas located between the street and the building should be avoided in favor of smaller multiple lots separated by landscaping (Refer to Figure 11-11).

b. Parking lots adjacent to and visible from public streets should be screened from view through the use of rolling earth berms, low screen walls, and changes in elevation, landscaping or combinations thereof. Parking lot entries should be distinguished by high quality entry statements (Refer to Figure 11-12).

c. Unobstructed sight lines at corners and mid-block are important to improve visibility for vehicles exiting and entering the site and to reduce potential conflicts with other vehicles, bicycles, and pedestrians.
d. On-site circulation and parking are to be designed to assure that vehicles need not exit onto the street and then re-enter the site to find another parking space.

11.5.2 Vehicular Circulation

a. The circulation system of industrial sites should be designed to reduce conflicts between vehicular and pedestrian traffic.

b. On-site circulation should provide adequate space for vehicle maneuvering, including sufficient turning radii for large trucks when appropriate.

c. Sufficient space should be provided to allow vehicle stacking on-site. Parking areas should be designed to avoid vehicle stacking onto adjacent roadways.

d. Parking and building access should be designed in consideration of emergency vehicle access.

e. The driveway throat from the intersection with an adjacent street to the first internal drive aisle should be of sufficient length and width to prevent stopped vehicles from blocking internal circulation.

f. Dead-end aisles are not acceptable and should be avoided because they restrict the flow of on-site traffic and may cause traffic congestion on the street.

g. Travel aisles should be designed so that they align with on another. Travel aisles that are offset are inappropriate (Refer to Figure 11-13).

11.5.3 Pedestrian Circulation

a. Safe and convenient pedestrian walkways should be provided between buildings, at building entrances and within parking areas.

b. Pedestrian walkways should be accessible, safe, visually attractive, and well defined by decorative pavement, landscaping, low walls, and low-level lighting (Refer to Figure 11-14).
c. Pedestrian access should be provided between building entrances and parking. Where appropriate, transit shelters should be provided (Refer to Exhibits 11-15 and 11-16).

11.6 Landscape Guidelines

11.6.1 General Guidelines

a. Landscaped areas should be planned and designed as an integral part of the project. The type, quantity and placement of plant material should be selected for its structure, texture, color and compatibility with the building design and materials (Refer to Figure 11-17).
b. Industrial buildings should provide a high level of landscaping at the street frontage (20 foot setback on arterials and 10 foot setback on non-arterials). When designing landscaping, consideration should be given to the compatibility with the adjacent street frontage and adjacent properties (Refer to Figure 11-18).

c. Where fences or walls are visible from public streets, a combination of trees, hedges, shrubs and vines should be planted along the street-facing side. Fences should be located behind property setbacks.

11.6.2 Parking Lot Landscaping

a. Parking areas should be buffered and landscaped to reduce visual impacts and, when possible, located at the rear of industrial buildings. Landscaped parking areas should be designed to avoid direct views of parked vehicles, minimize noise, light, exhaust fumes and other negative effects to pedestrians, and to shade parking spaces (Refer to Figure 11-19).

b. Landscape buffer strips should be planted with trees at a quantity equivalent to one for each 30 linear feet and with suitable shrubs, groundcovers and berms.

c. Parking areas located within or abutting residential areas should be developed with landscaped buffers and attractive walls along property lines to help screen the visible presence of cars.
d. Landscape planters are required in parking lots at a ratio of one planter to every ten parking stalls. Planters should be dispersed throughout the parking lot.

e. Employee parking lots should provide tree cutouts throughout the parking area. One cutout for every five parking spaces is required.

11.7 Lighting

a. Lighting fixture placement should provide the best illumination for outdoor areas such as parking, shipping and receiving, pedestrian walkways, and work areas. Lighting should be provided in a relatively even pattern with ground-level foot-candle illumination levels not varying by more than four to eight foot-candles (Refer to Figure 11-21).

b. The type and location of lighting should preclude direct glare onto adjoining property, streets, or skyward. All artificial illumination should be installed, directed and shielded to confine all direct rays within the property. High-mounted, widely spaced pole fixtures that illuminate large areas from a single source are discouraged.

c. The design of the light fixtures and their structural support should be architecturally compatible with the theme of the development. If possible, a light standard theme should be provided throughout industrial areas to reinforce a cohesive image.

d. Energy conservation should be considered when selecting lighting fixtures for a development project.

e. Lighting fixtures should never have exposed bulbs.

f. Fixtures that emit yellow light should be avoided.

g. Decorative accenting lighting and fixtures above the minimum 1-foot candle illumination levels of surrounding parking lots should be provided at vehicle driveways, entry throats, pedestrian paths, plaza areas, and other activity areas.

h. Lighting should be provided to accent on-site public art, specimen trees, architectural features and other on-site amenities (Refer to Figure 11-22).

i. Illumination to a minimum maintained one-foot candle should be provided at steps, ramps and other potentially hazardous grade differentials. Grade changes, steps, or other potential hazardous features along pedestrian circulation routes should be illuminated for safety.
k. Lighting should not be animated.

l. Exterior lighting should be designed through placement and fixture type to avoid direct glare in the eyes of on-site pedestrians and drivers.

m. Wall mounted lights may not extend above the height of the wall or parapet to which they are mounted.

n. Parking lot lighting standards should be placed so that the illumination spread will not conflict the growth of trees in required parking lot planters.

o. Parking lot light standards should be designed with raised bases to reduce likelihood of damage by vehicles (Refer to Figure 11-24).

p. Parking lot light standards, when located within planters, should provide raised bases that exceed the irrigation spray line.
11.8 MISCELLANEOUS

11.8.1 Walls and Fences

a. Walls and fences provide security and privacy in addition to screening uses such as parking lots, loading areas, refuse storage, and equipment. Where used, walls and fences should be complemented with landscaping. The colors, materials and appearance of walls and fences should complement the architecture of the buildings.

b. All peripheral screening of industrial sites should be constructed of decorative masonry block or similar opaque material. The use of materials such as chain link fencing is not appropriate.

c. The use of barbed wire on any fence or wall is prohibited, except as approved by the Planning Manager. If approved, barbed wire must be on private property away from public view.

11.8.2 Public Amenities

a. Building placement that creates opportunities for plazas, courtyards, and outdoor dining is strongly desired. Setback areas may be used to provide space for such areas (Refer to Figure 11-25).

b. All installed equipment, electrical rooms and service rooms should be placed within the footprint of the structure. No equipment of any kind shall be permitted to be attached to the outside of the structure.

c. For existing structures, additional or new equipment, including electrical rooms, should be screened with an enclosure. Equipment at grade-level should also be screened with appropriate landscaping.

11.8.3 Refuse, Storage and Equipment Areas

a. Refuse, storage and equipment areas should be screened from view from adjacent uses with a solid wall.

b. All installed equipment, electrical rooms and service rooms should be placed within the footprint of the structure. No equipment of any kind shall be permitted to be attached to the outside of the structure.

c. For existing structures, additional or new equipment, including electrical rooms, should be screened with an enclosure. Equipment at grade-level should also be screened with appropriate landscaping.

Figure 11-25: Building design should seek to create public amenities

Figure 11-26: Loading, trash and storage facilities should be screened from view
d. All screening devices should be compatible with the architecture, materials and colors of the building.

e. Landscaping should be incorporated into the design of refuse, storage and equipment areas to screen from public and private view.

f. Trash enclosures that are visible from upper stories of adjacent structures should have an opaque or semi-opaque horizontal cover/screen to mitigate unsightly views. The covering structure should be compatible with the architectural theme of the site’s buildings.

g. Trash enclosures should have minimum dimensions of six feet in depth and seven feet two inches in width. Refer to Figure 11-28 for trash enclosure standards.

h. Roof ladders should be designed to be compatible with the architectural design of the building. Equipment used to retract and store roof ladders should not be mounted to the exterior of the structure.
Figure 11-28: Trash enclosure standards

NOTES AND SPECIFICATIONS
1. Trash area to be located clear of all structures, where possible, but accessible to both deposit and pickup.
2. Concrete block construction with double solid metal gates painted to match building.
3. Variation from these standards must be approved by the Planning Division.
4. Footing, concrete slab, and steel reinforcement of the walls must be approved by the Building Division.
5. MASONRY UNITS shall be Grade N units conforming to ASTM C65-86, installed in accordance with UBC Chapter 24.
6. PORTLAND CEMENT shall conform to UBC Standard No. 26-1.
7. CONCRETE shall have a minimum compressive strength of 2,000 PSI at 28 days.
8. MORTAR shall be Type S or M as specified in UBC Table 24-A.
9. GROUT shall be 2,000 PSI minimum.
10. REINFORCING STEEL shall conform to ASTM A615 Grade 40. Wire reinforcement shall conform to ASTM A92.

PLAN VIEW

SECTION

ELEVATION

The gate should consist of a tubular frame with a skin of 22-gage metal (sheet metal or aluminum siding) fastened to the frame by metal screws spot-welded. Painted to match existing building.
11.8.4 Service/Loading

a. The primary consideration in planning loading and unloading facilities for motor transport equipment is to provide adequate space for maneuvering into and out of a loading position. For safety, efficiency and appearance, these areas must be well-designed and integrated with the total development project.

b. The design of loading facilities must take into consideration the specific dimensions required for maneuvering the combinations of trucks and tractor-trailers into and out of loading position at docks or in stalls and driveways (Refer to Figures 11-29a and 11-29b).

c. Service/loading facilities should be given design attention equal to that of the primary structures on a site.

d. Loading areas should be located and designed to minimize direct exposure to public view. These areas should be buffered with landscaping to reduce the visual impact whenever possible (Refer to Figure 11-30).

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Figure 11-29a: Loading dock dimensions

Figure 11-29b: Loading/unloading facilities should be designed in consideration of the scale of transport vehicle

Figure 11-30: Loading zones should be located at the rear of the building or behind a screen wall to minimize visual impacts
e. Screen walls adjacent to service/loading areas should not be opaque. Screen walls at service/loading locations should provide a complete visual screen.

b. Scupper and other devices used to convey rainwater should be located at the base of a building.

![Figure 11-31: Loading door design should be a part of building’s overall design](image)

f. The design and location of service/loading facilities should minimize the interaction between service vehicles and automobiles.

g. In multiple building developments requiring multiple service/loading facilities, the design of such facilities should be located adjacent to each other to reduce visual and noise impacts.

h. Loading door design should be incorporated into the overall design of the primary structure. Materials should be highly durable and weather resistant (Refer to Figure 11-31).

### 11.8.5 Roof Drainage

a. Roof drainage should be integrated into the design of the building. Drains, scuppers or other components of the roof drainage system should be designed as an integral component to the overall building design.
Chapter Twelve
Chapter 12
Parking Structure Guidelines

12.1 Introduction
All development and redevelopment within the City of Santa Ana is required to satisfy on-site and off-site parking regulations, per the City’s Municipal Code. This Chapter should be referenced for additional guidance for parking structure design and placement.

Parking structures are an efficient economical option to providing parking without acquiring additional land for surface parking. Parking structure design must consider architectural compatibility size, scale, and bulk as it relates to adjacent properties and the overall design of the project.

12.2 General Guidelines
a. Parking structures shall meet the minimum landscape and setback standards applicable to the zone in which the structure is located.

b. Complete and uninterrupted vehicle circulation is required on all levels of the parking structure.

c. Parking structure design shall utilize horizontal beam construction that avoids column supports adjacent to parking spaces and aisle areas.

d. For public protection, parking structures shall provide natural surveillance by providing maximum visibility into the structure from adjacent activity and public areas.

e. Exterior elevations shall incorporate design components and materials utilized and compatible with the primary building(s).

f. Retail or other uses are encouraged at the ground level of the parking structure where appropriate.

12.3 Site Organization
a. Parking structure design shall consider architectural compatibility size, scale and bulk and its relationship to adjacent structures.
b. Parking structures should generally not be located adjacent to sensitive receptors such as residential uses, schools, or parks, unless appropriate setback, massing, screening and other mitigation is incorporated.

12.4 SETBACKS

a. Parking structures shall maintain the established setback for the area and all of the following applicable setbacks, whichever is greater:

- The minimum setbacks required in the zoning district where the structure is located.
- The prevailing setback.
- Structures adjacent to a street shall provide an additional 5-foot setback for each parking level above 3.
- Setbacks for side and rear yards shall be a minimum of 10 feet wide.

b. Structures that abut property zoned, used or designated on the General Plan for residential purposes shall provide a 15-foot minimum landscape setback adjacent to that use.

c. All setbacks shall be landscaped. Berms and slopes may be used to give more dimensions to the setback.

d. Structures with staggered setbacks shall provide landscape planters at each level with sufficient width and depth to support shrubs, groundcovers and vines.

e. Any subterranean levels shall use offset sloping ramps to allow for open and unobstructed visibility for floor surveillance.

12.5 SCREENING

a. All appurtenances (i.e., transformers, ventilation shafts, etc.) shall be located outside any required setback and shall be screened from public view.

b. Structures that abut property zoned, used or designated on the General Plan for residential purposes shall provide a 15-foot minimum landscape setback adjacent to that use.
12.6 Parking Structure Design - Exterior

a. Exterior walls of parking structures should have an open-air design with the first floor (ground level) walls being a maximum of 3 feet high (except for sheer panels). Decorative grillwork should be placed between such a wall and the flooring for the second parking level.

b. The exterior elevations of the parking structure should exhibit horizontal rather than sloping design elements.

c. Exterior elevations should be designed to minimize untreated facades. Long expanses of shear walls are not permitted.

d. Exterior walls of parking structures should be finished with the same material to match the architectural character of the principal building.

e. Exterior elevations should replicate the window pattern and other architectural elements of adjacent buildings.

12.7 Parking Structure Design - Interior

a. Interior walls and ceilings should be painted a light color to improve illumination.

b. Parking structures should provide a minimum floor to ceiling height of 8’-0” exclusive of structural elements and appurtenances. Additional heights should be considered based on unique site conditions.

c. All mechanical equipment and piping must be painted to match the interior of the structure.

d. Elevators shall be located where the door and open cab are visible to the public using the facility. The shaft and elevator cab should have glass facing the public view. Any glass tinting should be minimal to ensure daytime and nighttime visibility.
e. Where possible, elevators and stairs should be located on the perimeter of the structure to provide natural surveillance from exterior public areas.

f. Stairwells must be integrated into the design and footprint of the parking structure and shall be more than just open air railings attached to the exterior of the structure.

g. All solid stairwell doors shall provide viewing panels. Blind corners in stairwells shall be eliminated through the use of convex mirrors.

h. Garage stairwells at ground level should be fully enclosed and designed to provide maximum interior visibility of the stairwell. The enclosure should be equipped with a control in/free out form of access control.

i. To provide maximum visibility, stairwells must be open to the interior and at least partially open at the exterior of the structure.

j. Stairwells should exit out to the street.

k. A minimum of 5 foot-candles of illumination shall be provided inside the structure and a minimum of 3 foot-candles for exterior parking areas. Higher levels are recommended for remote areas subject to security considerations (e.g., stairways, elevators, and other pedestrian access points). Minimum illumination, levels measured from the adjacent finished floor, shall be as follows:

<table>
<thead>
<tr>
<th>Location</th>
<th>Illumination Level</th>
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</thead>
<tbody>
<tr>
<td>Stairways and exits</td>
<td>5 ft-candles</td>
</tr>
<tr>
<td>Interior drive aisles, centerline</td>
<td>5 ft-candles</td>
</tr>
<tr>
<td>Interior parking at barrier rails</td>
<td>0.5 ft-candles</td>
</tr>
<tr>
<td>Roof parking areas</td>
<td>0.5 ft-candles</td>
</tr>
</tbody>
</table>

12.8 Landscaping and Amenities

a. A 5- to 10-foot landscape planter should be provided around the base of the parking structure.

b. Landscaping should not obstruct ventilation or other required openings on the exterior of the structure. Where the landscaping is adjacent to ventilation openings, shrubs should be maintained at a height of no greater than 3 feet. Trees placed in front of ventilation openings should be trimmed up to a height of 6 feet.

c. A plaza/courtyard area should be provided and should include amenities that encourage pedestrian use such as seating areas, objects of art, water features, decorative lighting, and landscape planters providing annual color.
d. The area of the plaza/courtyard should be at least 1/3 of the area of the parking structure footprint calculated at the ground level. Additional plaza/courtyard area should be provided if the structure is 4 levels or higher. The minimum width of the plaza/courtyard shall be 50% of the parking structure dimension measured adjacent to the plaza/courtyard. (Refer to Figure 12-8)

![Figure 12-8: Plaza/courtyard width and area calculation.](image)

Figure 12-8: Plaza/courtyard width and area calculation.

e. If landscaping is provided on various levels of the parking structure, the minimum planter dimensions should be equal to or greater than 4-feet wide and 4-feet deep. An internal drainage system and waterproofing of the planters should be provided along with a drip-type irrigation system. A proper soil planter mix should be specified on the landscape plan.

f. A trellis may be incorporated into the building design where blank walls occur on the structure. The trellis material should be constructed of decorative and durable materials to enable vines to attach themselves for support. The trellis area should cover a minimum of 60% of the blank wall.

g. Water conservation should be an important consideration when selecting a plant palette. Plant materials should be of California origin or from sub-tropical or Mediterranean type climates similar to that of southern California. An automatic irrigation system should be designed to provide deep watering for trees, shrubs and vines along with moisture sensors to monitor and minimize water usage.

![Figure 12-10: The use of trees, shrubs, and vines are encouraged along the perimeter of the structure.](image)

Figure 12-10: The use of trees, shrubs, and vines are encouraged along the perimeter of the structure.
12.9 Circulation

a. Interior function and appearance are as important as facade compatibility. The following standards apply to circulation design:
   - All vehicle travel aisles should be designed so that all turning movements can be made by a large passenger vehicle without crossing over the centerline of any travel aisle.
   - Pedestrian paths should be visible (site lines) and delineated from vehicle travel aisles.
   - Maximum vehicle ramp grade should be 12 percent with minimum 12-foot long transitions at the top and bottom of the ramp.
   - A maximum ramp grade of 5 percent when parking on the ramp is permitted.
   - Avoid designs that require queuing on slopes.

b. Entrances and exits should be located so that vehicles do not enter or exit onto residential streets or busy intersections.

c. Vehicle circulation within the parking structure shall be continuous and uninterrupted at all levels. Dead-end parking aisles or “hammerhead” type parking is not an acceptable solution to parking circulation. Fully integrated parking and/or a turning radius are acceptable methods to achieve proper circulation.

d. Elevator and stair shafts, mechanical rooms and similar visual disruptions located on the interior of parking levels shall be minimized. Pedestrian and vehicle vertical circulation elements should be placed on the periphery of the floor area to obtain the maximum amount of level floor areas.

e. The number of pedestrian and vehicular access points shall be minimized. A minimum 4-foot wide pedestrian sidewalk shall be provided along side every vehicular access location. All entrances and exits should be capable of closure after hours.

f. Pedestrian circulation should be clearly delineated and separated from automobile circulation. The use of landscaping, walkways and decorative hardscape is encouraged to emphasize pedestrian areas.

g. Pedestrian routes from the parking structure lobby to the principal building should provide an aesthetic transition compatible with the quality of the building.
h. Trash enclosures should not be placed adjacent to points of pedestrian or vehicular access. Any trash enclosures located within the footprint of the parking structure should be fully enclosed and lockable.

i. Any subterranean levels should use offset sloping ramps to allow for open and unobstructed visibility for floor surveillance.

### 12.10 Signage

a. All signage must comply with the City of Santa Ana sign code.

b. Signs and graphics for parking structures should be consistent, harmonious and visually related through the incorporation of common design elements.

c. Exterior signs shall be consistent and match to main building’s signage.

d. Directional arrows and signage indicating exits, elevators, and emergency buzzers/telephones should be visibly displayed on walls.

e. Directional signage should be provide at the egress to parking structures indicating directions to primary transportation routes.

f. Directional signage in stairwells should be provided to orient the pedestrian to adjacent activities and facilities.

### 12.11 Miscellaneous

a. Activities such as shops, offices, or other commercial space should be incorporated along the ground level of the parking structure, where appropriate.

b. Parking structures shall be equipped with lighting devices that will provide a minimum maintained one foot-candle of light on the parking surface during hours of darkness. Subterranean parking lots should maintain lighting 24 hours a day. Vandal-resistant covers shall protect lighting devices.
c. Public or semi-private bathrooms are prohibited in parking structures. Private bathrooms for the parking attendant shall be located where the doors are immediately adjacent to the parking attendant office or station and where they are visible to the attendant on duty.
Chapter Thirteen
Chapter 13

Historic Structures Guidelines

13.1 INTRODUCTION

History is an important part of Santa Ana’s character. Founded in 1869 by William Spurgeon, and selected as Orange County’s seat since the county’s creation in 1889, Santa Ana has witnessed over 100 years of Southern California’s urban development. The City’s rich sense of history and architectural heritage is apparent throughout Santa Ana’s neighborhoods and downtown. The purpose of this Chapter is to provide guidelines and illustrations necessary to maintain the fabric of Santa Ana’s historic and architectural resources.

The historic preservation effort in Santa Ana is a key contributing factor in the overall revitalization of the community. By the early 1980s, the City had seen the loss of many invaluable historic structures and the decline of many of its neighborhoods, primarily due to the intrusion of architecturally insensitive buildings and additions. In an effort to protect and revitalize the historic fabric of the City, the city adopted a new chapter in the Santa Ana Municipal Code and the Register of Historical Properties (The Register), which is a local list of individual structures of architectural or historic significance to the community. To oversee the Register, the City formed the Historic Resources Commission (HRC). All exterior modifications, including repairs, rehabilitation, restoration and additions of these structures require review and approval by the HRC, in addition to any building permit requirement.
13.2 General Design Objectives

Santa Ana contains a wide variety of architectural styles, all of which contribute to the charm and unique character of each neighborhood. The objectives of the design guidelines provided in the section are as follows:

- Preserve structures with notable historic or architectural value.
- Adhere to a high standard of quality when preserving, rehabilitating, and restoring historic structures.
- Preserve the character-defining features of architectural styles.
- Protect the unique character and integrity of historic resources by maintaining existing architectural styles.
- Enhance the visual character of the City by encouraging the preservation of unique and established architectural traditions.
- Continue the existing pattern of development in terms of building massing, setbacks, location of buildings on the site and streetscape.

13.3 Applicability

The Historic Structures Design Guidelines apply to all structures listed on the Santa Ana Register of Historical Properties.

For reference, the City has two historic districts listed on the National Register of Historic Places: Downtown Santa Ana, composed of two sub-districts, and French Park (Figures 13-1 and 13-2). Santa Ana’s downtown is geographically larger than the Historic Districts and encompasses areas developed with non-historic buildings. Because of its unique architectural and land use characteristics, the design guidelines for downtown are addressed in Chapter 8.
Properties in the French Park Historic District generally are also located within a special zoning district known as Historic French Park Specific Development (SD-19). Proposed projects within SD-19 will need to be consistent with the design guidelines adopted as part of the SD-19. Lastly, while the Heninger Park Historic District (Figure 13-3) is not a registered historic district, but a zoning district known as Specific Development 40 (SD-40), it has its own adopted design standards based on the Secretary of the Interior’s Standards. Proposed projects in SD-40 must be consistent with the design standards adopted for this zoning classification.

13.4 Secretary of the Interior’s Standards

The following guidelines are based on the Secretary of the Interior’s Standards for the Treatment of Historic Properties (The Standards) (Refer to Appendix C for a copy of the complete standards). The Standards were originally established by the Secretary of the Interior to determine the appropriateness of work to be done on properties qualifying for the Federal Tax program. Subsequently, many state and local governments have adopted the standards for the review of individually listed properties on a local, state or federal register and for historic preservation projects within locally designated historic districts.
As a Certified Local Government (CLG) through the State of California Office of Historic Preservation, the City of Santa Ana is required to use of the Secretary of the Interior’s Standards. The alteration and rehabilitation of structures listed on the City of Santa Ana’s Register of Historical Properties, the California Register, or the National Register must comply with the intent of the Standards.

The Standards provide general information to determine appropriate approach to treatments of historic properties. They are written in broad and general terms to apply to many conditions. They are designed to assist in the understanding of the basic concepts and principles of preservation, rehabilitation, commonly referred as adaptive re-use, restoration and reconstruction.

As described in the Technical Bulletin published by the National Park Service, “there are four distinct, but interrelated, approaches to the treatment of historic properties:

- **Preservation** – focuses on the maintenance and repair of existing historic materials and retention of a property’s form as it has evolved over time. Protection and Stabilization have now been consolidated under this treatment.

- **Rehabilitation** – acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property’s historic character.

- **Restoration** – depicts a property at a particular period of time in its history, while removing evidence of other periods.

- **Reconstruction** – re-creates vanished or non-surviving portions of a property for interpretative purposes.”
13.5 Preservation Incentives

As a commitment to the preservation of historic structures, the City, the State and the Federal government have adopted several types of incentives designed to make the investment in these properties more rewarding (Refer to Appendix E for a comprehensive listing of programs). If you would like to take advantage of the available incentives, please contact the City of Santa Ana Planning Division. Additionally, please contact the State Historic Preservation Office (SHPO) prior to beginning any proposed work. Removing or altering any exterior or interior features of the structure prior to SHPO consultation could immediately disqualify your project for tax credits.

13.6 Historic Building Guidelines

Preservation, and rehabilitation efforts in Santa Ana are aimed at maintaining and protecting the original character defining architectural features of the structure, as these help to identify its style and contribute to the overall historic character of the area. Rehabilitation and repair not only increases property values, but also serves as an inspiration to other property owners and designers to undertake similar efforts.

The guidelines presented in the following section will focus on preservation and rehabilitation, (adaptive re-use) of historically significant structures. Property owners looking for guidelines to assist with the restoration of their building are encouraged to explore the websites referenced in Appendix G.

These guidelines should be utilized whenever repairs or alterations are contemplated to the exterior facade of a building.

1 Some specific tips and advice for repair (e.g. repair of foundations and siding, etc.) are found in Appendix C This section is intended for guidance only – project applicants should consult the Planning Division for additional guidance and to determine permit requirements.
13.6.1 General Guidelines

a. Owners should conduct research before designs for alterations or rehabilitation are prepared. Research should include determining the appearance of the building at the time of original construction and a physical examination to determine if the significant historic fabric has been altered and is recoverable or restorable or can be reconstructed.

b. Appendix A presents a starting point for research of an architectural style. More specific information can be found through research at the History Room in the main Santa Ana Library, which contains old photographs, books about the style that describe typical features, observing similar buildings in the neighborhood and previous owners.

c. The character-defining features of the style need to be preserved and not removed or altered.

d. It is always better to repair an original architectural feature than to replace it. However, when an architectural feature cannot be repaired and replacement is necessary, every effort should be made to use an original historic construction material. The substitute material should incorporate the design, pattern, texture, thickness, width, color and form to convey the visual appearance of the original materials. Simulated replacement materials (e.g. artificial stone or vinyl) are highly discouraged.

e. When an entire piece of a building is missing (e.g. original porch columns), research can be very helpful in understanding the functional and aesthetic ideas behind the original style and form.

f. Rehabilitation efforts should not try to create or add a preconceived concept of history, but should reuse the existing or appropriate features.

13.6.2 Foundations

a. The original foundations should be maintained to the extent feasible. Only the portion of the foundation in need of repair should be repaired or replaced.

Figure 13-4: Foundations should be consistent with the architectural style of the building

b. Foundations materials should be consistent with the architectural style of the building.
c. The application of mortar or other structural elements or features should match the original design and craftsmanship (Refer to Figure 13-5).

d. Vents or other openings should preserve the original vent style in size, material and color. When replacement is necessary, vent and hardware styles should be consistent with the original design.

13.6.3 Exterior Wall

a. When repairing or remodeling exterior wall surfaces, the original exterior building materials should be retained where possible and when applicable should be cleaned with the gentlest means possible – never sandblasted. Replacement material should match the original materials as closely as possible. Do not use mismatched materials of different types, sizes, shapes, textures or finishes.

b. Buildings with original wood siding should not be stuccoed in an attempt to "modernize" their appearance. Material substitutions such as these will invariably destroy the architectural integrity of the building and decrease its resale value.

13.6.4 Wood Siding and Shingles

A number of Santa Ana’s significant architectural styles are clad in wood siding and shingles, namely Victorian Era homes (Italianate, Stick, Queen Anne), Colonial Shingle Revival, and Craftsman. Throughout the community, the appearance of wood sided buildings helps define the historic character.
Exhibit 13-7: Examples of Shingle Patterns

Exhibit 13-9: Examples of horizontal and vertical siding applications

Figure 13-8: Example of clapboard

a. Wood siding and shingles should be retained rather than removed and replaced with alternative materials, such as aluminum or vinyl siding, asphalt shingles or masonite, even of the same size and shape as the original siding.

b. Stain or varnish should not be applied over historically painted surfaces nor should heavy spray-on coatings (texture coat) or sealants be applied over wood siding. These applications will decrease the historic value of the house.

c. The following methods are not recommended when repairing wood siding:
   - Replacing wood siding with wood of a different size or shape.
   - Applying paint without proper surface preparation and priming.
   - Sandblasting wood to remove excess paint.
13.6.5 Brick and Masonry

Brick and masonry is often found in foundation walls, chimneys and exterior walls throughout Santa Ana. (e.g. Tudor/Provincial, Prairie, Craftsman). The following guidelines apply to brick and masonry;

a. If it is necessary to replace a few bricks within an existing wall, the new bricks need to match the existing size, color, pattern and texture to the greatest extent possible.

b. Repair of mortar joints (repainting) should be performed by experienced professionals. If the job is improperly done, it can detract from the appearance of the home and cause physical damage.

c. The following are inappropriate when repairing brick/masonry:

   - Using sandblasting to remove paint or dirt, as it will damage the natural fired surface of the brick and reduce water repellant qualities.
   - Using mechanical grinders/sanders to remove mortar that can damage the brick surrounding a joint.

d. In most cases, brick and masonry walls were installed in the natural appearance and should be kept in that condition when renovating.
13.6.6 Exterior Plaster

Exterior plaster or stucco is a common surface material of Spanish Colonial/Mission/Monterey style houses and Mediterranean revivals.

a. Stucco should not be applied to structures with original wood siding.

b. Exterior plaster has a natural tendency to crack and should be repaired promptly after decay is noticed. It is easy to repair following manufacturer’s instructions.

c. Stucco/plaster should be applied with a hand trowel versus a spray application.

d. Plaster texture and pattern should match the style of the period.

e. When repairing stucco/plaster the following methods are not recommended:
   - Patching plaster without removing all loose pieces and thoroughly cleaning the patch area.
   - Patching plaster without creating a “locked joint” to form between old and new materials.

13.6.7 Porches and Stairs

For many of Santa Ana house styles the front porch is one of the most important architectural features defining a structure while adding character to a street. The porch adds visual interest to the overall appearance of the house and creates a pleasant, welcoming passage into the house that has traditionally received the greatest amount of detail work and decoration.
a. Avoid changes in the structural or decorative elements of the front porch as it will jeopardize the architectural integrity of the house. The design integrity can be compromised by changing the details of the original porch design such as roof overhangs, stairs and rails, support columns, balusters, decorative work, etc.

b. When a deteriorated porch needs to be rebuilt, the reconstruction should follow the original design of each of the existing elements of the porch (Refer to Figures 13-16 and 13-17).
c. The stairs leading to the porch can be an important part of the overall style of the house. When stairs require rehabilitation they should be rebuilt according to the style of the house. Especially avoid the use of the off-the-shelf, ready-made wrought iron railings and oversimplified construction methods that reduce the visual importance of stairs (Refer to Figure 13-18).

Original Design

Inappropriate Balustrade

Figure 13-18: Avoid inappropriate replacement of stairways, balustrades and railings.

e. The following methods are not recommended when repairing porches or stairs:

- Using aluminum canopies or incongruous balustrades or handrails.

- Changing the original angle of the porch roof (generally porch roofs have the same angle as the roof of the structure).

- Permanently enclosing porches and railings with darkened glass, solid walls or permanent screens.)

d. Enclosing the front porch with solid walls, additional columns and windows is an inappropriate means of creating additional interior space. This practice should be avoided as it is extremely difficult to maintain the architectural integrity of a house that has had its porch altered (Refer to Figure 13-19).
13.6.8 Windows

The size, shape and style of windows are an important architectural feature of most architectural styles and replacement of original windows with inappropriate material can significantly alter the historic appearance of a structure. Over time, a neighborhood can lose its historic character through insensitive window change outs.

The impact of windows on the facade is determined by the size, shape, and pattern of openings, spacing and placement within the facade. Most historic buildings have wood windows that were either fixed, double hung or casement.

a. The original window should be maintained and repaired whenever possible, especially on elevations visible from the public right-of-way.

b. When altering or reconstructing windows, consideration of the following elements is crucial to retaining the structure’s original architectural balance and integrity.

- Original window openings should be retained.
- Original windows and frames should be saved and restored. Missing, rotting, or broken sashes, frames, mullions, and muntins should be replaced with like materials.
- If the original window openings have been altered, the openings should be restored to their original configuration and detail. Blocking or filling window openings that contribute to the overall facade design is inappropriate.

Figure 13-19: A window’s original features should be preserved
c. When window replacement is necessary, the new window should match the original as closely as possible. This may require custom milling but the extra effort will be worth it in the long run because the original style and character of the building will be maintained (Refer to Figure 13-19).

d. An “off-the-shelf” standard window that very closely matches the original window may be allowable in some cases as an alternative to custom milling (for instance, it may provide an alternative for areas of the building that are not visible from the public street).

e. Replacement windows should be of the same operating type, size, light pattern and detailing as the original window.

f. Aluminum, vinyl or vinyl clad windows and frames are inappropriate replacements for buildings on the Register. These windows are highly distinguishable and the contrast of styles and materials can permanently destroy the architectural integrity of the building.

g. Windows of historic buildings should not be modified through tinting, or reflective materials. Avoid the use of reflective coatings or other treatments on glass surfaces.

h. The exterior window trim and surround can be a major character-defining feature on historic buildings. Every effort should be made to repair original trim.

i. If the trim is too deteriorated to repair, or missing, then it should be replaced with like materials and match as closely as possible to the original.

### 13.6.9 Doors

Most architecturally significant buildings in Santa Ana have wood doors that are particular to their style. The front door of the building is always the most ornate while secondary doors are usually more utilitarian and plain. The size, shape and style of doors are an important feature of an architectural style and the original type should be retained.
a. Original doors should be repaired in-place when possible, but when replacement is necessary they should be replaced to match the original design, size and materials.

b. If the original door is missing, select an appropriate design by studying the doors of similar houses or buildings in town or consulting architectural style books. Many types of solid panel doors are available directly from material suppliers and home improvement centers that may match original doors. Specialty milling may be necessary for some types of doors. Salvage retailers are a good resource for authentic materials and styles.

c. Doors that are not compatible with the original style of the building are inappropriate, especially in locations that are visible from the street.

d. Do not use hollow core doors for exterior doors.

e. The use of mismatched hardware or materials inappropriate to the style should be avoided.

13.6.10 Ornamentation/Trim

Often, it is the authentic decoration and trim on a building that lends the character to help identify the architectural style. Great care should be taken in handling trim and decoration during renovation because many times they are the very components that make the building so special. Individuals preparing to engage in any such work that will affect the appearance of an existing building’s exterior should bring plans to the Planning Division prior to beginning. Refer to Appendix A for examples of typical ornamentation.
a. All existing exterior historic decoration should be preserved.

b. Original trim should not be removed or completely replaced when only minor patching or repair is sufficient.

c. Sandblasting should not be used to remove paint.

d. The application of too many coats of paint obscures details and should be avoided.

### 13.6.11 Roofs

Roofs are important functionally and aesthetically. As with most other exterior modifications, permits are required for re-roofing.

![Victorian Era ornamentation](image)

**Figure 13-24: Thatched roofing is typical of the Tudor style.**

![Art Moderne ornamentation](image)
b. The selection of roofing materials should take into account the architectural style of the building, and the shape of the roof (how prominent it is).

- The Historic Building Code allows the replacement of wood shingles or shakes. Often, the desire for the most aesthetic material is superseded by the desire to provide maximum fire protection. Many of the newer “architectural” styles of asphalt roofing closely emulates wood shingles or shakes and provides superior fire resistance. However, wood shingles or shakes can be pressure treated to achieve an equivalency of a Class C roofing material, which meets City requirements.

- Many companies still manufacture clay tile roofs, but challenges may arise when trying to match the color and shape of a particular tile. If new tile cannot be found that matches the existing tile, it is possible to obtain salvaged tiles from a home with similar roofing material that is being demolished or use the available tile that most closely matches the existing tile.

c. The use of roofing materials or colors that are inappropriate to the style is unacceptable (Refer to Figure 13-27).

d. Patching roofs with materials or color that do not match the rest of the roof is not appropriate.

e. Patching clay tile roofs by “dumping” mortar on cracked tiles is not allowed.

f. Any roof equipment, such as vents should not be intrusive and placed out of public view.
g. Eaves, fascias and soffits should be considered an integral part of the roof. Care should be taken to preserve the detailing and other character-defining elements of these features (Refer to Figure 13-28).

h. Eaves and soffits should not be boxed or altered in a manner that affects the original construction.

13.6.12 Gutters, Downspouts, Flashing and Vents

Gutters and downspouts collect water from roofs and carry it to the ground away from the building. If these elements are deteriorated or absent altogether, water may run down the sides of the building and cause the paint to prematurely weather. Gutters and downspouts should be kept in proper working order periodically checking for leaks and clogged areas. Attic vents allow proper ventilation in the attic and maintain the structural integrity of the building.

a. Whenever possible, original gutters, downspouts and vents should be repaired and not replaced. Even these very utilitarian elements can contribute to the overall character of the structure, such as copper downspouts.

b. When new gutters and downspouts are replaced or added, they should relate to the style and lines of the building and should be painted to match the trim or body color of the structure. They should not be painted a contrasting color so they stand out (Refer to Figure 13-29 and 13-30).
c. Generally, new downspouts should be placed in the least conspicuous locations. Use the sides and rear of the building and avoid placing downspouts on the front facade.

d. Vent pipes, flashing and stacks that protrude through the roof should be painted to match the color of the roof material.

e. If vents are too deteriorated to repair, then they should be replaced with like materials to match the original design (Refer to Figure 13-31).

13.6.13 Paint Colors

The City of Santa Ana does not regulate paint colors. Therefore, this section is included for reference only. Painting can be one of the simplest and most dramatic improvements that can be made to a facade. It gives the facade a well-maintained appearance and is essential to the long life of many traditional elements. Choosing appropriate paint color can also be important to maintaining the historical integrity of a building. If some basic color guidelines are kept in mind, color can add to the richness and variety of Santa Ana, all the while respecting the traditions and heritage of the community.

Historically, certain color palettes were associated with particular architectural styles. As a result, the architectural style itself may dictate appropriate colors of a structure. The following guidelines should be used in evaluating exterior building colors, bearing in mind that there are always exceptions to the generalizations made above. These guidelines can also be applied to infill development. For more specific examples of historic precedent for color, Refer to Appendix F of this document.
a. Building color in established areas should be compatible and blend with surrounding buildings. The color should not be a “sign” or imply that the building is trying to attract attention. Color should not, because of its intensity, distinctness, chroma, or reflectivity, become the most dominant feature of a building site.

b. “Compatible colors” does not mean that adjacent color schemes should be duplicated.

c. The colors of all elements of a development including walls, accessory structures, fences, and signs should be compatible.

d. Combinations of colors or tones on a single building or site which clash or create a discordant effect should be avoided.

e. A building should be treated as consistently as possible. Exterior colors should be coordinated on all elevations and compatible with exposed materials, architectural style, and detailing.

f. Color should not extend beyond the common building line and paint should not be used to obscure the integrity of natural building materials.

13.7 Repair and Cleaning

This section provides a summary of generally accepted methods for the repair and cleaning of historic materials. The Secretary of the Interior’s guidelines should also be consulted for more thorough discussion of repair and cleaning.
13.7.1 Foundations

The foundation holds the building frame to the ground. A foundation in poor condition threatens the structural integrity of the building. For this reason, the soundness of the building's foundation needs to be seriously investigated prior to considering a major building restoration project.

In cases where buildings were constructed without permanent foundations, (i.e. loose stones were laid down to keep the wooden frame off the ground), advice should be sought from a professional (i.e. architect, structural engineer) before proceeding with other restoration work. If your house has a masonry or concrete foundation check for the following symptoms of deterioration:

**Cracks** - Cracks can result from settling soil, water undermining or earthquakes. Concrete foundations will likely have minor hairline cracks that are not serious, but any cracking wider than a penny should be watched to determine if the cracking is continuing.

One simple way to check for movement is to draw a horizontal line across the crack with a straightedge and observe it for two to three weeks. If the lines across the crack have split, it means that the movement has occurred and a professional contractor, engineer or architect should be consulted. If cracking is seen and self-testing is not desirable, call a professional for further investigation. If the crack is determined not to be hazardous to the structure, aesthetics should guide the decision whether or not to patch the crack. Concrete can be patched with readily available concrete patch mixtures.

**Water Damage** - Water seeping through walls and into basements is a sign of poor drainage and/or improper waterproofing of walls. Deteriorated roof drainage systems, such as broken downspouts, can allow water to flow over walls or be drained directly onto the foundation of the building. Improper site drainage can cause surface water to run towards the building.

These water-related problems can cause undermining and improper settlement of the footings. Constant dampness can cause deterioration of both brick and mortar. Simple remedies such as repairing downspouts or adjusting the grade to drain water away from the structure can alleviate many of these problems. However, a leaking exterior wall may need to be investigated by a professional to determine the proper remedy.
13.7.2 Exterior Wall Materials

Siding Repair - Cracked, split or missing wood siding can cause severe water problems by allowing water to deteriorate the wood stud wall or interior finish. While small cracks can be filled with caulk, larger cracks or missing pieces should be replaced. To replace a piece of wood siding, gently pry up the piece immediately above the piece to be replaced and cut the nails holding the unwanted wood with a hacksaw blade (removed from the hacksaw and held with a pair of gloves). Using a chisel, remove the unwanted wood and replace with new, matching siding. Re-nail the new area and apply caulk where the new piece touches adjoining pieces.

The most important element of protecting wood siding is the paint that protects the wood from weathering. The key to painting a wood exterior is proper preparation. The best paint job in the world will deteriorate rapidly if the surfaces are not properly prepared prior to the first coat of paint.

First, inspect the entire exterior and determine the general state of the existing paint. All crumbly, flaking, blistering and peeling paint must be removed. Evaluate the amount of work necessary to do the job correctly and decide whether or not to call in a painting contractor to help. Also, try to determine what might have caused the paint to deteriorate (peel, blister). There may be a reoccurring water problem that needs to be fixed first.

Surface Preparation The following steps should be taken prior to starting surface preparation:

- All wood siding should be repaired;
- All doors, windows and trim should be inspected for water tightness and caulked if necessary;
- Proper operation of windows should be checked and repaired;
- Windows should be inspected for damaged or deteriorated putty and repaired; and
- All gutters and downspouts should be inspected and repaired as necessary.

Surface preparation should include the use of a wire brush to remove dirt, plant growth and flaking paint. A scraper should be used to remove areas of blistering paint, followed by sanding to smooth down the transition between the scraped area and the adjacent painted area. Where damaged areas are large, heat paint removers may be the best solution, but should be used strictly according to supplier recommendations. After the work area has been properly scraped and sanded, all exposed wood must be primed and then the whole area can be painted. A paint dealer will assist in determining the type of paint, brushes and quantities that will be needed.

Brick and Masonry- Brick and masonry is often found in foundation walls and chimneys of historic houses. Wall cracking and deteriorating mortar joints are the most common problems and should be addressed by a professional.
The first step in the process is to remove the old mortar to a depth of 3/4 inch and remove all loose mortar. Avoid the use of mechanical grinders, which can damage the brick surrounding the joint. Before applying the new mortar dampen the joint area. The new mortar must be composed of materials which closely match the original texture, color and strength of mortar used on the original house. When mortar application is completed and layer is thumbprint hard the joint should be tooled to match the historic joint.

**Exterior Plaster** - Exterior plaster has a natural tendency to crack but is generally easy to repair. Before starting the patching process, inspect the cracks thoroughly to determine if additional water damage occurred to other portions of the wall. Slightly bulging areas adjacent to the crack indicate that one or more coats of plaster have become separated from the previous coat.

Lightly tap the bulging areas with a hammer to remove all of the separated plaster and extended the repair area to include these areas. Use a putty knife to open a crack and remove loose debris. Use a hammer and a small cold chisel to make the crack wider at the inside than at the outside; this will allow a "locked" joint to form between the new and old materials. Be careful not to damage the lath below the plaster. Thoroughly clean and then wet the area to receive the patch so that the old material will not rob the new plaster of its moisture. Exterior plaster patch is readily available at most hardware stores and is easily mixed with water. Follow all manufacturers’ instructions. Apply the patching material using a trowel to make the patch level with the adjacent surfaces. Consult the manufacturers’ suggestions regarding any necessary curing (Refer to Figure 13-34).

Large areas of patching or sections which have to be replaced down to the stud wall should be handled by an experienced plasterer as it can be difficult to match some historic plaster textures.

**13.7.3 Porches and Stairs**

Check with the City's Building plan checker before you start any demolition or repair work. The project may be exempt from the provisions of the California Building Code (CBC), or if regulated, you may request the use of the State Historic Building Code that the City has adopted.
Wood Porch Repairs- There are three steps to the repair process which will return the porch to a safe state and attractive appearance.

1. Remove the ornamentation- Do so with extreme care and patience. Study the part first to see if it is attached with a toe-nail or a face-nail. Use a broad surface of a prying instrument, like a crowbar, working it in very gradually to loosen the knobs from the supporting post and beams. When space allows, place a piece of wood or corrugated cardboard between the tool and the structural wood to avoid denting the surface as you unnail.

2. Repair or rebuild the porch structure- The structure of a wood porch consists of the posts for support, the joists and decking for the floor, the railings for safety, the columns for support and the porch roof, and the porch roof itself for overhead protection.

3. Repair the ornamentation and install it- Once the structure is repaired or rebuilt, the ornamentation can be replaced.

Posts and Piers- Decayed posts and piers should be rebuilt using a design which is not susceptible to moisture accumulation. If any of the posts show signs of decay, or if the wood is in direct contact with the ground, then new wood posts treated with a preservative should be installed on concrete piers. Wood posts that are exposed to the weather, as on rear porches or front stairs, should be separated from the concrete footing by an air space. Otherwise this is one of the most common places for dry rot to occur. Without the air space, water sits on the wood plate, working its way into the end grain of the post and rotting it. The construction detail for exterior wood posts and piers is more difficult and expensive to construct than its interior counterpart but the extra durability makes it worth the trouble and expense.

Stairs- Outside entry stairs receive constant use and abuse from pedestrians and the weather both. Although more durable materials like concrete and flagstone hold up best, they are often most inappropriate to the architectural style. When repairing steps, don’t forget to check with the City’s Building Division for the list of code requirements.

Wood Stairs- Deteriorated wood stairs are an extremely common problem on Victorian and colonial revival houses, yet it is imperative for the building’s architectural integrity to continue the use of wood and not give in to the temptation of concrete.

The source of wood step problems is poor drainage. Even the smallest accumulation of rain can begin the rotting process. This may result from one or a combination of factors: solid boards installed perfectly flat; worn treads with a depression in the middle; lack of paint and caulk to provide a protective seal; or, adjacent features which pond water on the steps. Look for the symptoms of rot, as described in the section on wood porches.

When repairing wood steps:
- Consider turning worn treads over. A shallow depression switched to the reverse side will have no detrimental effect, and flipping the board will save money and time.
- Install new or recycled boards at a slight angle from front to back, about ½-inch per tread.
Design the railing so that the balusters are attached to a handrail on top and freestanding shoe rail on the bottom. This allows a space for the water to run off the edge after a severe storm.

Coat the treads with a wood sealer prior to installation.

Make sure the tread nosing protects ¾-inch to one ¼-inch over the riser, to keep the joint water-free, and to afford a shadow that is a definite design asset.

Do not direct drainage water onto the sill plate underneath the steps.

Brick Stairs- Brick is typically found on Craftsman Bungalows.

One problem encountered with brick stairs is settlement due to shifting soil support. To correct this, concrete must be injected beneath the existing structure and additional bracing may be required. This difficult operation should be executed by a qualified contractor.

Brick stairs are subject to cracked mortar joints. These require immediate attention in order to prevent water penetration which cracks and rots the mortar further.

Concrete Stairs- Concrete stairs are commonly found on prairie schoolhouses and California Bungalows. Shorter ones, often only a step or two are typical or the Period Revival style and Minimalist Traditional style. Occasionally, concrete steps are embellished with redwood strips, mosaics, or tiles. Mediterranean and provincial houses are known for their shiny, red, painted concrete steps and matching walks. Green and grey are popular paint colors for the bungalow steps. It’s valuable to stick with the popular colors because repetition lends visual unity to the neighborhood.

Another design aspect for concrete steps are the grooves. They may be geometric or abstract patterns or parallel line for skid proof purposes. The arrangement of grooves should be perpetuated if the concrete is repaired, or reinstated if the stairs are replaced.

Concrete steps are subject to spalling, the chipping off of small pieces from the nose of the tread. This is repaired by using a high strength mortar to bond new concrete to the old. If the damage is severe, consider adding a steel angle plate with an anti-slip surface.

13.7.4 Windows

Window Glass Repair - Many wood windows can be repaired by simple methods or replacement of wood pieces or glass. A broken pane of glass is replaced by first removing the existing putty from the window. Sometimes a soldering iron or torch is necessary to heat the old putty to make it easier to remove. After removing the old putty, remove the glazing points (small pins). The wood should then be sanded smooth and painted with a primer to seal it.
Figure 13-35: Example of broken glass replacement

The new pane of glass should be cut about one-eighth inch smaller than the opening (all sides of the pane should be measured because the opening is usually not shaped or "plumb"). Apply new glazing compound, place the glass firmly and secure with glazing points located about six inches apart.

Use first-quality putty compound, shaped into lengths about three-eights inch in diameter and press it along the edge of the glass. Use a putty knife to form a smooth, angled finish. Follow the manufacturer's recommendation regarding drying time for the putty before painting. It should be noted that old glass usually has slight irregularities in its thickness (waves) and small air bubbles (seeds). Since the new glass will lack these imperfections, a pane of glass that is replaced adjacent to older panes may be noticeable. If this occurs in a particularly prominent location (e.g. front entry door) consideration might be given to obtaining an old piece of glass from a salvage yard or purchase new restoration glass available at glass shops (Refer to Figure 13-35).

Repair small holes in wood members by cleaning away all loose debris and filling with a good quality putty. After drying according to the manufacturer's instructions, sand the surface, prime and paint.

Double Hung Window Repair - Double hung windows have two sashes - an outside sash that slides down and a lower, inside sash that slides up. The sliding movement of the window is controlled by weights connected to the window by cords that run over pulleys. Aside from actual broken or rotted sash pieces, the most common problems with these windows are broken sash cords, fouled pulleys and sticking due to warping or over painting.

Sticking can usually be eliminated by gently taping the frame of the window just enough to jar loose paint or debris, then opening the window. Cleaning the jambs, then lubricating with paraffin will often make the window operational. Light sanding may be necessary in order to smooth any rough areas where the window slides.

If severe warping has occurred, the window sashes will have to be removed and planed. An experienced carpenter would best complete this, as well as any problems with the cords or weights, as this work requires the removal of the window from its frame.

13.7.5 Doors

Door Repair - Typical problems with doors include sticking, not closing properly or having gaps around the door when it is closed. The first thing to check is the hardware composed of the hinges and strike plates of the door. These can often become loosened over time and the remedy is as simple as tightening a few screws. If any of these items need replacement, they should be replaced to match the original as closely as possible.
Lock and latch mechanisms may need simple tightening of the screws also, but a qualified contractor or locksmith should conduct more major repairs.

Replacement door hardware should closely match the original. If new matching hardware is not available, check for salvage hardware. The following information will be necessary to secure properly matching hardware:

- Diameter of the lock
- Size and location of the latch bolt holes
- Dimensions of the latch face plate
- Door thickness
- Back set measurement from the door’s edge to lock hole center
- Type of lock being replaced
- Brand name of existing lock

13.7.6 Ornamentation & Trim

When repairing or replacing decorative trim work the following should be considered:

- Loose trim or ornaments should be reattached with galvanized finish nails or brass wood screws. Countersink nail screw heads and conceal nails with putty before painting. If the material must be removed to be repaired or copied, inspect the attachment carefully prior to any work. It is often a good idea to label pieces according to their original locations in order to replace them exactly.

- Wood ornamentation and trim should never be roughly hammered or pried loose. Determine how the piece is attached and carefully plan the work to be sensitive to the material and its weaknesses. Any prying action should be slow and careful, with a minimal amount of force. The prying bar or hammer should rest against a thin piece of wood to alleviate damage to the adjoining surfaces.

- Many carved and detailed pieces of ornamentation can lose their detail by the continuous application of paint. Careful removal of the paint by heat gun or chemicals will revive the original detail. Never use abrasives on delicate ornamentation and never sandblast ornamentation or trim to remove accumulated paint, as this will destroy subtle details.

- An experienced painting contractor sensitive to historic houses is the most likely to preserve ornamental detail properly.

- If the trim or ornamentation is comprised of several layers of materials, it is helpful to sketch the components as they come apart to ensure proper reassembly. Broken pieces can usually be repaired with a good wood glue and gently securing
the pieces together with a clamp or band. If the pieces are beyond repair, a skilled finish carpenter can duplicate the original work.

- When historic construction materials cannot be replaced or matched, care should be taken to match the original pattern, thickness, color, and texture as closely as possible with available materials. In general, simulated replacement materials (artificial stone) are discouraged.

![Figure 13-37: Proper repair of wood trim](image)

Replacement of trim and ornamentation should occur just as carefully as the removal. Pieces should be caulked where water infiltration might occur.

### 13.7.7 Roofs

Roof leaks should be quickly identified and repaired to eliminate the destructive abilities of water at inside surfaces, as well as to structural members. Leaks occur at two general areas: where there are leaks in the roofing material itself; or where the roof intersects with another component, such as a wall or chimney. An active leak may be very frustrating to trace because the water level may travel prior to becoming noticeable. The wet spot in the ceiling is rarely directly below the actual leak in the roof. The inspection for the leak should take place in the attic of the house, starting at the location of the wet ceiling.

To check for leaks in dry weather, look for telltale signs:

- Light shining through to the inside where there are worn or missing shingles
- Dark stains or discolorations on the underside of rafters or shingles
- Loose, rusting, or deterioration on flashing around joints and chimneys
- Sagging or distressed rafters
- Protruding nails
- Peeling paint on eaves and cornices

To check for leaks in wet weather:

- Find the area of wet ceiling in the attic
- Look to see if the water is coming from the rafters or the sheathing
- If the water drips from a rafter, follow it to the source (usually the ridge)
- Mark the bottom of the leak
- Temporarily caulk the hole with roofing caulk for wet weather use

![Figure 13-38: Example of roof repair for tile materials](image)
13.8 Additions and New Accessory Buildings

Opportunities for building expansion and addition exist among properties listed on the Register and within the Historic Districts. Additions to designated buildings may be necessary or desirable to ensure their continued use. Such additions are often the most sensitive and difficult design issues to manage. The following guidelines present some basic guidance to utilize when additions, including second stories, accessory structures (e.g. new entrances, garages, carports) or second dwelling units are contemplated.

13.8.1 General Principles

Additions should be designed so that if the addition were to be removed in the future, the essential form and integrity of the original structure would be unimpaired.

When designing an addition, the following principles should apply:

a. Preserve significant historic and architectural features, details, and materials of existing building.

b. Preserve the character and scale of the structure by maintaining existing proportions for the new addition.

c. Avoid creating a faux historical look.

d. Design new additions in a manner that makes clear what is historic and what is new.

13.8.2 Site Plan Considerations

a. Additions should be carefully placed to minimize changes in the historic appearance of the building from the street (Refer to Figure 13-39a & 13-39b).

b. Additions should be placed to the side or rear of the property and should minimize use of the street facing facades.

Figure 13-39a: Example of appropriate placement of new addition

Figure 13-39b: Example of inappropriate placement of additions
13.8.3 Architectural Compatibility

Example of a Craftsman Bungalow home

a. The design of a proposed addition should complement the overall scale, proportion, massing and detailing of the original structure and should not destroy historically significant features, materials or finishes.

b. Additions that may alter the facade of the building need to be considered carefully. Additions to architecturally significant buildings need to complement distinctive design features such as:

- Building scale, massing and proportion;
- Exterior materials;
- Roof style, pitch, material;
- Finished floor height;
- Color; and,
- Window rhythm, size, shape and type.

c. Avoiding a “faux” historical appearance, new additions may also incorporate architectural details compatible with, but not necessarily identical to, the historic structure, including:

- Exterior material pattern
- Window rhythm, size, shape, and type;

Refer to Appendix A for a discussion on the character defining features of specific styles of architecture to ensure compatibility of design.

13.8.4 Scale and Mass

Each building has a characteristic scale and mass that is unique to its particular style. For example, Victorian era homes, such as Italianate, Stick and Queen Anne are usually thought of as being rather tall and slender with steep roofs, asymmetrical shapes, fine details and varied textures. In contrast, the Craftsman Bungalow style emphasizes horizontal lines giving them a low to the ground appearance. Low-pitched roofs with wide and thick porch pillars all add to this appearance.

Each style of architecture in Santa Ana possesses unique qualities that help to establish its own individual mass and scale. It is important to recognize these features and incorporate and continue them in additions and expansions.

Figure 13-40: Additions should match scale and mass of existing building
13.8.5 Roof Pitch Consistency

The roof of a building, especially its style and pitch, is an important architectural element that must be taken into consideration when planning an addition or accessory building.

a. The roof style, pitch and detailing on the addition should match the original building (Refer to Figure 13-40).

b. Roof materials should also match as close as possible in order to maintain the architectural style of the original building.

13.8.6 Second Story Additions

a. Adding a second story to an existing building will change a building’s proportions and should be carefully designed to follow similar two story examples of the particular style.

b. Integrating the new second story addition into the original design of the building is more compatible to the structure and respectful of the streetscape if the addition is setback from the front facade (Refer to Figure 13-40 and 13-42).

c. New additions should be designed to respect and not overpower the significant architectural features such as chimneys, porches, etc.
13.8.7 Exterior Materials

a. The exterior appearance of additions and new accessory buildings should be compatible with the style, quality, dimension, texture, and color of materials on the existing building.

b. Care should be taken at the intersections of the new and the old to avoid awkward connections of the horizontal lines.

c. When new additions introduce major architectural features (e.g. chimneys, porches, etc.), they should be compatible with the historic style, quality, dimension, texture, and color of materials on the existing building.

13.8.8 Doors

a. The exterior doors of a historic building are indicative of its architectural style as previously described. Additions should incorporate doors compatible with the style of the house, especially if they are visible from the street.

13.8.9 Windows

a. Original window type, style, and material should be integrated when creating an addition. Most often, windows in historic buildings were wood sash.

b. The general rhythm of window placement (pattern of solid to void) and the size of the windows should complement the style of the house, but need not match exactly.

c. Exterior trim of new windows should be compatible in design and color with windows on existing structure.

13.8.10 Accessory Structures and Detached Second Dwelling Units

a. A new (or existing) accessory structure, such as a garage or garden shed, or a second dwelling unit can generally attain architectural compatibility by incorporating a few key character-defining elements of the main building. Some of the key elements to consider include:

- Roof pitch, style and material;
- Building proportions;
- Exterior materials;
- Door and window style and placement pattern;
- Color

b. Accessory buildings are generally utilitarian structures and need not attempt to incorporate the level of detail as the house unless they are attached to it, are clearly visible from the street, or are part of a formal historic designation.

c. Whenever possible, locate accessory buildings and detached second dwelling units out of view from the street.
13.9 Landscaping

Landscaping and yards can be part of the historic context and in some cases, may be part of the historical designation. The guidelines in this section are intended to assist an owner determine what type of landscaping might be most appropriate for an historic building.

In addition to site specific information that you will need to consider (i.e. sun exposure, drainage, soil, view, etc.) you will want to consider some factors before you begin.

What are the visual characteristics of your neighborhood?
Are there prevailing landscape styles in the neighborhood?
What is the relation of your house to the street?
Are many fences used on your street? What kind?
Is a formal or informal design desired?

13.9.1 General Landscape Guidelines

a. Strive for some semblance of unity in the landscape, rather than disjointed groupings and scattering of features. No one element should stand out; instead, all the parts – plants, gradients, and structures should work together harmoniously.

b. Balance the landscape using mass, color, or form to create equal visual weight on either side of a center of interest. An example of balance would be creating mirror images of shrubs on each side of a stairway or balancing a large tree on one side of the house with a grouping of smaller trees on the other side.

c. Landscaping should be in scale and proportion with adjacent buildings and other landscaping elements and should be of appropriate size at maturity.

d. Avoid a monotonous landscape by selecting plants in a variety of shapes, shades, and textures.

e. Existing mature, healthy trees should be preserved and incorporated within the overall landscaping plan of the project.

13.9.2 Landscaping Design Themes

Different architectural styles are generally associated with “formal” or “informal” landscape design theme.

a. Formal designs emphasize a uniform balance of landscape features with a mirror-like symmetry. Landscaped areas are plotted out in geometrical shapes; trees and shrubs may be trimmed into stylized forms. This style is often best suited for Victorian styles such as Queen Anne, Stick, Italianate, Spanish Colonial/Mediterranean Colonial Revival, and Art Moderne (Refer to Figure 13-46a & b).
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b. The informal landscape theme emphasizes asymmetrical designs, preferring arrangements that appear more natural and free flowing. The informal design approach is most suited for Tudor, Prairie, Craftsman, and California Bungalow, which represent a rejection of formality and promote a return to nature (Refer to Figure 13-47a & b).

13.9.3 Fences

Fences of appropriate materials and design can do much to contribute to the historic flavor neighborhoods. The guidelines below are intended to supplement the regulations identified in the City of Santa Ana’s Zoning Code. Appendix B describes fence types appropriate for many of the architectural styles existing in the City.

a. Fences should be designed to complement the architectural style and character of the main dwelling and the neighborhood. Generally speaking, fences of wood, stone/wood, iron, brick and stucco may be appropriate materials (Refer to Figure 13-48).
b. Fences should be kept as low as possible while still performing their intended decorative or screening functions and must meet City code requirements.

c. The design of gates should match the fence pattern, design and materials.

d. Front yard fences in an exaggerated design or with a fortressing look are inappropriate.

13.9.4 Walkways

a. The main entry walkway to the house contributes to the overall character of the house. The materials listed below are most appropriate for walkways in residential districts, but must be compatible with the materials found on the structure:

- Brick
- Natural gray concrete – textured to expose fine aggregates
- Stone – random or cut patterns
- Cobble – gray granite or river rock
- Decomposed granite
- Poured-in-place or pre-cast natural gray concrete stepping stones
- Glazed non-slip ceramic tiles (accent only)
- Terra cotta tiles and pavers
- Painted concrete

b. Original walkways, when present, should be preserved. Do not replace the entire walkway, when the repair or limited replacement is appropriate.

c. When replacement is necessary, the new walkway should match the original in terms of color, texture and material and score pattern.
13.10 RESIDENTIAL LIGHTING

The use of area and accent lighting can add to the aesthetic appeal of any house regardless of its architectural style. Lighting can also fulfill security needs when properly placed.

a. Use only the amount of light required to effectively illuminate the area – more light is not automatically better. When exterior lighting is introduced, use lighting fixtures that shield the light from spilling over onto adjoining properties. Consult the Santa Ana Police Department for additional regulations.

b. Considering the positive effect of a well-planned lighting system can add to the overall appearance of the house. Use style of lighting fixtures that complements the architectural style of the house.

c. Avoid using tall fixtures that do not fit the pedestrian scale of the residential yard.

d. Exterior lighting fixtures on an historic structure may be character-defining features. Avoid replacing them, when a repairing them would be appropriate.

13.11 ADDITIONAL RESOURCES

To further assist preservation efforts and the development of appropriate infill development, the following Appendices are provided:

Appendix A: Santa Ana Architectural Styles

This Appendix provides an overview of architectural styles predominant in the community.
Appendix B: Fence Design

This Appendix provides an overview of fence designs for most of the architectural styles predominant in the community.

Appendix C: Secretary of The Interior’s Standards for Rehabilitation

This Appendix contains the full text of the Secretary of Interiors Standards for Rehabilitation of Historic Buildings.

Appendix D: Glossary of Architectural Terms

This Appendix provides a listing of commonly used architectural terms.

Appendix E: Incentives for Historic Properties

This Appendix provides an overview of currently available incentives for the preservation of historic properties.

Appendix F: Historic Precedents for Color

This Appendix provides an overview of the historic precedents for the use of exterior colors for various architectural styles.

Appendix G: Resources for Historic Preservation

This Appendix provides a listing of resources available.
Chapter 14

Signage Guidelines

14.1 Introduction and Purpose

This Chapter addresses signage for all development types within the City of Santa Ana. The signage design guidelines are intended to ensure quality signs that communicate their message in a clear fashion. These guidelines should be used in conjunction with the provision and standards contained within the City of Santa Municipal Code.

Applications for sign permits shall be filed with the City of Santa Ana Planning and Building Agency. This permit is reviewed concurrent with the building permit required for any sign, including window and painted signs.

14.2 General Design Objectives

Sign design for all projects in Santa Ana should:

- Encourage creative, well-designed signs that contribute positively to Santa Ana’s visual environment, expression of local character, and development of a distinctive image;

- Recognize that some businesses are small, non-franchise establishments, that depend on their signs as the primary means of advertising and require the use of a variety sign types that are well designed; and,

- Be compatible with the building’s architectural design and with other signs in the immediate vicinity.

14.3 General Sign Design Guidelines

This section provides general design guidance for all sign types. Project applicants should utilize these general guidelines in addition to the guidelines for the particular sign type. The following guidelines apply to all signs:
Figure 14-3: Creative and well designed signs should be incorporated into all development types

a. The location and size of signs on any building should be proportioned to the scale and relate to the architecture of that particular structure.

b. Oversized and out-of-scale signs are inappropriate (Refer to Figure 14-4).

c. Sign colors and materials should be selected to contribute to the sign’s legibility. Excessive use of colors is discouraged.

d. Freestanding/Monument signs should be placed within landscaped area(s) perpendicular to approaching traffic and positioned to provide clear lines of sight at intersections and driveway approaches (Refer to Figure 14-5).

14.3.1 Placement

a. Signs should not project above the edge of the rooflines.

b. Signs used for business identification on the primary business frontage should be placed near the main business entrance in a location that does not cover doors, windows, or architectural details.

14.3.2 Materials

a. Wooden Signs: There are several ways to effectively utilize wooden signs. A wooden wall sign can be routed, carved or sandblasted to get the effect of carved letters (Refer to Figure 14-6).

b. Metal Signs: Applications of metal include: (1) applying raised letters on a metal band with the paint and lettering applied to the surface; (2) Use of galvanized or baked enamel finish to avoid rusting (Refer to Figure 14-6).
C HAPTER 14 – S IGNAGE GUIDELINES

14.3.3 Color

a. Colors should relate to and complement the materials or paint scheme of the buildings, including accenting highlights and trim colors. The number of colors on any sign should be limited to three. This heightens readability (visibility) especially when one color is a dark hue, the second a medium hue and the third a light accent color.

b. Contrast is an important influence on the legibility of signs. Light letters on a dark background or dark letters on a light background are most legible.

c. Fluorescent colors should not be used.

14.3.4 Sign Legibility

a. An effective sign should be legible. The most significant influence on legibility is lettering style.

b. Lettering styles used on signs should be highly legible. It is in the best interest of the business establishment that signage can be read clearly and is attractive to the passer-by (Refer to Figures 14-8 and 14-9).
Chapter 14 – Signage Guidelines

Figure 14-9: Choose lettering styles that are legible. The use of appropriate lettering styles has the most significant impact on sign legibility.

c. Limit the number of lettering styles in order to increase legibility. A general rule to follow is to limit the number of different letter styles to no more than two for small signs and three for larger signs (Refer to Figure 14-10).

d. Avoid spacing letters and words too close together. Crowding of letters, words or lines will make any sign more difficult to read. Conversely, over-spacing these elements causes the viewer to read each item individually, again obscuring the message.

e. Use symbols and logos in the place of words whenever appropriate. These images will usually register more quickly in the viewer's mind than a written message (Refer to Figure 14-11).

f. When utilizing trademarks, applicants should submit proof of trademark registration prior to sign approval.

g. The design of logos and signs should be complementary to the architecture of the building.

Figure 14-10: Limiting the number of lettering styles on a sign will ensure legibility.

Figure 14-11: The use of symbols and logos are encouraged.
14.3.5 Sign Illumination

a. Signs should have the capacity of being lit externally for evening visibility.

b. Individually illuminated letters, either internally illuminated or back lighted solid letters (reverse channel), are a preferred alternative to internally illuminated signs. Avoid illuminating an entire sign (Refer to Figure 14-12).

e. Whenever external lighting fixtures are used, care should be taken to properly shield the light source to prevent glare from spilling over into residential areas and any public right-of-way.

14.4 Guidelines for Sign Types

There are a variety of sign types permitted within the City of Santa Ana. Signs may vary in features such as size, location, material and color. When considering signage for a project, applicants should first consult with applicable sections of the Santa Ana Municipal Code. The guidelines contained in this section should be used to supplement Municipal Code requirements. Figure 14-15: Sign Examples provides graphic representations of various sign types permitted by the City of Santa Ana.

14.4.1 Wall Signs

Wall signs are attached parallel to or painted on a wall surface, including a parapet or canopy fascia of a building (refer also to Section 14.7 for canopy signs). The following guidelines apply to wall signs:

a. Wall signs should be applied horizontally directly above the storefront (Refer to Figure 14-19).
b. When a building contains two or more businesses, wall signs should complement one another in color and shape and be located in the same position over the storefronts (Refer to Figure 14-18).
Figure 14-15
Sign Examples
Figure 24-15
Sign Examples

- aerial sign
- awning sign
- canopy sign
- changeable copy sign
- directional sign
- flag canopy sign
- freestanding
- incidental sign
A wall sign should be located where architectural features or details suggest a location, size or shape for the sign. The best location for a wall sign is generally a band or blank area between the first and second floors of a building (Refer to Figure 14-16).

Example 14-16: Signs should be located where architectural details suggest a location

Figure 14-17: Wall signs in a shopping center should be consistently placed in the same location

Figure 14-18: Employ a consistent sign pattern

Figure 14-19: Place wall signs centered above building entrances

c. Wall signs should be centered above the store or building entrance within an architecturally established area or unbroken area of the building facade.

14.4.2 Projecting Signs

Projecting signs are permanently attached to building, perpendicular to the surface of a wall or projection. The following guidelines apply to projecting signs:
a. Projecting signs of a small scale are typical of pedestrian-oriented commercial areas. These signs are effective if oriented and scaled to the pedestrian (Refer to Figure 14-21).

b. The sign’s location should be determined by visibility and should be no higher than the first level of a building.

c. A projecting sign should never be located lower than eight feet above ground level or extend closer than two feet to the nearest curb.

d. The sign should be hung at a 90-degree angle from the face of the building, except as part of a creative sign.

e. Internal illumination of a projecting sign should be avoided. Projecting signs are encouraged to be externally illuminated.

f. Projecting signs should be constructed of metal or wood. Plastic projecting signs are strongly discouraged.
g. Sign supports and other hardware should complement the design and scale of the projecting sign (Refer to Figure 14-23).

14.4.3 Under-Canopy Signs

Under-canopy signs are suspended below a canopy or marquee, perpendicular to the nearest elevation. The following guidelines apply to under-canopy signs:

a. Under canopy signs should be constructed largely of wood. Under-canopy signs could also be constructed of tile and metal with an enamel design. The choice of materials should be weather resistant.

b. Under canopy signs should never hang lower than 6 feet 8 inches from the ground (Refer to Figure 14-24).

Figure 14-24: Under-canopy signs should not hang lower than 6 feet 8 inches above pedestrian walkways.

14.4.4 Window Signs

Window signs are located within a window area of a business. Window signs may be consist of permanent materials affixed to a window, or text and graphics painted directly onto the window surface. The following guidelines apply to window signs:

a. Window signs should not exceed 25 percent of the window area, and only one window sign per frontage is allowed (Refer to Figure 14-26).

Figure 14-26: Example of calculating window sign area.

Figure 14-25: Example of an under-canopy sign
b. Window signs should be applied so that they do not obscure the visibility into a shop for the passerby. Every effort should be made to integrate window signs with store window displays (Refer to Figure 14-27).

c. Lighted signs, flashing signs or any other sign not applied directly to a windowpane are not permitted (Refer to Figure 14-28).

d. Window signs should be limited to individual letters placed on the interior surface of the window and intended to be viewed from outside.

e. The text or sign copy of a window sign should be limited to the business name and brief messages (Refer to Figure 14-29).

14.4.5 Awning, Canopy, and Marquee Signs

Awning signs are affixed to or imprinted on a temporary shelter composed of non-rigid material on a supporting framework. Awning signs are affixed to the exterior wall of a building. Canopy signs are affixed to any permanent architectural projection extending over a door, entrance, window, or outdoor serve area. Marquee signs are affixed to a permanent projection extending from the building or beyond the wall of a building.

a. Only permanent signs that are an integral part of the awning or canopy are allowed.

b. Lighting directed downwards that does not illuminates awning signs is allowed.

c. Awning signs should not be internally illuminated.
14.4.6 Freestanding and Monument Signs

Freestanding signs are signs that stand directly on the ground and are independent from any building our structure. Monument signs are freestanding low-profile signs where the sign width is greater than the sign height. Monument signs should have a solid background.

a. Freestanding and Monument signs should be located where they are not obstructed by landscaping and can be easily viewed by pedestrians and motorists.

b. Freestanding and Monument signs are required to be located in a landscaped planter away from a driveway or other vehicle access point (Refer to Figure 14-31).

c. Freestanding and monument signs should be placed perpendicular to the street (Refer to Figure 14-33).
d. Freestanding and monument signs should be on ground (Refer to Figure 14-34).

![Figure 14-34: Freestanding/monument signs should be used instead of pole of pylon signs.](image)

Figure 14-34: Freestanding/monument signs should be used instead of pole of pylon signs.

e. Signs should provide solid architectural bases and are encouraged to match the architectural elements of the development it serves (Refer to Figure 14-35).

![Figure 14-35: A solid base is encouraged on all freestanding/monument signs](image)

Figure 14-35: A solid base is encouraged on all freestanding/monument signs.

Figure 14-36: Avoid freestanding/monument signs having no more than 8 items.

14.5 MISCELLANEOUS SIGNS

14.5.1 Temporary Signs

Temporary signs are utilized temporarily and are not permanently mounted or attached to a building or structure.

a. Temporary signs such as hastily hand painted “sale” signs printed on coarse paper and plastered in windows are highly inappropriate and should never be used.

![Figure 14-37: Examples of temporary signs at a storefront location](image)

Figure 14-37: Examples of temporary signs at a storefront location
14.5.2 Street Address Numbers

Number graphics can be effectively designed and used to highlight the store’s address and location. This is especially effective when there is more than one shop per building. Addressing should be consistent from store to store on a multi-tenant building.

Figure 14-38: Sign that highlights the building’s address

14.5.3 Parking Lot and Directional Signs

Parking area signs, other than those required by law or other ordinances such as a “HANDICAPPED PARKING ONLY” sign, are not permitted.

Figure 14-39: Example of a directional sign

14.5.4 Vehicle Signs

Vehicle Signs (other than contractor name and number and other similar car or truck door signs), portable A-frame signs, balloons, flags and animate or inanimate representational figures such as animals or statues are strictly prohibited.

Figure 14-40: Vehicle Signs are not allowed

14.5.5 Mimetic Signs

Mimetic signs are signs that utilize elements that imitate or represent a product, or service. The following guideline apply to mimetic signs:

a. Signs that advertise a business through the use of graphic or crafted symbols, such as shoes, keys, sun glasses, books, etc. are strongly encouraged (Refer to Figure 14-41).
b. A mimetic sign that has only the symbol or image should convey very clearly those services that are offered or products that are sold inside the establishment.

c. The business’ name may accompany a mimetic sign.

d. Letters, colors and design shall be the same as for a wall sign.
Chapter Fifteen
Chapter 15

Public Art Guidelines

15.1 INTRODUCTION AND PURPOSE

Public art contributes significantly to the public identity of a place. Public art can stimulate creativity, imagination and add a unique human quality to the outdoor environment. A city rich in art becomes an outdoor cultural museum accessible to everyone.

Public art enriches the urban landscape and provides a means to express the City’s cultural and social heritage. Therefore, public art is an increasingly important element to Santa Ana’s built environment. The guidelines contained in this Chapter provide guidance for the development, placement, and selection of artwork.

15.2 GENERAL DESIGN OBJECTIVES

- Foster collaboration among artists, developers, architects, landscape architects, and engineers to fully integrate artwork within public places.

15.3 PUBLIC ART GUIDELINES

a. Public art associated with commercial development is encouraged. It is strongly encouraged that art should invite participation and interaction, add local meaning, interpret the community by revealing its culture or history, and/or capture or reinforce the unique character of a place (Refer to Figure 15-1).

b. The physical setting of public art should be considered in its design. The impact of physical space and nearby structures on public art should also be considered.

c. The placement of freestanding pieces of art should avoid locations where it would compete with a storefront, obstruct a pedestrian path, create a traffic hazard, compete with another piece of art, or adversely impact adjacent buildings.
d. Art should be sited to complement other features, such as a plaza or architectural components that acknowledge and respond to the presence of the art and make the art an integral part of site development (Refer to Figure 15-3).

e. Public art should be constructed using durable materials and finishes such as stone or metal.

f. Murals or bas-relief should be used to enhance otherwise blank walls (Refer to Figure 15-4).

15.4 CITY REVIEW PROCESS

Developers should contact the City as early as possible during the design process to obtain information regarding inclusion of artwork within a development proposal and guidelines for developing a project art plan, selecting and working with artists and art consultants.

Development of the Public Art Plan

A project Public Art Plan should be prepared by the project proponent to address the following:

- Describe the qualifying artwork, including artist concept & drawings, if available;
- Indicate the intended site(s), media, and materials of the artwork(s);
- Detail the schedule for the selection, fabrication(s) and installation of the artwork; and
- Describe plans for maintenance of the artwork(s).

Figure 15-5: Public art as part of a water feature
15.5 Working with Consultants

Project developers are strongly encouraged to work with an art consultant in the selection of artists and artwork. An art consultant can provide expert assistance about artists who work on public projects. Budgets, site selection and contract knowledge will assist the developer in developing the Public Art Plan.

15.6 Selecting Artists

Artists selected should be generally recognized as a professional of serious intent. Their work should show strong artistic excellence, the ability to produce works appropriate to the site, integration of artworks into the design of the building or landscape. The artwork should show recognition of accessibility, durability, and an awareness of the issues of security, maintenance, and safety (Refer to Figure 15-6).

15.7 Eligible Artwork Types

All forms of original creations of visual art are eligible, including but not limited to:

a. Any public location within a project, including the street wall, paths and linkages, gardens and grounds, plazas, etc. The treatment of these areas might involve light, sound, water, tactile qualities, and any manner of materials.

b. Painting of all media, including both portable and permanently affixed works, such as murals;

Figure 15-6: Select public art that is accessible, durable, withstands weather, and provides ease of maintenance

Figure 15-7: Public art located in commercial development

Figure 15-8: Sculptures of a variety of forms are encouraged
c. Sculpture which may be in the round, bas-relief, high relief, mobile, fountain, kinetic, electronic, architectural etc., in any material or combination thereof; (Refer to Figure 15-8) and,

d. Other visual media including, but not limited to, prints, drawings, stained glass, artistic lighting, calligraphy, mosaics, photography, clay, fiber and textiles, wood, metals, paving, plant materials, plastics, crafts or artifacts, or other materials or combination thereof.

15.8 ARTWORK LOCATION

a. Maximum visibility of the art is of primary concern. Public art location(s) should be clearly visible and freely accessible during daylight hours (Refer to Figure 15-9).

b. The placement of artwork should avoid locations where it would conflict with monument signage.

c. The developer should guarantee public access to the artwork(s).

d. Artwork shall be a permanent part of the development and shall remain in place for the life of the building.

15.9 LIGHTING

a. Exterior artwork(s) should be adequately lit so as to be clearly visible from sidewalks during evening hours (Refer to Figure 15-10).

b. Interior artwork should be adequately lit during all hours of public access (Refer to Figure 15-11).
15.10 Ownership and Maintenance

a. The artist, project developer and architect (if appropriate) should be credited for their roles in the art project through a plaque located near the artwork.

b. Art should be maintained and repaired as necessary by the property owner(s).

c. Stolen or vandalized art should be replaced or repaired as close as possible to its original form.

d. In the event repair of a work is required; the responsible artist(s) should be notified and given the opportunity to do the repair for a reasonable fee. In lieu of the original artist being available, another professional artist shall repair the work.

e. The property owner(s) or representative should be responsible for the installation, future preservation, maintenance, and replacement if necessary, of the public art provided for the life of the development project.

f. Public artwork that is removed due to ownership change should be replaced in-kind by the new property owner(s).
Appendix A

Santa Ana Architectural Styles
APPENDIX A
SANTA ANA ARCHITECTURAL STYLES

A wide variety of architectural styles exist within Santa Ana. It is important to understand the characteristics of these styles and the various design details that help define a particular style. This section will briefly describe and illustrate the predominant architectural styles in Santa Ana.

To assist the user, this Appendix is organized in two sections. The first section discusses the architectural styles in the residential application, while the second section discusses the styles in its non-residential interpretation.

Each of the architectural styles listed below are found in varying degrees in Santa Ana. A general description and character defining elements of each of the styles follows the list. Residential interpretation of architectural styles discussed include:

- Italianate (Late Victorian)
- Stick/Eastlake (Late Victorian)
- Queen Anne (Late Victorian)
- Shingle
- Colonial Revival
  - Classic Box Variant
  - Georgian Variant
- Classical Revival
- Craftsman Bungalow
  - California Bungalow Variant
- Prairie
  - American Foursquare Variant
- Tudor Revival
  - English Revival Variant
- Italian Renaissance Revival
- Mission/Spanish Colonial Revival
  - Mission Revival Variant
  - Spanish Colonial Variant
  - Monterey Variant
- Moderne
- Art Deco
- International Style
- Minimalist Traditional
- Ranch

In addition, the non-Residential interpretation of the following architectural styles discussed in this Appendix include:

- Richardsonian Romanesque
- Shingle
- Italian Renaissance
- Colonial Revival
  - Georgian Variant
- Classical Revival
- Mission/Spanish Colonial Revival
  - Churriguerean Variant
- Beaux Arts
- Commercial Style
- Art Deco
- International Style

1 The architectural descriptions in this Chapter are drawn from the Santa Ana Register of Historical Property and the Santa Ana Architectural Style Guide.
Italianate (Late Victorian)  
1860 to 1890

The Italianate style as expressed in Southern California between 1860 and 1890 was the product of much evolution after being originally remodeled after the rural architecture of Northern Italy. The Italianate houses, few that there are, are among Santa Ana’s oldest homes – usually over a century old. The Santa Ana Italianate examples are rectangular, almost square structures, highly symmetrical and balanced in appearance and accompanied by a pleasant touch of the picturesque. Both the vertical and picturesque qualities of the Italianate home are largely derived from the height and elongated approach to the design of the windows and doors.

The Italianate style is chiefly identified by its window treatment: tall, relatively narrow, double-hung sash, with flat, arched, or flattened arch heads often emphasized by hood moldings. The Italianate commonly has one or more bay windows with the remaining windows being tall and embellished in the manner described. The main door, lavishly enriched with framing detail, makes a dramatic entry statement and is often accompanied by balconies and arcaded single story porches. Most often two stories, other typical features of the Italianate home include: low hipped or flat roofs, bracketed cornices, and a square tower or cupola. A common feature is shiplap siding. Stringcourses between stories, sometimes with wall planes framed by quoins, also define the Italianate style.

Preceding the Queen Ann Victorians and without the advantages of the machinery capable of producing more intricate detail pieces, the Italianate details are more simplified and usually represent the capabilities of an individual local carpenter or craftsman. Few Italianates in Santa Ana remain. Those that do remain exist in scattered locations.
ITALIANATE (LATE VICTORIAN)

- Angular and square massing
- Low pitch hipped or gable roof
- Decorative roof brackets beneath enclosed eaves
- Tall, narrow windows, and doors often paired
- Arched window hood moldings
- One-story arcaded porches and balustraded balconies
- Brackets
- Shiplap siding
- Single pane, double hung windows
- Quinies at corners
Stick/Eastlake (Late Victorian) 1870 to 1905

A style first described by architectural historian Vincent Scully in the mid-20th century, the Stick Style, a purely American style, refers to an evolution of the wooden architecture of the 19th century architect Andrew Jackson Downing. Characterized by tall proportions, steeply pitched roofs, bracketed eaves, and most characteristically, exposed framing in the form of vertical and diagonal “stickwork”, the style was most popular during the third quarter of the 19th century. The stickwork typically overlaid the siding, adorned the gable ends, or was incorporated into the structure of porches and balconies. The two dimensional design of the Stick decoration was a product of the scroll saw and jigsaw – tools not in wide use prior to the late 1870’s. Multi-textured wall surfaces, gable trusses that mimic the structural members of medieval houses and varied patterns of siding installed in the square or triangular spaces created by the stickwork are all examples of such detailing.

The rectilinear quality of the Stick Style was often combined, in the last quarter of the 19th century, with “Eastlake ornamentation”. Derived from the furniture designs of Charles Locke Eastlake, an English designer and arbiter of taste who disavowed all connection with the architecture bearing his name, such ornamentation included turned wood columns and spindles, knobs, sawn brackets, and curvilinear perforations.
STICK/EASTLAKE (LATE VICTORIAN)

Ornate gables and trusses
Applied stickwork as exposed framing
Clapboard siding
Rectangular wood bay windows
Multi-textured siding/shingles
Steeply pitched gable roof
Tall double-hung windows
Horizontal and Vertical bands

Tall proportions
Ornate gables and trusses
Queen Anne (Late Victorian)  
1890 to 1900

Built by the very wealthy, Queen Anne homes were often status symbols each vying to outdo the other in size and decoration. Queen Anne homes coincide with the industrial age and this new technology was combined with a Victorian love of the ornate to produce the many decorative embellishments typical of the Queen Anne style. Homes could be highly individualized by mixing and matching a variety of prefabricated doors, windows, and detailing pieces. For this reason, Queen Annes are sometimes considered the original forerunner to tract homes.

The introduction of the Queen Anne style in the mid-1880 was a marked departure from the more formal and vertical shapes of the Stick and Italianate styles of the time. The Queen Anne house is much more horizontal in its proportions and combines a wide variety of volumes, shapes, and textures. It achieves its picturesque quality through an intricate roofline silhouette of gables, dormers, high chimneys, towers, turrets, and pinnacles.

Highly asymmetrical in composition, the Queen Anne also emphasized contrast in both material and form. The Queen Anne house is characterized by a variety of building components and features that include front porches trimmed with elaborate latticework and turned balustrades. Walls are treated as decorative elements and often include bay windows, overhangs, and a variety of materials such as wood shingle designs and clapboard siding.

Santa Ana has Victorian homes that range in size from cottages to mansions. A more modest variance of the Queen Anne is the Queen Anne Cottage. The smaller Queen Anne Cottage enabled the more middle class to enjoy the Queen Anne style without the expense of the larger home.
**QUEEN ANNE (LATE VICTORIAN)**

- Round turret or towers with finials and corner placement.
- Steeply pitched multigabled roofs, usually front-facing gable.
- Use of ornamental detailing including patterned shingles and sawn wood embellishments.
- Pallidinated and projecting dormers.
- Reeded upturned balusters.
- Textured shingles.
- Many windows often with overhead decorative details.
- Partial or full width asymmetrical single-story porch.
- Ornamental brackets and eavesline.
- Delicate spindles work porch support.
- Prominent front porchea.

- Emphasis on color, contrast, and construction materials.
- More horizontal than Stick or Italianate.
- Asymmetrical shapes and irregularity in floor plan and roofs.
Shingle Style
1880 to 1900

The Shingle Style, named by architectural historian Vincent Scully in his book of the same name published in 1955, was predominantly a residential style dating from the 1880s through the first decade of the twentieth century. The Shingle Style is the American adaptation and interpretation of the Queen Anne Revival, the Colonial Revival, and Richardsonian Romanesque styles from which it developed its stylistic characteristics.

The Shingle Style is more horizontal than its Queen Anne Revival predecessor, but often incorporates rounded towers, balconies, bays, and porches from the earlier genre. From the Colonial vocabulary, it adapted roofs, which are usually gabled or gambreled, classical columns, the clustering of windows, dormers and Palladian windows. Ground or basement levels are often masonry or stone and arched openings are features adapted from the Richardsonian Romanesque vocabulary. The overall emphasis is on a complex shape enclosed within the shingled exterior, rather than on the decoration of individual building elements (McAlester, 288-291).

The Shingle Style is recognizable by walls of shingles, at least on the upper stories; without these, it would be difficult to relate to its many different free forms and variants. Architecturally, the Shingle style conceals the frame of the building, and emphasizes the skin of the roof and walls, a reactionary departure from the structuralism of the Stick and other High Victorian styles (Whiffen, 127-132)
SHINGLE STYLE

- Steeply gabled roofs, usually with cross gables
- Gable hipped dormer
- Wall cladding and roofing of continuous shingles
- Palladian windows
- Balconies
- Steeply pitched roofs
- Double hung windows in clusters with multi-pane sash above and single pane sash below
- Shingle wall without interruption at corners
- Extensive asymmetrical porch
- Flair classical or shingled porch supports and balustrade
- Masonry or stone foundation at ground level

- Asymmetrical facade
- May include rounded towers and bays
Colonial Revival
1900 to 1910

Considerably smaller in scale and wearing more simplified detail, the Colonial Revival houses were a puritanical reaction against the excesses of ornate design of the Queen Annes. The Colonial Revival design incorporates simple rectangular volumes and classical Georgian Federal and Dutch details. The most significant identifying feature of the style is the front door which is accentuated with decorated pediment, supported by pilasters or extended forward to form an entry porch. The facade usually includes highly symmetrically balanced windows and with a center door adorned with classical surrounds, pediments, sidelights and transoms.

The roof elements are typically hipped and side gabled, but also may be gambrel. Windows are rectangular in shape with double hung sashes, broken into smaller individual panes. Bay windows, paired windows, and triple clustered windows are also prevalent. Facade walls are typically wood or masonry materials. Decorative cornices are often an important identifying feature.

A “Classical Box” variant of the Colonial Revival Style was popular circa 1894 to 1910 and was generally characterized by two-story box-like massing, a hopped roof (often with centered dormers), boxed eaves, a full or partial front porch and columnar roof supports, and Colonial Revival detailing.)
Another variant of the Colonial Revival, the Georgian Revival looked specifically to the architectural vocabulary of the Georgian period (the eighteenth century) in the United States and Great Britain. Georgian Revival buildings are, like other Colonial Revival buildings, symmetrical in design and rectangular in plan. Hip, gable, or gambrel roofs are classically detailed at the cornice and occasionally topped by a railing-enclosed deck or accented by dormers.

Despite the short-lived era of the Colonial Revival homes, they were popular at a time when demand for housing was high, and therefore many were constructed. The greatest number of Colonial Revivals were constructed between 1905 and 1910 when Santa Ana’s profitable rural economy was attracting waves of new citizens.

Facades are often divided into three or five parts or pavilions, with alternating sections projecting and receding. Pediments over the central bay and/or the central doorway provide a focal point; the pediments may be triangular or arched and may be closed or broken. Doorways are classically enframed, frequently topped by fanlights, and contain paneled wood doors, sometimes with sidelights. Palladian windows are featured; other windows are typically double-hung sash.
COLONIAL REVIVAL

- Gable or hipped roof
- Hipped dormer (central)
- Classical prominent porch or portico
- Double-hung, small paneled windows and often a bay window as well
- Simple colonial detailing, especially columns and cornices
- Symmetrical and balanced windows
- Clapboard siding or brick
- Centered door with fan lights and side lights

- One or two stories
- Simple rectangular volumes
Classical Revival

The Classical Revival encompasses movements in American architecture ranging from Thomas Jefferson’s philosophical use of classicism during the late eighteenth and early nineteenth centuries through the sober neoclassicism and exuberant Beaux Arts exercises of the late nineteenth and early twentieth centuries. Stimulated by archaeological investigations and provided with further impetus by exhibitions such as the Colombian Exposition and the Chicago World’s Fair in 1893, the style reached southern California during the later period.

In its most literal manifestations, the style was based on specific buildings of antiquity. More commonly, the architectural vocabulary of ancient Greece and Rome was applied to contemporary building types and techniques. Identifying features include low pitched gable or hipped roofs, sometimes hidden by solid or balustraded parapets; classical entablatures; use of columns, capitals, and bases displaying the classical orders; front doors with sidelights and transom; elaborate door and window surrounds; and a balanced, symmetrical appearance. Although used for range of building types, the Classical Revival of the late nineteenth and early twentieth centuries was most effectively utilized for monumental public buildings, institutional buildings, and financial institutions.

E.B. Sprague-Schauwecker House

Bishop House

Russell House
CLASSICAL REVIVAL

- Gabled or hipped roof
- Pedimented gable
- Nonfluted porch columns
- Second story porticos
- Shiplap siding with corner boards
- Double-hung windows with six window panes
- One or two stories
Craftsman
1905 to 1925

The Craftsman Style, an American architectural style, represented a philosophy of life that featured honesty, integrity and a return to nature. It stressed honesty of form, materials and workmanship, eschewing applied decoration in favor of the straight forward expression of the structure.

Craftsman architecture drew from the wood building traditions of Japan and Switzerland, as well as medieval themes favored by the Arts and Crafts philosophies. Natural woods, shingles, earth tone colors, brick, stone, river rock, clinker brick, and heavy structural beams signified oneness with nature. The rocks and bricks were often used on foundations, chimneys, foundations, and railings to set a unifying theme for the home. Southern California is the true home of the Craftsman Bungalow which was conceived by two brother architects, Charles and Henry Greene of Pasadena.

Craftsman architecture features low pitched gable roofs (occasionally hipped), open porches, and exposed structural elements. The use of exposed rafter tails beneath large overhanging eaves supported by projecting brackets is common. Facade surfaces are typically composed of shingles and wood lap siding. Large covered front porches typically dominate the streetscape and commonly consist of two large pillars, broad at the base and tapering as they extend upward, supporting the large front porch gable. Windows are commonly double sash or casement type often tripartite or in clusters of three.
The more modest California Bungalow emerged as a solution to the need to build houses quicker and at more reasonable costs to keep pace with Southern California’s rapid population growth. California Bungalows are similar to the Craftsman Bungalows in terms of scale, low-pitched roof, front porch, and exposed building elements.

Easily recognizable by their two prominent broad based pillars supporting the entry gable above the porch, a closer look at Santa Ana’s Bungalows reveals lovely differences among window work, doors and use of construction materials. Some of Santa Ana’s most stately Craftsman homes are located in the French Park Historic District and South of First Street. Some of the most notable California Bungalows are along South Broadway.
Craftsman Bungalow

- Low-pitched gable roof
- Clapboard or shingle siding
- Simple double-hung or casement windows; large front window(s)
- Prominent front porch with a pair of tapered columns or piers; small gable over front porch
- Decorative exposed rafter ends
- Exposed building elements
- Decorative venting detailing
- Stone or brick foundation

- One story
- Contiguous gables facing the street
Prairie School
1900 to 1920

The Prairie style, one of the few indigenous American architectural styles, refers to a group of architects in Chicago, Illinois at the beginning of the 20th century. Primary amongst them was Frank Lloyd Wright, under whom the Prairie School designs reached their apex. Echoing the uninterrupted horizontal lines of the American prairie, Prairie style homes are usually characterized by broadly pitched hipped roofs with deep overhangs; two stories in height, often with one-story wings; front porches with massive porch roof supports; and detailing which emphasizes the horizontal.

A common, vernacular interpretation of the type, sometimes referred to as the American Foursquare, is box-like in massing and plan, with hipped or gabled dormers, porches across all or a portion of the facade, and detailing culled from the vocabularies of a variety of styles, including Mission Revival, Colonial Revival, and Craftsman.
**Prairie School**

- Low-pitched, generally hipped roof with broad overhanging eaves
- Eaves, cornices, and facades emphasize horizontal lines
- Single story porch
- Massive, square porch supports common casement or double hung windows with small pane or sashes
- Detailing emphasizing horizontal lines
- Square or rectangular plan
- Two stories with one-story wings or porches

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**Santa Ana Citywide Design Guidelines**

**APPENDIX A – SANTA ANA ARCHITECTURAL STYLES**

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Tudor / Tudor Revival / English Revival
1915 to 1941

First designed in the late 19th century, the Tudor Revival house mimics the characteristics of numerous English buildings, ranging from simple folk houses to medieval palaces. The Tudor Revival houses were often built in groups or even entire tracts. The Tudor Revival is characterized by steeply pitched roofs, often side-gabled, and facades that are dominated by cross gables. The more ambitious examples were executed in brick or stone; however, stucco over wood frame is quite common in southern California. Most Tudor Revival homes exhibit decorative half-timbering, multi-paned narrow windows, and a prominent and elaborate chimney feature. Picturesque windows of leaded glass or diamond-patterned lights are common.

These homes usually feature stucco walls and gable roofs of steep, but not exaggerated pitch.

A simplified version of Tudor Revival, which reached its height of popularity in the 1920’s and 1930’s, the English Revival drew upon the English country house for inspiration.

A characteristic roof treatment incorporates uneven rakes, with one side of a gable extending a greater distance than the other. Arches used for windows and doors are rounded rather than pointed as in Tudors. A “storybook” variant of the English Revival, characterized by a deliberately eclectic and picturesque quality often focused on the roof treatment, found a particularly receptive audience in southern California.
TUDOR REVIVAL/ENGLISH REVIVAL (PROVINCIAL)

- Tall chimneys (usually with some decoration)
- Facade dominated by one or more prominent cross gables
- Decorative half-timbering common detail
- Prominent large window
- Steeply pitched roofs
- Multi-paned tall narrow windows
- Heavy wooden front door
- Masonry construction or stucco with half-timbering
Italian Renaissance Revival
1895-1930

Detailing for Italian Renaissance is typically reminiscent of the Italian originals. Common features of the Italian Renaissance style include low-pitched hipped roofs (flat in some cases) with roofs typically covered by ceramic tiles. Roof elements commonly include overhanging, boxed eaves with decorative brackets. Upper floor windows are generally full height and porches may be recessed. The entry areas may be accented with small classical columns or pilasters. Ground floor windows, porches and doors typically include arches.

The late nineteenth and twentieth century revival of the Italian Renaissance style, also known as the Italian Renaissance Revival, was popular from the late nineteenth century until 1930. It was inspired by the designs of the palazzi of northern Italy and popularized by American architects McKim, Mead and White. Utilized on public buildings and ornate homes, the vocabulary of the style also influenced the appearance of commercial buildings.

Other common features of the Italian Renaissance style included decorative details such as quoins, roofline balustrade, pedimented windows, classical door surrounds, molded cornices and belt courses. Stucco, masonry, or veneered masonry are universal elements of the style.
ITALIAN RENAISSANCE REVIVAL

- Secondary story windows simpler in form than 1st level
- Low-slope roof with tile
- Typical symmetrical facade
- Large boxed eave with decorative bracketing
- Arches above first story windows
- Entry framed with classical columns or pilaster
- Stucco or masonry exterior finish

May include other classical elements such as quoins, roof balustrades, pilasters, etc.
Mission/ Spanish Colonial Revival (Mediterranean) 1890 to 1940

The Mission/Spanish Colonial Revival style, as its name implies, encompasses two major subcategories. The Mission Revival vocabulary, popular between 1890 and 1920, drew its inspiration from the missions of the Southwest. Identifying features include quatrefoil windows, curved parapets (espadana), low-pitched, red-tiled roofs and coping, (usually with overhanging eaves), porch roofs supported by large, square piers, arches, and smooth stucco wall surfaces.

The Spanish Colonial Revival flourished between 1915 and 1940, reaching its apex during the 1920s and 1930s. The movement received widespread attention after the Panama-California Exposition in San Diego in 1915, where lavish interpretations of Spanish and Latin American prototypes were showcased. Easily recognizable hallmarks of the Spanish Colonial Revival are low-pitched roofs, usually with little of no overhangs and red tile roof coverings, flat roofs surrounded by tiled parapets; and stucco walls. The Spanish Colonial vocabulary includes arches, asymmetry, balconies and patios, window grilles, and wood, wrought iron, tile, or stone decorative elements, which are elements it shares with the Mission Revival.
Emison-Georgieff House: Monterey Variant

The Monterey style variant is an eclectic mix of Spanish Colonial houses with Colonial Revival details. Its most defining characteristic is the broad second story balcony, usually cantilevered and covered by the main roof. While ceramic tiles were common in this variant, many roofs have wood shingles.

L.A. West House-Monterey Variant
MISSION/Spanish Colonial Revival
(Mediterranean)

- Mission-shaped dormer for roof parapet (Mission)
- Red tile roof covering
- Use of decorative ironwork and tiles
- Multi-pane casement or double hung windows
- Smooth stucco surfaces
- Arched openings and windows with windows often recessed
- One or two stories
- Echoes early California missions or Spanish colonial styles
- Closely related to outdoors through the use of porches, terraces, and courtyards
- Wood or W.I. window frills and balconies
Moderne (Streamlined Moderne) 1920-1940

The Art Moderne style of architecture gained recognition in the early 1920’s in conjunction with a worldwide competition to design the Chicago Tribune building. An evolution of the Art Deco style, the Streamlined Moderne flourished during the 1930s and lingered through the decade following World War II in a simplified version. Streamlined Moderne emphasizes the horizontal through bands of windows, the use of decorative raised or incised horizontal lines, railings, flat canopies with banded fascia, and narrow coping at the roofline. In the Streamlined Moderne style, one or more corners may be curved and it is common for windows to turn those corners. Other characteristics include smooth wall surfaces, usually of stucco; metal detailing; glass block windows; porthole windows; cylindrical projections; and asymmetry. Incorporation of aerodynamic, transportation-related imagery, especially nautical, is a signature of the style.
MODERNE (STREAMLINED MODERNE)

- Smooth wall surface, usually stucco
- Flat roof with small ledge or coping at roofline
- Horizontal lines and grooves
- Asymmetrical facades most common
- Curved walls
- Porthole windows
- Glass block
- Asymmetrical facades most common
Art Deco
1920-1944

Art Deco was essentially a style of decoration, and as applied to jewelry, clothing, furniture and handicrafts as well as architecture. In style between 1920 and 1940, Art Deco was popularized by the Exposition des Arts Decoratifs held in Paris in 1925. It was most commonly utilized on commercial or public buildings, sometimes in combination with the Gothic Revival whose verticality and sculptural decoration was ideally suited to the Art Deco style.

The Art Deco style is characterized by smooth wall surfaces, often of stucco, zig zags, chevrons, fluting, reeding, and other low-relief stylized and geometric motifs as decorative elements on the facade; accents of terra cotta, glass or metal; polychromy; rectangular or compound forms; and a more vertical emphasis than its close stylistic relative, Streamline Moderne.
ART DECO

- Towers and other vertical projections
- Chevrons, fluting and other low relief stylized geometric motifs
- Smooth stucco wall surface
- Zigzag and other geometric stylized motifs
International Style
1945-1960

The residential application of the International Style is rare in Santa Ana. Brought to America by European architects fleeing from the chaos of the World War, this style emphasized functionalism of structures and systems. This idea greatly influenced American buildings after the 1940's.

Named after an exhibition showcasing Avant Garde architecture, mounted at the New York Museum of Modern Art in 1932, the and associated book authored by Henry Russell Hitchcock and Philip Johnson, the International Style deliberately turned its back on architecture of the past and endeavored to find an architectural process, vocabulary, and materials reflective of the modern world.

International Style architecture is characterized by a complete absence of ornament and by forms in which effects of mass and weight are minimized for the sake of an effect of pure volume.

Compositionally it is balanced and seldom symmetrical. Identifying features include flat roofs, smooth and uniform wall surfaces, large windows and minimal exterior reveals (which are perceived as continuation of the surface in another material rather than holes in the wall), and windows that turn the corner of the building. The style also uses the cantilever principle, both carrying upper floors outside the supporting columns and for balconies and other projecting features. Wall surfaces are of any material, but generally plastered and painted white on the early vocabulary of the style. Concrete is almost never exposed. Horizontal elements are often prominent, with vertical lines or spherical features used for contrast.
INTERNATIONAL STYLE

- Windows set flush with exterior walls
- Windows placed in ribbon
- Typically flat roof
- Little or no decorative details on windows or doors
- Smooth wall surface with no detailing
- Facade typically asymmetrical
Minimalist Traditional
1950’s

The Minimalist Traditional house is a small, one-story building on concrete perimeter foundation with five rooms and a pitched roof. The roof is shingled and the exterior walls are finished with either stucco or rustic siding.

The Minimalist traditional houses were built in large numbers in the years immediately preceding and following World War II and commonly dominate the large tract-housing developments of the period.

Typical features of the Minimalist Traditional home include wood, brick, stone, and mixture of various wall cladding materials.

The Minimalist Traditional house was also influenced by the economic depression of the 1930’s, which introduced a compromise of the traditional eclectic homes with minimal decorative detailing. Roof pitches are low or intermediate. Eaves and rakes are close. Typically, the homes include a chimney and a front facing gable.
**MINIMALIST TRADITIONAL**

- **Double hung window**
- **Typical door**
- **Wood cladding**

- Single large chimney
- One front facing gable
- Low roof pitch
- Eaves and rakes are closer to building rather than overhanging
- Mixture of wall cladding materials: rock/stone and wood
Ranch Style 
1950’s to 1970’s

The Ranch style originated in California in the pre-war years (mid 1930’s). The style gained in popularity during the 1940’s and became the predominant architectural style throughout the 1950’s and 1960’s.

The Ranch style is primarily influenced by the Prairie, Craftsman, and Spanish Colonial styles. Typical Ranch style buildings are characterized by low-pitched roofs and asymmetrical design typically on one story. Roof forms for the Ranch style include hip and gable, or combination thereof. Eaves are typically wide with rafter either exposed or boxed. Exterior materials included a combination of wood siding and brick masonry. Detailing often found influences from Spanish and English Colonial styles and include wood or iron decorative elements such as porch supports and decorative shutters.
RANCH

- Low-pitched roof typically hip or gable
- Asymmetrical facades
- Wide eave overhang
- Modest detailing at windows and doors
NON-RESIDENTIAL ARCHITECTURAL STYLES

Richardsonian Romanesque

As its name implies, the Richardsonian Romanesque is derived from the architecture of Henry Hobson Richardson, one of the foremost American architects. Richardson’s unique interpretation of the Romanesque style was widely imitated after his death in 1886. Characterized by masonry construction (whole or in part) and the use of round arches, Richardsonian Romanesque buildings have a massive quality that was well suited to public buildings intended to impress or awe the spectator. Used less frequently on commercial and residential improvements, the Richardsonian Romanesque vocabulary includes, in addition to the aforementioned use of masonry and round arches, an emphasis on lintels and arches executed in contrasting stone; bands of windows, either flat or round-headed, incorporating stone mullions and colonnettes; steep gabled wall dormers, and rounded bays topped by conical caps (Whiffen, 133-140).

Shingle

The Shingle Style, named by architectural historian Vincent Scully in his book of the same name published in 1955, was predominantly a residential style dating from the 1880s through the first decade of the twentieth century. Marrying characteristics of the Queen Anne Revival, the Colonial Revival, and Richardsonian Romanesque, the style is recognizable by walls of shingles, at least on the upper stories. Ground or basement levels are often masonry. The Shingle Style is more horizontal than its Queen Anne Revival predecessor, but often incorporates rounded towers, balconies, bays, and porches from the earlier genre. Roofs are usually gabled or gambrel (Whiffen, 127-132). Other common features include clustering of windows, classical columns, arched openings, and dormer windows. The overall emphasis is on a complex shape enclosed within the shingled exterior, rather than on the decoration of individual building elements (McAlester, 288-291).
Italian Renaissance

The late nineteenth and twentieth century revival of the Italian Renaissance style, also known as the Italian Renaissance Revival, was popular from the late nineteenth century until 1930. It was inspired by the designs of the palazzi of northern Italy and popularized by American architects McKim, Mead, and White. Utilized on public buildings and ornate homes, the vocabulary of the style also influenced the appearance of commercial buildings.

Characteristic features generally include masonry construction, often with different treatments on lower and upper stories; stringcourses or beltcourses between stories; flat roofs screened by parapets or hipped roofs; cornices, dentils, pilasters, quoins, and other classical details; and a balanced, often symmetrical appearance. Taller, more elaborate buildings often feature terracotta facade cladding or ornamentation while more modest one to three story examples utilize bricks of contrasting colors as trim. Ground floors of multi-story buildings often housed banking rooms; more modest buildings may contain storefronts with recessed entries and large plate glass display windows with transoms and bulkheads. Upper story windows are most commonly one-over-one wood framed double-hung sash.
Colonial Revival

The most universal of all American domestic building styles, the Colonial Revival has been popular since the 1876 Centennial celebration in Philadelphia stimulated a patriotic interest in the American architectural past. Whether drawing upon Georgian, Federal, or Dutch Colonial prototypes, Colonial Revival buildings feature rectangular building plans and designs which are usually symmetrical, or at least highly regular and balanced, in composition.

Roofs are commonly side-gabled, hipped, or gambrelled, sometimes accented with dormers. Porches, one or two stories in height, are often included, mostly as central focal points, and frequently incorporate classical elements such as columns, pilasters, and entablatures. Doorways are adorned with classical surrounds and pediments; sidelights, transoms, and fanlights are not uncommon. Windows are typically double-hung sash, with multiple lights in the upper sash. French doors and Palladian windows are also utilized. Depending on location, Colonial Revival buildings have wood, brick, or stucco exteriors (McAlester, 320-326).

Classical Revival

The Classical Revival encompasses movements in American architecture ranging from Thomas Jefferson’s philosophical use of classicism during the late eighteenth and early nineteenth centuries through the sober Neoclassicism and exuberant Beaux Arts exercises of the late nineteenth and early twentieth centuries. Stimulated by archaeological investigations and provided with further impetus by exhibitions such as the Colombian Exposition at the Chicago World’s Fair in 1893, the style reached southern California during the later period.

United Presbyterian Church:
113-115 E. Santa Ana Boulevard
In its most literal manifestations, the style was based on specific buildings of antiquity. More commonly, the architectural vocabulary of ancient Greece and Rome was applied to contemporary building types and techniques. Identifying features include low pitched gable or hipped roofs, sometimes hidden by solid or balustraded parapets; classical entablatures; use of columns, capitals, and bases displaying the classical orders; front doors with sidelights and transom; elaborate door and window surrounds; and a balanced, symmetrical appearance. Although used for a range of building types, the Classical Revival of the late nineteenth and early twentieth centuries was most effectively utilized for monumental public buildings, institutional buildings, and financial institutions.

The Mission/Spanish Colonial Revival style, as its name implies, encompasses two major subcategories. The Mission Revival vocabulary, popular between 1890 and 1920, drew its inspiration from the missions of the Southwest. Identifying features include curved parapets (or espadana); red tiled roofs and coping; low-pitched roofs, often with overhanging eaves; porch roofs supported by large, square piers; arches; and wall surfaces commonly covered in smooth stucco.
The Spanish Colonial Revival flourished between 1915 and 1940, reaching its apex during the 1920s and 1930s. The movement received widespread attention after the Panama-California Exposition in San Diego in 1915, where lavish interpretations of Spanish and Latin American prototypes were showcased.

Easily recognizable hallmarks of the Spanish Colonial Revival are low-pitched roofs, usually with little or no overhangs and red tile roof coverings, flat roofs surrounded by tiled parapets; and stuccoed walls. The Spanish vocabulary also includes arches, asymmetry, balconies and patios, window grilles, and wood, wrought iron, tile, or stone decorative elements. The Churrigueresque variant features ornate carvings highlighting arches, columns, window surrounds, cornices and parapets.
Beaux Arts

“Eclectic,” “grandiose” and “exuberant” are words often used to describe the American version of the Beaux Arts style of architecture, named for the Ecole des Beaux Arts, the school that dominated architectural education in the nineteenth and early twentieth centuries. Characteristics of Beaux Arts architecture include monumentality, symmetry, and a less academic use of classicism than that seen in the Classical Revival style.

Typical features of Beaux Arts buildings include a central focus, often articulated by a dome, rotunda, or projecting central pavilion; use of columns, especially paired columns; arched and linteled openings, often framed by columns, piers or pilasters; monumental flights of steps; and incorporation of figural and sculptural ornamentation. An elaborate and impressive style, the Beaux Arts was favored for public buildings such as courthouses, state capitols, city halls, libraries, train stations, and museums and for commercial buildings such as banks or theaters.

Commercial

As newly settled American towns grew, commercial centers evolved from simple beginnings of a handful of wood-frame commercial buildings to more permanent construction in brick. One frequently seen building type, the one- or two-story brick commercial building, owed its appearance more to function than to the popular architectural styles.
It may be recognized by its relatively modest scale, brick construction, and facade topping parapet which was could be partially raised in a stepped or triangular pattern. Facades were generally finished with a different color brick than the common red bond used on non-public elevations. Fenestration was straightforward, with storefronts and display windows banded by transoms on lower stories and double-hung sash on upper stories, when present. Symmetry, with a central emphasis keynoted by the parapet, was common. Architectural detailing, if any, was picked out by contrasting color bricks or by variations in brick patterns.

Commercial buildings of this type began appearing in the late nineteenth century and persisted through the first two or three decades of the twentieth century. In later years, the building type was often adapted to automobile-related uses, such as garages and repair shops.
Art Deco

The Art Deco style is characterized by smooth wall surfaces, often of stucco; zig zags, chevrons, fluting, reeding, and other low-relief stylized and geometric motifs as decorative elements on the facade; accents of terra cotta, glass, or metal; polychromy; rectangular or compound forms; and a more vertical emphasis than its close stylistic relative, Streamline Moderne. Art Deco was essentially a style of decoration, and was applied to jewelry, clothing, furniture and handicrafts as well as architecture. In style between 1920 and 1940, Art Deco was popularized by the Exposition des Arts Decoratifs held in Paris in 1925. It was most commonly utilized on commercial or public buildings, sometimes in combination with the Gothic Revival whose verticality and sculptural decoration was ideally suited to the Art Deco style.
International Style

Named after an exhibition showcasing avant garde architecture, mounted at the New York Museum of Modern Art in 1932, and the associated book authored by Henry-Russell Hitchcock and Philip Johnson, the International Style deliberately turned its back on architecture of the past and endeavored to find an architectural process, vocabulary, and materials reflective of the modern world.

International Style architecture is characterized by an absence of ornament, a balance of unlike parts rather than symmetry, and an emphasis on volume rather than mass. Typical features include skeletal construction of steel, concrete or even wood; flat roofs; smooth and uniform wall surfaces; cantilevered elements, and ribbon bands of windows. Horizontal elements are often prominent, with vertical lines or spherical features used for contrast (Whiffen, 241-246).
Appendix B

Fences

Appropriate fence design can positively affect the aesthetic quality of a neighborhood and increase property values. Fences of appropriate materials contribute to the overall architectural character of the residence. Fences should be ornamental in nature and be constructed of material complimentary to the main structure on the property and compatible with the neighborhood as a whole.

All fencing shall be in conformance with the height and materials specified by City of Santa Ana Municipal Code and compatible with the architectural style of the residence. If adequate historical, pictorial, and physical documentation of a historically appropriate fence for the residence is available, the features should be replicated. If information no longer exists, a new design that is compatible with the character-defining features of the residence can be constructed.

B.1 Design Characteristics and Principles

1. Design of front, side and rear yard fencing shall be historically compatible with the architecture of the residence.

2. Fencing should be ornamental in nature and be constructed of material complimentary to the main structure on the property and compatible with the neighborhood as a whole.

3. Fencing constructed of wood, such as picket fences, can be of plain features or with ornamental carving at the top. Wood fencing is appropriate with many types of architecture, such as: Colonial Revival, Craftsman and California Bungalow, Prairie School, and Period Revival, such as English and French Tudors.

4. Wrought iron may be appropriate if compatible with the architectural style of the residence, such as the Colonial Revival and Spanish Colonial Revival architectural style.

5. Fencing constructed of wrought iron should reflect historical patterns and feature plain balusters.

6. The use of natural materials, such as stone and rock or brick, is appropriate with the Craftsman and California Bungalow architectural styles.

7. Gates shall match fence pattern, design, and materials.

8. Retaining walls should reflect historical patterns and be constructed of river rock, plain scored concrete, or pre-1920 manufactured stone. Latticework, in a diamond or rectangular pattern, can be used along the top at rear yards.

9. Wood trellises are an appropriate feature to complement fences in the rear yard.
10. The following methods are not recommended when restoring or building new fencing:
   
a. Cinder block or plain concrete block front yard fences.
b. Chain link front yard fences.
c. Fan design wrought iron or exaggerated front yard fences.
d. Front yard fencing designed for fortressing purposes.
e. Removal or radically changing important architectural features that define the overall character of the fencing.

**Pre-1900 Victorian (about 1870 to 1890)**

Example of picket fencing at a Queen Anne
Turn of the Century (about 1900 to 1920) and Craftsman/California Bungalow (about 1910-1925)

Examples of Craftsman-influenced fencing
Colonial Revival (1880 – on), Tudor and Tudor Revival (about 1905 to 1940) and Period Revivals (about 1920 to 1935)
Spanish and Mission Revival (about 1915 to 1940)

Example of Spanish Revival-influenced fencing

Example of Mission Revival-influenced fencing

Minimalist Traditional and Ranch Style (1950's to 1970's)

Wood Railing Ranch-Influenced Fencing

Wood Railing Type Fence with Brick
Wood Picket Fence

Wrought Iron Fence with Brick
Appendix C

Secretary of the Interior’s Standards

The Standards establish guidelines for preservation, reconstruction, restoration and rehabilitation of historic structures. The criteria was originally established by the Secretary of the Interior to determine the appropriateness of work to be done on properties qualifying for the Federal Historic Preservation Fund grant program. Subsequently, many state and local governments adopted the standards for the review of historic preservation projects within locally designated historic districts. The Standards were created to provide design guidance for the appropriate preservation, rehabilitation, reconstruction and restoration of historically significant structures.

As a Certified Local Government (CLG) through the California State Office of Preservation, the City of Santa Ana is required to use the Standards. Structures listed on the City of Santa Ana’s Register of Historical Properties, the California Register, or the National Register must comply with the intent of the Standards.

The standards define these four different approaches as:

**Restoration** – act or process of accurately depicting the form, features and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.

**Preservation** – act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property.

**Rehabilitation** – act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features that convey its historical, cultural, or architectural values.

**Reconstruction** – 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 period of time and in its historic location.

Following is a summary of guidelines for each of these approaches. The complete standards, with illustrations and recommendations is also included as part of this Appendix.
C.1 STANDARDS FOR REHABILITATION

1. A property will be used as it was historically or will given a new use that requires minimal change to its distinctive materials, features, and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and other visual qualities, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archaeological resources affected by a project will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale, and proportion to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.
C.2 Standards for Preservation

Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project. The following standards shall apply:

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.

2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alterations of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, a new material will match the old in composition, design, color, and texture.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

C.3 Standards for Restoration

1. A property will be used as it was historically or be given a new use which reflects the properties restoration period.

2. Materials and features from the restoration period will be retained and preserved. The removal of materials or alteration of features, space, and spatial relationships that characterize the period will not be undertaken.

3. Each property will be recognized as a physical record of its time, place and use. Work needed to stabilize, consolidate and conserve materials and features from the restoration period will be physically and visually compatible, identifiable upon close inspection, the properly documented for future research.

4. Materials, features, spaces and finishes, and construction techniques or examples of craftsmanship that characterize the restoration period will be preserved.

5. Distinctive materials features, finishes and construction techniques or examples of craftsmanship that characterize the restoration period will be preserved.

6. Deteriorated features from the restoration period will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and where possible, materials.

7. Replacement of missing features from the restoration period will be substantiated by documentary and physical evidence. A false sense of history will not be created by adding conjectural features, features from other properties, or by combining features that never existed together historically.

8. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
9. Archeological resources affected by a project will be protected and preserved in place. If such resources must be disturbed, mitigation measure will be undertaken.

10. Designs that were never executed historically will not be constructed.

C.4 Standards for Reconstruction

1. Reconstruction will be used to depict vanished or non-surviving portions of a property when documentary and physical evidence is available to permit accurate reconstruction with minimal conjecture, and such reconstruction is essential to the public understanding of the property.

2. Reconstruction of a landscape, building, structure, or object in its historic location will be preceded by a thorough archeological investigation to identify and evaluate those features and artifacts which are essential to an accurate reconstruction. If such resources must be disturbed, mitigation measures will be undertaken.

3. Reconstruction will include measures to preserve any remaining historic materials, features, and spatial relationships.

4. Reconstruction will be based upon the accurate duplication of historic features and elements substantiated by documentary or physical evidence rather than on conjectural designs or the availability of different features.

5. A reconstruction will be clearly identified as a contemporary re-creation.

6. Designs that were never executed historically, will not be constructed.
The Secretary of the Interior’s Standards for the Treatment of Historic Properties

with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings
The Secretary of the Interior is responsible for establishing professional standards and providing advice on the preservation and protection of all cultural resources listed in or eligible for listing in the National Register of Historic Places. The Secretary of the Interior's Standards for the Treatment of Historic Properties, apply to all proposed development grant-in-aid projects assisted through the National Historic Preservation Fund, and are intended to be applied to a wide variety of resource types, including buildings, sites, structures, objects, and districts. They address four treatments: Preservation, Rehabilitation, Restoration, and Reconstruction. The treatment Standards, developed in 1992, were codified as 36 CFR Part 68 in the July 12, 1995 Federal Register (Vol. 60, No. 133). They replace the 1978 and 1983 versions of 36 CFR 68 entitled, “The Secretary of the Interior’s Standards for Historic Preservation Projects.” The Guidelines in this book also replace the Guidelines that were published in 1979 to accompany the earlier Standards.

Please note that The Secretary of the Interior's Standards for the Treatment of Historic Properties are only regulatory for projects receiving federal grant-in-aid funds; otherwise, the Standards and Guidelines are intended only as general guidance for work on any historic building.

Finally, another regulation, 36 CFR Part 67, focuses on “certified historic structures” as defined by the IRS Code of 1986. The “Standards for Rehabilitation” cited in 36 CFR 67 should always be used when property owners are seeking certification for Federal tax benefits.

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

with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings

Kay D. Weeks and Anne E. Grimmer

U.S. Department of the Interior
National Park Service
Cultural Resource Stewardship and Partnerships
Heritage Preservation Services
Washington, D.C.
1995
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Photo Credits

Front and Back Covers

Bangor House, Bangor, Maine, circa 1880. Historic photo (front) and drawing (back): Courtesy, Maine State Historic Preservation Office.

Historical Overview (Materials and Features)

Building Exterior: Masonry. Jack E. Boucher, HABS.

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Building Exterior: Entrances and Porches. Jack E. Boucher, HABS.

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Building Interior: Structural Systems. Cervin Robinson, HABS.


Building Site. Jack E. Boucher, HABS.

Setting (District/Neighborhood). Charles Ashton.

Energy Conservation. Laura A. Muckenfuss.


Accessibility Considerations. Department of Cultural Resources, Raleigh, North Carolina.

Chapter Heads

Preservation
Hale House, Los Angeles, California. Photos: Before: National Park Service files; After: Bruce Boehner.

Rehabilitation
Storefront, Painted Post, New York, after rehabilitation. Photo: Kellogg Studio.

Restoration

Reconstruction

Text
It should be noted that those photographs used to illustrate the guidelines text that are not individually credited in the captions are from National Park Service files.

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The Standards for the Treatment of Historic Properties, published in 1992, were reviewed by a broad cross-section of government entities and private sector organizations. The Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings were developed in cooperation with the National Conference of State Historic Preservation Officers and reviewed by individual State Historic Preservation Offices nationwide. We wish to thank Stan Graves and Claire Adams, in particular, for their thoughtful evaluation of the new material. Dahlia Hernandez provided administrative support throughout the project.

Finally, this book is dedicated to H. Ward Jandl, whose long-term commitment to historic preservation helped define the profession as we know it today.
The Secretary of the Interior’s Standards for the Treatment of Historic Properties may be applied to one historic resource type or a variety of historic resource types; for example, a project may include a complex of buildings such as a house, garage, and barn; the site, with a designed landscape, natural features, and archeological components; structures such as a system of roadways and paths or a bridge; and objects such as fountains and statuary.

**Historic Resource Types & Examples**

**Building:** houses, barns, stables, sheds, garages, court-houses, city halls, social halls, commercial buildings, libraries, factories, mills, train depots, hotels, theaters, sta-tionary mobile homes, schools, stores, and churches.

**Site:** habitation sites, funerary sites, rock shelters, village sites, hunting and fishing sites, ceremonial sites, petro-glyphs, rock carvings, ruins, gardens, grounds, battlefields, campsites, sites of treaty signings, trails, areas of land, shipwrecks, cemeteries, designed landscapes, and natural features, such as springs and rock formations, and land areas having cultural significance.

**Structure:** bridges, tunnels, gold dredges, firetowers, canals, turbines, dams, power plants, corn-cribs, silos, roadways, shot towers, windmills, grain elevators, kilns, mounds, cairns, palisade fortifications, earthworks, rail-road grades, systems of roadways and paths, boats and ships, railroad locomotives and cars, telescopes, carousels, bandstands, gazebos, and aircraft.

**Object:** sculpture, monuments, boundary markers, statu-ary, and fountains.

**District:** college campuses, central business districts, resi-dential areas, commercial areas, large forts, industrial com-plexes, civic centers, rural villages, canal systems, collec-tions of habitation and limited activity sites, irrigation sys-tems, large farms, ranches, estates, or plantations, trans-portation networks, and large landscaped parks.

*Elmendorf, Lexington, Kentucky. Photo: Charles A. Birnbaum.*

*Zoar Historic District, Ohio. Aerial view. Photo: National Park Service.*

(Sidebar adapted from National Register Property and Resource Types, p. 15, National Register Bulletin 16A, How to Complete the National Register Form, published by the National Register Branch, Interagency Resources Division, National Park Service, U.S. Department of the Interior, 1991.)
Introduction

Choosing an Appropriate Treatment for the Historic Building

The Standards are neither technical nor prescriptive, but are intended to promote responsible preservation practices that help protect our Nation’s irreplaceable cultural resources. For example, they cannot, in and of themselves, be used to make essential decisions about which features of the historic building should be saved and which can be changed. But once a treatment is selected, the Standards provide philosophical consistency to the work.

Choosing the most appropriate treatment for a building requires careful decision-making about a building’s historical significance, as well as taking into account a number of other considerations:

Relative importance in history. Is the building a nationally significant resource—a rare survivor or the work of a master architect or craftsman? Did an important event take place in it? National Historic Landmarks, designated for their “exceptional significance in American history,” or many buildings individually listed in the National Register often warrant Preservation or Restoration. Buildings that contribute to the significance of a historic district but are not individually listed in the National Register more frequently undergo Rehabilitation for a compatible new use.

Physical condition. What is the existing condition—or degree of material integrity—of the building prior to work? Has the original form survived largely intact or has it been altered over time? Are the alterations an important part of the building’s history?

Preservation may be appropriate if distinctive materials, features, and spaces are essentially intact and convey the building’s historical significance. If the building requires more extensive repair and replacement, or if alterations or additions are necessary for a new use, then Rehabilitation is probably the most appropriate treatment. These key questions play major roles in determining what treatment is selected.

Proposed use. An essential, practical question to ask is: Will the building be used as it was historically or will it be given a new use? Many historic buildings can be adapted for new uses without seriously damaging their historic character; special-use properties such as grain silos, forts, ice houses, or windmills may be extremely difficult to adapt to new uses without major intervention and a resulting loss of historic character and even integrity.

Mandated code requirements. Regardless of the treatment, code requirements will need to be taken into consideration. But if hastily or poorly designed, a series of code-required actions may jeopardize a building’s materials as well as its historic character. Thus, if a building needs to be seismically upgraded, modifications to the historic appearance should be minimal. Abatement of lead paint and asbestos within historic buildings requires particular care if important historic finishes are not to be adversely affected. Finally, alterations and new construction needed to meet accessibility requirements under the Americans with Disabilities Act of 1990 should be designed to minimize material loss and visual change to a historic building.
Using the Standards and Guidelines for a Preservation, Rehabilitation, Restoration, or Reconstruction Project

The Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings are intended to provide guidance to historic building owners and building managers, preservation consultants, architects, contractors, and project reviewers prior to treatment.

As noted, while the treatment Standards are designed to be applied to all historic resource types included in the National Register of Historic Places—buildings, sites, structures, districts, and objects—the Guidelines apply to specific resource types; in this case, buildings.

The Guidelines have been prepared to assist in applying the Standards to all project work; consequently, they are not meant to give case-specific advice or address exceptions or rare instances. Therefore, it is recommended that the advice of qualified historic preservation professionals be obtained early in the planning stage of the project. Such professionals may include architects, architectural historians, historians, historical engineers, archaeologists, and others who have experience in working with historic buildings.

The Guidelines pertain to both exterior and interior work on historic buildings of all sizes, materials, and types. Those approaches to work treatments and techniques that are consistent with The Secretary of the Interior’s Standards for the Treatment of Historic Properties are listed in the “Recommended” column on the left; those which are inconsistent with the Standards are listed in the “Not Recommended” column on the right.

One chapter of this book is devoted to each of the four treatments: Preservation, Rehabilitation, Restoration, and Reconstruction. Each chapter contains one set of Standards and accompanying Guidelines that are to be used throughout the course of a project. The Standards for the first treatment, Preservation, require retention of the greatest amount of historic fabric, along with the building’s historic form, features, and detailing as they have evolved over time. The Rehabilitation Standards acknowledge the need to alter or add to a historic building to meet continuing or new uses while retaining the building’s historic character. The Restoration Standards allow for the depiction of a building at a particular time in its history by preserving materials from the period of significance and removing materials from other periods. The Reconstruction Standards establish a limited framework for re-creating a vanished or non-surviving building with new materials, primarily for interpretive purposes.

The Guidelines are preceded by a brief historical overview of the primary historic building materials (masonry, wood, and architectural metals) and their diverse uses over time. Next, building features comprised of these materials are discussed, beginning with the exterior, then moving to the interior. Special requirements or work that must be done to meet accessibility requirements, health and safety code requirements, or retrofitting to improve energy efficiency are also addressed here. Although usually not part of the overall process of protecting historic buildings, this work must also be assessed for its potential impact on a historic building.
Historical Overview
Building Exterior Materials

Masonry

Stone is one of the more lasting of masonry building materials and has been used throughout the history of American building construction. The kinds of stone most commonly encountered on historic buildings in the U.S. include various types of sandstone, limestone, marble, granite, slate and fieldstone. Brick varied considerably in size and quality. Before 1870, brick clays were pressed into molds and were often unevenly fired. The quality of brick depended on the type of clay available and the brick-making techniques; by the 1870s—with the perfection of an extrusion process—bricks became more uniform and durable. Terra cotta is also a kiln-dried clay product popular from the late 19th century until the 1930s. The development of the steel-frame office buildings in the early 20th century contributed to the widespread use of architectural terra cotta. Adobe, which consists of sun-dried earthen bricks, was one of the earliest building materials used in the U.S., primarily in the Southwest where it is still popular.

Mortar is used to bond together masonry units. Historic mortar was generally quite soft, consisting primarily of lime and sand with other additives. By the latter part of the 19th century, portland cement was usually added resulting in a more rigid and non-absorbing mortar. Like historic mortar, early stucco coatings were also heavily lime-based, increasing in hardness with the addition of portland cement in the late 19th century. Concrete has a long history, being variously made of tabby, volcanic ash and, later, of natural hydraulic cements, before the introduction of portland cement in the 1870s. Since then, concrete has also been used in its precast form.

While masonry is among the most durable of historic building materials, it is also very susceptible to damage by improper maintenance or repair techniques and harsh or abrasive cleaning methods.
**Wood**

Wood has played a central role in American building during every period and in every style. Whether as structural members, exterior cladding, roofing, interior finishes, or decorative features, wood is frequently an essential component of historic buildings.

Because it can be easily shaped by sawing, sanding, planing, carving, and gouging, wood is used for architectural features such as clapboard, cornices, brackets, entablatures, shutters, columns and balustrades. These wooden features, both functional and decorative, are often important in defining the historic character of the building.
Architectural Metals

Architectural metal features—such as cast iron facades, porches, and steps; sheet metal cornices, siding, roofs, roof cresting and storefronts; and cast or rolled metal doors, window sash, entablatures, and hardware—are often highly decorative and may be important in defining the overall character of historic American buildings.

Metals commonly used in historic buildings include lead, tin, zinc, copper, bronze, brass, iron, steel, and to a lesser extent, nickel alloys, stainless steel and aluminum. Historic metal building components were often created by highly skilled, local artisans, and by the late 19th century, many of these components were prefabricated and readily available from catalogs in standardized sizes and designs.
Building Exterior Features

Roofs

The roof—with its shape; features such as cresting, dormers, cupolas, and chimneys; and the size, color, and patterning of the roofing material—is an important design element of many historic buildings. In addition, a weathertight roof is essential to the longterm preservation of the entire structure. Historic roofing reflects availability of materials, levels of construction technology, weather, and cost. Throughout the country in all periods of history, wood shingles have been used—their size, shape, and detailing differing according to regional craft practices.

European settlers used clay tile for roofing at least as early as the mid-17th century. In some cities, such as New York and Boston, clay tiles were popularly used as a precaution against fire. The Spanish influence in the use of clay tiles is found in the southern, south-western and western states. In the mid-19th century, tile roofs were often replaced by sheet-metal, which is lighter and easier to maintain.

Evidence of the use of slate for roofing dates from the mid-17th century. Slate has remained popular for its durability, fireproof qualities, and its decorative applications. The use of metals for roofing and roof features dates from the 18th century, and includes the use of sheet metal, corrugated metal, galvanized metal, tin-plate, copper, lead and zinc.

New roofing materials developed in the early 20th century include built-up roll roofing, and concrete, asbestos, and asphalt shingles.
Windows

Technology and prevailing architectural styles have shaped the history of windows in the United States starting in the 17th century with wooden casement windows with tiny glass panes seated in lead cames. From the transitional single-hung sash in the early 1700s to the true double-hung sash later in the century, these early wooden windows were characterized by small panes, wide muntins, and decorative trim. As the sash thickness increased, muntins took on a thinner appearance as they narrowed in width but increased in thickness.

Changes in technology led to larger panes of glass so that by the mid-19th century, two-over-two lights were common; the manufacture of plate glass in the United States allowed for use of large sheets of glass in commercial and office buildings by the late 19th century. With mass-produced windows, mail order distribution, and changing architectural styles, it was possible to obtain a wide range of window designs and light patterns in sash. Early 20th century designs frequently utilized smaller lights in the upper sash and also casement windows. The desire for fireproof building construction in dense urban areas contributed to the growth of a thriving steel window industry along with a market for hollow metal and metal clad wooden windows.

As one of the few parts of a building serving as both an interior and exterior feature, windows are nearly always an important part of a historic building.
**Entrances and Porches**

Entrances and porches are quite often the focus of historic buildings, particularly on primary elevations. Together with their functional and decorative features such as doors, steps, balustrades, pilasters, and entablatures, they can be extremely important in defining the overall character of a building. In many cases, porches were energy-saving devices, shading southern and western elevations. Usually entrances and porches were integral components of a historic building’s design; for example, porches on Greek Revival houses, with Doric or Ionic columns and pediments, echoed the architectural elements and features of the larger building. Central one-bay porches or arcaded porches are evident in Italianate style buildings of the 1860s. Doors of Renaissance Revival style buildings frequently supported entablatures or pediments. Porches were particularly prominent features of Eastlake and Stick Style houses in which porch posts, railings, and balusters were characterized by a massive and robust quality, with members turned on a lathe. Porches of bungalows of the early 20th century were characterized by tapered porch posts, exposed post and beams, and low pitched roofs with wide overhangs. Art Deco commercial buildings were entered through stylized glass and stainless steel doors.
Storefronts

The earliest extant storefronts in the U.S., dating from the late 18th and early 19th centuries, had bay or oriel windows and provided limited display space. The 19th century witnessed the progressive enlargement of display windows as plate glass became available in increasingly larger units. The use of cast iron columns and lintels at ground floor level permitted structural members to be reduced in size. Recessed entrances provided shelter for sidewalk patrons and further enlarged display areas. In the 1920s and 1930s, aluminum, colored structural glass, stainless steel, glass block, neon, and other new materials were introduced to create Art Deco storefronts.

The storefront is usually the most prominent feature of a historic commercial building, playing a crucial role in a store’s advertising and merchandising strategy. Although a storefront normally does not extend beyond the first story, the rest of the building is often related to it visually through a unity of form and detail. Window patterns on the upper floors, cornice elements, and other decorative features should be carefully retained, in addition to the storefront itself.
Building Interior

Structural Systems

The types of structural systems found in the United States include, but are not limited to the following: wooden frame construction (17th c.), balloon frame construction (19th c.), load-bearing masonry construction (18th c.), brick cavity wall construction (19th c.), heavy timber post and beam industrial construction (19th c.), fireproof iron construction (19th c.), heavy masonry and steel construction (19th c.), skeletal steel construction (19th c.), and concrete slab and post construction (20th c.).

If features of the structural system are exposed such as loadbearing brick walls, cast iron columns, roof trusses, posts and beams, vigas, or stone foundation walls, they may be important in defining the building’s overall historic character. Unexposed structural features that are not character-defining or an entire structural system may nonetheless be significant in the history of building technology. The structural system should always be examined and evaluated early in the project planning stage to determine its physical condition, its ability to support any proposed changes in use, and its importance to the building’s historic character or historical significance.
Spaces, Features, and Finishes

An interior floor plan, the arrangement and sequence of spaces, and built-in features and applied finishes are individually and collectively important in defining the historic character of the building. Interiors are comprised of a series of primary and secondary spaces. This is applicable to all buildings, from courthouses to cathedrals, to cottages and office buildings. Primary spaces, including entrance halls, parlors, or living rooms, assembly rooms and lobbies, are defined not only by their function, but also by their features, finishes, size and proportion.

Secondary spaces are often more functional than decorative, and may include kitchens, bathrooms, mail rooms, utility spaces, secondary hallways, firestair and office cubicles in a commercial or office space. Extensive changes can often be made in these less important areas without having a detrimental effect on the overall historic character.
Mechanical Systems

Mechanical, lighting and plumbing systems improved significantly with the coming of the Industrial Revolution. The 19th century interest in hygiene, personal comfort, and the reduction of the spread of disease were met with the development of central heating, piped water, piped gas, and network of underground cast iron sewers. Vitreous tiles in kitchens, baths and hospitals could be cleaned easily and regularly. The mass production of cast iron radiators made central heating affordable to many; some radiators were elaborate and included special warming chambers for plates or linens. Ornamental grilles and registers provided decorative covers for functional heaters in public spaces. By the turn of the 20th century, it was common to have all these modern amenities as an integral part of the building.

The greatest impacts of the 20th century on mechanical systems were the use of electricity for interior lighting, forced air ventilation, elevators for tall buildings, exterior lighting and electric heat. The new age of technology brought an increasingly high level of design and decorative art to many of the functional elements of mechanical, electrical and plumbing systems.

The visible decorative features of historic mechanical systems such as grilles, lighting fixtures, and ornamental switchplates may contribute to the overall historic character of the building. Their identification needs to take place, together with an evaluation of their physical condition, early in project planning. On the other hand, mechanical systems need to work efficiently so many older systems, such as compressors and their ductwork, and wiring and pipes often need to be upgraded or entirely replaced in order to meet modern requirements.
Building Site

The building site consists of a historic building or buildings, structures, and associated landscape features within a designed or legally defined parcel of land. A site may be significant in its own right, or because of its association with the historic building or buildings. The relationship between buildings and landscape features on a site should be an integral part of planning for every work project.

Setting (District/Neighborhood)

The setting is the larger area or environment in which a historic property is located. It may be an urban, suburban, or rural neighborhood or a natural landscape in which buildings have been constructed. The relationship of buildings to each other, setbacks, fence patterns, views, driveways and walkways, and street trees together create the character of a district or neighborhood.
Special Requirements

Work that must be done to meet accessibility requirements, health and safety requirements or retrofitting to improve energy efficiency is usually not part of the overall process of protecting historic buildings; rather, this work is assessed for its potential impact on the historic building.

Energy Efficiency

Some features of a historic building or site such as cupolas, shutters, transoms, skylights, sun rooms, porches, and plantings can play an energy-conserving role. Therefore, prior to retrofitting historic buildings to make them more energy efficient, the first step should always be to identify and evaluate existing historic features to assess their inherent energy-conserving potential. If it is determined that retrofitting measures are appropriate, then such work needs to be carried out with particular care to ensure that the building’s historic character is retained.

Accessibility Considerations

It is often necessary to make modifications to a historic building so that it will be in compliance with current accessibility code requirements. Accessibility to certain historic structures is required by three specific federal laws: the Architectural Barriers Act of 1968, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990. Federal rules, regulations, and standards have been developed which provide guidance on how to accomplish access to historic areas for people with disabilities. Work must be carefully planned and undertaken so that it does not result in the loss of character-defining spaces, features, and finishes. The goal is to provide the highest level of access with the lowest level of impact.
Health and Safety Considerations

In undertaking work on historic buildings, it is necessary to consider the impact that meeting current health and safety codes (public health, occupational health, life safety, fire safety, electrical, seismic, structural, and building codes) will have on character-defining spaces, features, and finishes. Special coordination with the responsible code officials at the state, county, or municipal level may be required. Securing required building permits and occupancy licenses is best accomplished early in work project planning. It is often necessary to look beyond the “letter” of code requirements to their underlying purpose; most modern codes allow for alternative approaches and reasonable variance to achieve compliance.

Some historic building materials (insulation, lead paint, etc.) contain toxic substances that are potentially hazardous to building occupants. Following careful investigation and analysis, some form of abatement may be required. All workers involved in the encapsulation, repair, or removal of known toxic materials should be adequately trained and should wear proper personal protective gear. Finally, preventive and routine maintenance for historic structures known to contain such materials should also be developed to include proper warnings and precautions.
Standards for Preservation & Guidelines for Preserving Historic Buildings

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.
Standards for Preservation

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.

2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
Guidelines for Preserving Historic Buildings

Introduction

In Preservation, the options for replacement are less extensive than in the treatment, Rehabilitation. This is because it is assumed at the outset that building materials and character-defining features are essentially intact, i.e., that more historic fabric has survived, unchanged over time. The expressed goal of the Standards for Preservation and Guidelines for Preserving Historic Buildings is retention of the building’s existing form, features and detailing. This may be as simple as basic maintenance of existing materials and may involve preparing a historic structure report, undertaking laboratory testing such as paint and mortar analysis, and hiring conservators to perform sensitive work such as reconstituting interior finishes. Protection, maintenance, and repair are emphasized while replacement is minimized.

Identify, Retain, and Preserve Historic Materials and Features

The guidance for the treatment Preservation begins with recommendations to identify the form and detailing of those architectural materials and features that are important in defining the building’s historic character and which must be retained in order to preserve that character. Therefore, guidance on identifying, retaining, and preserving character-defining features is always given first. The character of a historic building may be defined by the form and detailing of exterior materials, such as masonry, wood, and metal; exterior features, such as roofs, porches, and windows; interior materials, such as plaster and paint; and interior features, such as moldings and stairways, room configuration and spatial relationships, as well as structural and mechanical systems; and the building’s site and setting.

Stabilize Deteriorated Historic Materials and Features as a Preliminary Measure

Deteriorated portions of a historic building may need to be protected through preliminary stabilization measures until additional work can be undertaken. Stabilizing may include structural reinforcement, weatherization, or correcting unsafe conditions. Temporary stabilization should always be carried out in such a manner that it detracts as little as possible from the historic building’s appearance. Although it may not be necessary in every preservation project, stabilization is nonetheless an integral part of the treatment Preservation; it is equally applicable, if circumstances warrant, for the other treatments.

Protect and Maintain Historic Materials and Features

After identifying those materials and features that are important and must be retained in the process of Preservation work, then protecting and maintaining them are addressed. Protection generally involves the least degree of intervention and is preparatory to other work. For example, protection includes the maintenance of historic materials through treatments such as rust removal, caulking, limited paint removal, and re-application of protective coatings; the cyclical cleaning of roof gutter systems; or installation of fencing, alarm systems and other temporary protective measures. Although a historic building will usually require more extensive work, an overall evaluation of its physical condition should always begin at this level.

Repair (Stabilize, Consolidate, and Conserve) Historic Materials and Features

Next, when the physical condition of character-defining materials and features requires additional work, repairing by stabilizing, consolidating, and
conserving is recommended. Preservation strives to retain existing materials and features while employing as little new material as possible. Consequently, guidance for repairing a historic material, such as masonry, again begins with the least degree of intervention possible such as strengthening fragile materials through consolidation, when appropriate, and repointing with mortar of an appropriate strength. Repairing masonry as well as wood and architectural metal features may also include patching, splicing, or otherwise reinforcing them using recognized preservation methods. Similarly, within the treatment Preservation, portions of a historic structural system could be reinforced using contemporary materials such as steel rods. All work should be physically and visually compatible, identifiable upon close inspection and documented for future research.

**Limited Replacement In Kind of Extensively Deteriorated Portions of Historic Features**

If repair by stabilization, consolidation, and conservation proves inadequate, the next level of intervention involves the limited replacement in kind of extensively deteriorated or missing parts of features when there are surviving prototypes (for example, brackets, dentils, steps, plaster, or portions of slate or tile roofing). The replacement material needs to match the old both physically and visually, i.e., wood with wood, etc. Thus, with the exception of hidden structural reinforcement and new mechanical system components, substitute materials are not appropriate in the treatment Preservation. Again, it is important that all new material be identified and properly documented for future research.

If prominent features are missing, such as an interior staircase, exterior cornice, or a roof dormer, then a Rehabilitation or Restoration treatment may be more appropriate.
Energy Efficiency/Accessibility
Considerations/Health and Safety Code
Considerations

These sections of the Preservation guidance address work done to meet accessibility requirements and health and safety code requirements; or limited retro-fitting measures to improve energy efficiency. Although this work is quite often an important aspect of preservation projects, it is usually not part of the overall process of protecting, stabilizing, conserving, or repairing character-defining features; rather, such work is assessed for its potential negative impact on the building’s character. For this reason, particular care must be taken not to obscure, damage, or destroy character-defining materials or features in the process of undertaking work to meet code and energy requirements.

Preservation as a Treatment. When the property’s distinctive materials, features, and spaces are essentially intact and thus convey the historic significance without extensive repair or replacement; when depiction at a particular period of time is not appropriate; and when a continuing or new use does not require additions or extensive alterations, Preservation may be considered as a treatment. Prior to undertaking work, a documentation plan for Preservation should be developed.
Building Exterior

Masonry: Brick, stone, terra cotta, concrete, adobe, stucco, and mortar

**Recommended**

*Identifying, retaining, and preserving* masonry features that are important in defining the overall historic character of the building such as walls, brackets, railings, cornices, window architraves, door pediments, steps, and columns; and details such as tooling and bonding patterns, coatings, and color.

*Stabilizing* deteriorated or damaged masonry as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

*Protecting and maintaining* masonry by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved decorative features.

Cleaning masonry only when necessary to halt deterioration or remove heavy soiling.

Carrying out masonry surface cleaning tests after it has been determined that such cleaning is appropriate. Tests should be observed over a sufficient period of time so that both the immediate and the long range effects are known to enable selection of the gentlest method possible.

**Not Recommended**

Altering masonry features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic masonry features instead of repairing or replacing only the deteriorated masonry.

Applying paint or other coatings such as stucco to masonry that has been historically unpainted or uncoated.

Removing paint from historically painted masonry.

Changing the type of paint or coating or its color.

Failing to stabilize deteriorated or damaged masonry until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to evaluate and treat the various causes of mortar joint deterioration such as leaking roofs or gutters, differential settlement of the building, capillary action, or extreme weather exposure.

Cleaning masonry surfaces when they are not heavily soiled, thus needlessly introducing chemicals or moisture into historic materials.

Cleaning masonry surfaces without testing or without sufficient time for the testing results to be of value.
**Recommended**

Cleaning masonry surfaces with the gentlest method possible, such as low pressure water and detergents, using natural bristle brushes.

Inspecting painted masonry surfaces to determine whether repainting is necessary.

Removing damaged or deteriorated paint only to the next sound layer using the gentlest method possible (e.g., hand-scratching) prior to repainting.

Applying compatible paint coating systems following proper surface preparation.

Repainting with colors that are historically appropriate to the building and district.

Evaluating the existing condition of the masonry to determine whether more than protection and maintenance are required, that is, if repairs to masonry features will be necessary.

**Repairing, stabilizing, and conserving** fragile masonry by using well-tested consolidants, when appropriate. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.

**Not Recommended**

Sandblasting brick or stone surfaces using dry or wet grit or other abrasives. These methods of cleaning permanently erode the surface of the material and accelerate deterioration.

Using a cleaning method that involves water or liquid chemical solutions when there is any possibility of freezing temperatures.

Cleaning with chemical products that will damage masonry, such as using acid on limestone or marble, or leaving chemicals on masonry surfaces.

Applying high pressure water cleaning methods that will damage historic masonry and the mortar joints.

Removing paint that is firmly adhering to, and thus protecting, masonry surfaces.

Using methods of removing paint which are destructive to masonry, such as sandblasting, application of caustic solutions, or high pressure waterblasting.

Failing to follow manufacturers’ product and application instructions when repainting masonry.

Using new paint colors that are inappropriate to the historic building and district.

Failing to undertake adequate measures to assure the protection of masonry features.

Removing masonry that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile materials.
**Recommended**

Repairing masonry walls and other masonry features by repointing the mortar joints where there is evidence of deterioration such as disintegrating mortar, cracks in mortar joints, loose bricks, damp walls, or damaged plasterwork.

Removing deteriorated mortar by carefully hand-raking the joints to avoid damaging the masonry.

Duplicating old mortar in strength, composition, color, and texture.

Duplicating old mortar joints in width and in joint profile.

**Not Recommended**

Removing nondeteriorated mortar from sound joints, then repointing the entire building to achieve a uniform appearance.

Using electric saws and hammers rather than hand tools to remove deteriorated mortar from joints prior to repointing.

Repointing with mortar of high portland cement content (unless it is the content of the historic mortar). This can often create a bond that is stronger than the historic material and can cause damage as a result of the differing coefficient of expansion and the differing porosity of the material and the mortar.

Repointing with a synthetic caulking compound.

Using a “scrub” coating technique to repoint instead of traditional repointing methods.

Changing the width or joint profile when repointing.

Adequate protection and maintenance of a historic building is an ongoing commitment. Here, two workers are priming and repainting exterior stone and wood trim. If surface treatments are neglected, more extensive repair and replacement will be required. Each loss further undermines a building’s historic integrity.
**Recommended**

Repairing stucco by removing the damaged material and patching with new stucco that duplicates the old in strength, composition, color, and texture.

Using mud plaster as a surface coating over unfired, unstabilized adobe because the mud plaster will bond to the adobe.

Cutting damaged concrete back to remove the source of deterioration (often corrosion on metal reinforcement bars). The new patch must be applied carefully so it will bond satisfactorily with, and match, the historic concrete.

Repairing masonry features by patching, piecing-in, or otherwise reinforcing the masonry using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

Applying new or non-historic surface treatments such as water-repellent coatings to masonry only after repointing and only if masonry repairs have failed to arrest water penetration problems.

**Not Recommended**

Removing sound stucco; or repairing with new stucco that is stronger than the historic material or does not convey the same visual appearance.

Applying cement stucco to unfired, unstabilized adobe. Because the cement stucco will not bond properly, moisture can become entrapped between materials, resulting in accelerated deterioration of the adobe.

Patching concrete without removing the source of deterioration.

Removing masonry that could be repaired, using improper repair techniques, or failing to document the new work.

Applying waterproof, water repellent, or non-historic coatings such as stucco to masonry as a substitute for repointing and masonry repairs. Coatings are frequently unnecessary, expensive, and may change the appearance of historic masonry as well as accelerate its deterioration.

The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment Preservation, and should only be considered after protection, stabilization, and repair concerns have been addressed.

**Recommended**

**Limited Replacement in Kind**

Replacing in kind extensively deteriorated or missing parts of masonry features when there are surviving prototypes such as terra-cotta brackets or stone balusters. The new work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

**Not Recommended**

Replacing an entire masonry feature such as a column or stairway when limited replacement of deteriorated and missing parts is appropriate.

Using replacement material that does not match the historic masonry feature; or failing to properly document the new work.
Building Exterior

Wood: Clapboard, weatherboard, shingles, and other wooden siding and decorative elements

**Recommended**

*Identifying, retaining, and preserving* wood features that are important in defining the overall historic character of the building such as siding, cornices, brackets, window architraves, and doorway pediments; and their paints, finishes, and colors.

*Stabilizing* deteriorated or damaged wood as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

*Protecting and maintaining* wood features by providing proper drainage so that water is not allowed to stand on flat, horizontal surfaces or accumulate in decorative features.

Applying chemical preservatives to wood features such as beam ends or outriggers that are exposed to decay hazards and are traditionally unpainted.

Retaining coatings such as paint that help protect the wood from moisture and ultraviolet light. Paint removal should be considered only where there is paint surface deterioration and as part of an overall maintenance program which involves repainting or applying other appropriate protective coatings.

Inspecting painted wood surfaces to determine whether repainting is necessary or if cleaning is all that is required.

Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (handscraping and handsanding), then repainting.

**Not Recommended**

Altering wood features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic wood features instead of repairing or replacing only the deteriorated wood.

Changing the type of paint or finish and its color.

Failing to stabilize deteriorated or damaged wood until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to identify, evaluate, and treat the causes of wood deterioration, including faulty flashing, leaking gutters, cracks and holes in siding, deteriorated caulking in joints and seams, plant material growing too close to wood surfaces, or insect or fungus infestation.

Using chemical preservatives such as creosote which, unless they were used historically, can change the appearance of wood features.

Stripping paint or other coatings to reveal bare wood, thus exposing historically coated surfaces to the effects of accelerated weathering.

Removing paint that is firmly adhering to, and thus, protecting wood surfaces.

Using destructive paint removal methods such as propane or butane torches, sandblasting or waterblasting. These methods can irreversibly damage historic woodwork.
**Recommended**

Using with care electric hot-air guns on decorative wood features and electric heat plates on flat wood surfaces when paint is so deteriorated that total removal is necessary prior to repainting.

Using chemical strippers primarily to supplement other methods such as hand scraping, hand sanding and the above-recommended thermal devices. Detachable wooden elements such as shutters, doors, and columns may—with the proper safeguards—be chemically dip-stripped.

Applying compatible paint coating systems following proper surface preparation.

**Not Recommended**

Using thermal devices improperly so that the historic woodwork is scorched.

Failing to neutralize the wood thoroughly after using chemicals so that new paint does not adhere.

Allowing detachable wood features to soak too long in a caustic solution so that the wood grain is raised and the surface roughened.

Failing to follow manufacturers’ product and application instructions when repainting exterior woodwork.

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Maximizing retention of historic materials and features is the primary goal of Preservation as demonstrated here in these “before” and “after” photographs. Aside from some minor repairs and limited replacement of deteriorated material, work on this house consisted primarily of repainting the wood exterior. Photos: Historic Charleston Foundation.
**Recommended**

- Repainting with colors that are appropriate to the historic building and district.
- Evaluating the existing condition of the wood to determine whether more than protection and maintenance are required, that is, if repairs to wood features will be necessary.

**Repairing, stabilizing, and conserving** fragile wood using well-tested consolidants, when appropriate. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.

- Repairing wood features by patching, piecing-in, or otherwise reinforcing the wood using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

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**Not Recommended**

- Using new colors that are inappropriate to the historic building or district.
- Failing to undertake adequate measures to assure the protection of wood features.

- Removing wood that could be stabilized and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile historic materials.

- Removing wood that could be repaired, using improper repair techniques, or failing to document the new work.

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<td>Replacing in kind extensively deteriorated or missing parts of wood features when there are surviving prototypes such as brackets, molding, or sections of siding. New work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.</td>
<td>Replacing an entire wood feature such as a column or stairway when limited replacement of deteriorated and missing parts is appropriate.</td>
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- Using replacement material that does not match the historic wood feature; or failing to properly document the new work.
Building Exterior

Architectural Metals: Cast iron, steel, pressed tin, copper, aluminum, and zinc

**Recommended**

*Identifying, retaining, and preserving* architectural metal features such as columns, capitals, window hoods, or stairways that are important in defining the overall historic character of the building; and their finishes and colors. Identification is also critical to differentiate between metals prior to work. Each metal has unique properties and thus requires different treatments.

**Stabilizing** deteriorated or damaged architectural metals as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

**Protecting and maintaining** architectural metals from corrosion by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved, decorative features.

Cleaning architectural metals, when appropriate, to remove corrosion prior to repainting or applying other appropriate protective coatings.

Identifying the particular type of metal prior to any cleaning procedure and then testing to assure that the gentlest cleaning method possible is selected or determining that cleaning is inappropriate for the particular metal.

**Not Recommended**

Altering architectural metal features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic metal features instead of repairing or replacing only the deteriorated metal.

Changing the type of finish or its historic color or accent scheme.

Failing to stabilize deteriorated or damaged architectural metals until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to identify, evaluate, and treat the causes of corrosion, such as moisture from leaking roofs or gutters.

Placing incompatible metals together without providing a reliable separation material. Such incompatibility can result in galvanic corrosion of the less noble metal, e.g., copper will corrode cast iron, steel, tin, and aluminum.

Exposing metals which were intended to be protected from the environment.

Applying paint or other coatings to metals such as copper, bronze, or stainless steel that were meant to be exposed.

Using cleaning methods which alter or damage the historic color, texture, and finish of the metal; or cleaning when it is inappropriate for the metal.

Removing the patina of historic metal. The patina may be a protective coating on some metals, such as bronze or copper, as well as a significant historic finish.
**Recommended**

Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with appropriate chemical methods because their finishes can be easily abraded by blasting methods.

Using the gentlest cleaning methods for cast iron, wrought iron, and steel—hard metals—in order to remove paint buildup and corrosion. If handscraping and wire brushing have proven ineffective, low pressure grit blasting may be used as long as it does not abrade or damage the surface.

Applying appropriate paint or other coating systems after cleaning in order to decrease the corrosion rate of metals or alloys.

Repainting with colors that are appropriate to the historic building or district.

Applying an appropriate protective coating such as lacquer to an architectural metal feature such as a bronze door which is subject to heavy pedestrian use.

Evaluating the existing condition of the architectural metals to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

**Not Recommended**

Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with grit blasting which will abrade the surface of the metal.

Failing to employ gentler methods prior to abrasively cleaning cast iron, wrought iron or steel; or using high pressure grit blasting.

Failing to re-apply protective coating systems to metals or alloys that require them after cleaning so that accelerated corrosion occurs.

Using new colors that are inappropriate to the historic building or district.

Failing to assess pedestrian use or new access patterns so that architectural metal features are subject to damage by use or inappropriate maintenance such as salting adjacent sidewalks.

Failing to undertake adequate measures to assure the protection of architectural metal features.
**Recommended**

*Repairing, stabilizing, and conserving* fragile architectural metals using well-tested consolidants, when appropriate. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.

Repairing architectural metal features by patching, piecing-in, or otherwise reinforcing the metal using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

**Not Recommended**

Removing architectural metals that could be stabilized and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile historic materials.

Removing architectural metals that could be repaired, using improper repair techniques, or failing to document the new work.

*Two examples of “limited replacement in kind” point out an appropriate scope of work within the treatment, Preservation. (a) One metal modillion that has sustained damage from a faulty gutter will need to be replaced; and (b) targeted repairs to deteriorated wood cornice elements (fascia board and modillions) meant that most of the historic materials were retained in the work.*
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment *Preservation*, and should only be considered after protection, stabilization, and repair concerns have been addressed.

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<td>Replacing in kind extensively deteriorated or missing parts of architectural metal features when there are surviving prototypes such as porch balusters, column capitals or bases, or porch cresting. The new work should match the old in material, design, and texture; and be unobtrusively dated to guide future research and treatment.</td>
<td>Replacing an entire architectural metal feature such as a column or balustrade when limited replacement of deteriorated and missing parts is appropriate.</td>
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<td>Using replacement material that does not match the historic metal feature; or failing to properly document the new work.</td>
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Building Exterior

Roofs

Recommended

Identifying, retaining, and preserving roofs—and their functional and decorative features—that are important in defining the overall historic character of the building. This includes the roof’s shape, such as hipped, gambrel, and mansard; decorative features such as cupolas, cresting, chimneys, and weathervanes; and roofing material such as slate, wood, clay tile, and metal, as well as its size, color, and patterning.

Stabilizing deteriorated or damaged roofs as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

Not Recommended

Altering the roof and roofing materials which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic roofing material instead of repairing or replacing only the deteriorated material.

Changing the type or color of roofing materials.

Failing to stabilize a deteriorated or damaged roof until additional work is undertaken, thus allowing further damage to occur to the historic building.

It is particularly important to preserve materials that contribute to a building’s historic character, such as this highly visible slate roof. In the event that repair and limited replacement are necessary, all new slate would need to match the old exactly. Photo: Jeffrey S. Levine.
### Preservation

#### Recommended

**Protecting and maintaining** a roof by cleaning the gutters and downspouts and replacing deteriorated flashing. Roof sheathing should also be checked for proper venting to prevent moisture condensation and water penetration; and to insure that materials are free from insect infestation.

Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration.

Protecting a leaking roof with plywood and building paper until it can be properly repaired.

**Repairing** a roof by reinforcing the historic materials which comprise roof features using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

#### Not Recommended

Failing to clean and maintain gutters and downspouts properly so that water and debris collect and cause damage to roof fasteners, sheathing, and the underlying structure.

Allowing roof fasteners, such as nails and clips to corrode so that roofing material is subject to accelerated deterioration.

Permitting a leaking roof to remain unprotected so that accelerated deterioration of historic building materials—masonry, wood, plaster, paint and structural members—occurs.

Removing materials that could be repaired, using improper repair techniques, or failing to document the new work.

Failing to reuse intact slate or tile when only the roofing substrate needs replacement.

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<td>Replacing an entire roof feature such as a cupola or dormer when limited replacement of deteriorated and missing parts is appropriate.</td>
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Replacing in kind extensively deteriorated or missing parts of roof features or roof coverings when there are surviving prototypes such as cupola louvers, dentils, dormer roofing; or slates, tiles, or wood shingles on a main roof. The new work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

Using replacement material that does not match the historic roof feature; or failing to properly document the new work.
Building Exterior

Windows

Recommended

Identifying, retaining, and preserving windows—and their functional and decorative features—that are important in defining the overall historic character of the building. Such features can include frames, sash, muntins, glazing, sills, heads, hoodmolds, panelled or decorated jambs and moldings, and interior and exterior shutters and blinds.

Not Recommended

Altering windows or window features which are important in defining the historic character of the building so that, as a result, the character is diminished.

Changing the historic appearance of windows by replacing materials, finishes, or colors which noticeably change the sash, depth of reveal, and muntin configuration; the reflectivity and color of the glazing; or the appearance of the frame.

Obscuring historic window trim with metal or other material.

Preserving a building’s historic windows generally involves scraping, sanding, and re-painting. While some repair work will most likely be undertaken within the scope of work on this institutional building, replacement of the window units is usually not an appropriate Preservation treatment. Photo: Chuck Fisher.
Preservation

**Recommended**

Conducting an indepth survey of the condition of existing windows early in preservation planning so that repair and upgrading methods and possible replacement options can be fully explored.

*Stabilizing* deteriorated or damaged windows as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

*Protecting and maintaining* the wood and architectural metals which comprise the window frame, sash, muntins, and surrounds through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.

Making windows weathertight by re-caulking and replacing or installing weatherstripping. These actions also improve thermal efficiency.

Evaluating the existing condition of materials to determine whether more than protection and maintenance are required, i.e. if repairs to windows and window features will be required.

*Repairing* window frames and sash by patching, piecing-in, consolidating or otherwise reinforcing them using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

**Not Recommended**

Replacing windows solely because of peeling paint, broken glass, stuck sash, and high air infiltration. These conditions, in themselves, are no indication that windows are beyond repair.

Failing to stabilize a deteriorated or damaged window until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of the window results.

Retrofitting or replacing windows rather than maintaining the sash, frame, and glazing.

Failing to undertake adequate measures to assure the protection of historic windows.

Failing to protect the historic glazing when repairing windows.

Removing material that could be repaired, using improper repair techniques, or failing to document the new work.

Failing to reuse serviceable window hardware such as brass sash lifts and sash locks.
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<tr>
<td>Replacing in kind extensively deteriorated or missing parts of windows when there are surviving prototypes such as frames, sash, sills, glazing, and hoodmolds. The new work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.</td>
<td>Replacing an entire window when limited replacement of deteriorated and missing parts is appropriate.</td>
</tr>
<tr>
<td></td>
<td>Using replacement material that does not match the historic window; or failing to properly document the new work.</td>
</tr>
</tbody>
</table>
Building Exterior

Entrances and Porches

Recommended

Identifying, retaining, and preserving entrances and porches—and their functional and decorative features—that are important in defining the overall historic character of the building such as doors, fanlights, sidelights, pilasters, entablatures, columns, balustrades, and stairs.

Stabilizing deteriorated or damaged entrances and porches as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

Protecting and maintaining the masonry, wood, and architectural metals that comprise entrances and porches through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.

Evaluating the existing condition of materials to determine whether more than protection and maintenance are required, that is, repairs to entrance and porch features will be necessary.

Repairing entrances and porches by reinforcing the historic materials using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

Not Recommended

Altering entrances and porches which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic entrance and porch features instead of repairing or replacing only the deteriorated material.

Failing to stabilize a deteriorated or damaged entrance or porch until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to provide adequate protection to materials on a cyclical basis so that deterioration of entrances and porches results.

Failing to undertake adequate measures to assure the protection of historic entrances and porches.

Removing material that could be repaired, using improper repair techniques, or failing to document the new work.
The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment **Preservation**, and should only be considered after protection, stabilization, and repair concerns have been addressed.

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<tr>
<td>Replacing in kind extensively deteriorated or missing parts of repeated entrance and porch features when there are surviving prototypes such as balustrades, cornices, entablatures, columns, sidelights, and stairs. The new work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.</td>
<td>Replacing an entire entrance or porch feature when limited replacement of deteriorated and missing parts is appropriate.</td>
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<td>Using replacement material that does not match the historic entrance or porch feature; or failing to properly document the new work.</td>
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Building Exterior

Storefronts

Recommended

Identifying, retaining, and preserving storefronts—and their functional and decorative features—that are important in defining the overall historic character of the building such as display windows, signs, doors, transoms, kick plates, corner posts, and entablatures.

Stabilizing deteriorated or damaged storefronts as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

Not Recommended

Altering storefronts—and their features—which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic storefront features instead of repairing or replacing only the deteriorated material.

Failing to stabilize a deteriorated or damaged storefront until additional work is undertaken, thus allowing further damage to occur to the historic building.

The original form and features of this 1920s storefront have been retained through Preservation. Photo: David W. Look, AIA.
Recommended

**Protecting and maintaining** masonry, wood, and architectural metals which comprise storefronts through appropriate treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems.

Protecting storefronts against arson and vandalism before work begins by boarding up windows and doors and installing alarm systems that are keyed into local protection agencies.

Evaluating the existing condition of storefront materials to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

**Repairing** storefronts by reinforcing the historic materials using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

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<td><strong>Limited Replacement in Kind</strong></td>
<td>Replacing an entire storefront when limited replacement of deteriorated and missing parts is appropriate.</td>
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<tr>
<td>Replacing in kind extensively deteriorated or missing parts of storefronts where there are surviving prototypes such as transoms, kick plates, pilasters, or signs. The new work should match the old in materials, design, color, and texture; and be unobtrusively dated to guide future research and treatment.</td>
<td>Using replacement material that does not match the historic storefront feature; or failing to properly document the new work.</td>
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Building Interior

Structural Systems

Recommended

Identifying, retaining, and preserving structural systems—and individual features of systems—that are important in defining the overall historic character of the building, such as post and beam systems, trusses, summer beams, vigas, cast iron columns, above-grade stone foundation walls, or load-bearing brick or stone walls.

Stabilizing deteriorated or damaged structural systems as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

Protecting and maintaining the structural system by cleaning the roof gutters and downspouts; replacing roof flashing; keeping masonry, wood, and architectural metals in a sound condition; and ensuring that structural members are free from insect infestation.

Examining and evaluating the existing condition of the structural system and its individual features using non-destructive techniques such as X-ray photography.

Not Recommended

Altering visible features of historic structural systems which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Overloading the existing structural system; or installing equipment or mechanical systems which could damage the structure.

Replacing a loadbearing masonry wall that could be augmented and retained.

Leaving known structural problems untreated such as deflection of beams, cracking and bowing of walls, or racking of structural members.

Utilizing treatments or products that accelerate the deterioration of structural material such as introducing urea-formaldehyde foam insulation into frame walls.

Failing to stabilize a deteriorated or damaged structural system until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to provide proper building maintenance so that deterioration of the structural system results. Causes of deterioration include subsurface ground movement, vegetation growing too close to foundation walls, improper grading, fungal rot, and poor interior ventilation that results in condensation.

Utilizing destructive probing techniques that will damage or destroy structural material.
**Recommended**

**Repairing** the structural system by augmenting or upgrading individual parts or features using recognized preservation methods. For example, weakened structural members such as floor framing can be paired with a new member, braced, or otherwise supplemented and reinforced.

**Not Recommended**

Upgrading the building structurally in a manner that diminishes the historic character of the exterior, such as installing strapping channels or removing a decorative cornice; or damages interior features or spaces.

Replacing a structural member or other feature of the structural system when it could be augmented and retained.

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<tr>
<td>Replacing in kind those visible portions or features of the structural system that are either extensively deteriorated or missing when there are surviving prototypes such as cast iron columns and sections of loadbearing walls. The new work should match the old in materials, design, color, and texture; and be unobtrusively dated to guide future research and treatment.</td>
<td>Replacing an entire visible feature of the structural system when limited replacement of deteriorated and missing portions is appropriate.</td>
</tr>
<tr>
<td>Considering the use of substitute material for unexposed structural replacements, such as roof rafters or trusses. Substitute material should, at a minimum, have equal load-bearing capabilities, and be unobtrusively dated to guide future research and treatment.</td>
<td>Using material for a portion of an exposed structural feature that does not match the historic feature; or failing to properly document the new work.</td>
</tr>
<tr>
<td></td>
<td>Using substitute material that does not equal the loadbearing capabilities of the historic material or design or is otherwise physically or chemically incompatible.</td>
</tr>
</tbody>
</table>
Building Interior

Spaces, Features, and Finishes

**Recommended**

**Interior Spaces**

Identifying, retaining, and preserving a floor plan or interior spaces that are important in defining the overall historic character of the building. This includes the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves such as lobbies, reception halls, entrance halls, double parlors, theaters, auditoriums, and important industrial or commercial spaces.

**Not Recommended**

Altering a floor plan or interior spaces—including individual rooms—which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Careful documentation of a building’s physical condition is the critical first step in determining an appropriate level of intervention. (a) This may include relating the historical research to existing materials and features; or (b) documenting a particular problem such as this cracked ceiling. Photo (a): Jean E. Travers; Photo (b): Lee H. Nelson, FAIA.
**Recommended**

**Interior Features and Finishes**

**Identifying, retaining, and preserving** interior features and finishes that are important in defining the overall historic character of the building, including columns, cornices, baseboards, fireplaces and mantels, panelling, light fixtures, hardware, and flooring; and wallpaper, plaster, paint, and finishes such as stencilling, marbling, and graining; and other decorative materials that accent interior features and provide color, texture, and patterning to walls, floors, and ceilings.

**Stabilizing** deteriorated or damaged interior features and finishes as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

**Protecting and maintaining** masonry, wood, and architectural metals that comprise interior features through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems.

**Not Recommended**

Altering features and finishes which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing historic interior features and finishes instead of repairing or replacing only the deteriorated masonry.

Installing new decorative material that obscures or damages character-defining interior features or finishes.

Removing historic finishes, such as paint and plaster, or historic wall coverings, such as wallpaper.

Applying paint, plaster, or other finishes to surfaces that have been historically unfinished.

Stripping paint to bare wood rather than repairing or reapplying grained or marbled finishes to features such as doors and paneling.

Changing the type of finish or its color, such as painting a previously varnished wood feature.

Failing to stabilize a deteriorated or damaged interior feature or finish until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to provide adequate protection to materials on a cyclical basis so that deterioration of interior features results.
Recommended

Protecting interior features and finishes against arson and vandalism before project work begins, boarding-up windows, and installing fire alarm systems that are keyed to local protection agencies.

Protecting interior features such as a staircase, mantel, or decorative finishes and wall coverings against damage during project work by covering them with heavy canvas or plastic sheets.

Installing protective coverings in areas of heavy pedestrian traffic to protect historic features such as wall coverings, parquet flooring and panelling.

Removing damaged or deteriorated paints and finishes to the next sound layer using the gentlest method possible, then repainting or refinishing using compatible paint or other coating systems.

Repainting with colors that are appropriate to the historic building.

Limiting abrasive cleaning methods to certain industrial warehouse buildings where the interior masonry or plaster features do not have distinguishing design, detailing, tooling, or finishes; and where wood features are not finished, molded, beaded, or worked by hand. Abrasive cleaning should only be considered after other, gentler methods have been proven ineffective.

Evaluating the existing condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to interior features and finishes will be necessary.

Not Recommended

Permitting entry into historic buildings through unsecured or broken windows and doors so that the interior features and finishes are damaged by exposure to weather or vandalism.

Stripping interiors of features such as woodwork, doors, windows, light fixtures, copper piping, radiators; or of decorative materials.

Failing to provide proper protection of interior features and finishes during work so that they are gouged, scratched, dented, or otherwise damaged.

Failing to take new use patterns into consideration so that interior features and finishes are damaged.

Using destructive methods such as propane or butane torches or sandblasting to remove paint or other coatings. These methods can irreversibly damage the historic materials that comprise interior features.

Using new paint colors that are inappropriate to the historic building.

Changing the texture and patina of character-defining features through sandblasting or use of abrasive methods to remove paint, discoloration or plaster. This includes both exposed wood (including structural members) and masonry.

Failing to undertake adequate measures to assure the protection of interior features and finishes.
**Recommended**

*Repairing* historic interior features and finishes by reinforcing the materials using recognized preservation methods. The new work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

**Not Recommended**

Removing materials that could be repaired, using improper techniques, or failing to document the new work.

In Preservation, an appropriate level of intervention is established prior to work in order to maximize retention of historic materials.  

(a) A conservator is applying adhesive to 19th century composition ornament that has delaminated from its wood substrate.  

(b) The compo fragment is carefully held in place until the quick-setting adhesive takes hold. Photos: Jonathan Thornton.
Preservation

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<td><strong>Limited Replacement in Kind</strong></td>
<td>Replacing an entire interior feature when limited replacement of deteriorated and missing parts is appropriate.</td>
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<tr>
<td>Replacing in kind extensively deteriorated or missing parts of repeated interior features when there are surviving prototypes such as stairs, balustrades, wood panelling, columns; or decorative wall coverings or ornamental tin or plaster ceilings. New work should match the old in material, design, color, and texture; and be unobtrusively dated to guide future research and treatment.</td>
<td>Using replacement material that does not match the interior feature; or failing to properly document the new work.</td>
</tr>
</tbody>
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Building Interior

Mechanical Systems: Heating, Air Conditioning, Electrical, and Plumbing

**Recommended**

*Identifying, retaining, and preserving* visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, plumbing fixtures, switchplates, and lights.

*Stabilizing* deteriorated or damaged mechanical systems as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

*Protecting and maintaining* mechanical, plumbing, and electrical systems and their features through cyclical cleaning and other appropriate measures.

Preventing accelerated deterioration of mechanical systems by providing adequate ventilation of attics, crawlspaces, and cellars so that moisture problems are avoided.

Improving the energy efficiency of existing mechanical systems to help reduce the need for elaborate new equipment.

*Repairing* mechanical systems by augmenting or upgrading system parts, such as installing new pipes and ducts; rewiring; or adding new compressors or boilers.

*Replacing* in kind those visible features of mechanical systems that are either extensively deteriorated or are prototypes such as ceiling fans, switchplates, radiators, grilles, or plumbing fixtures.

**Not Recommended**

Removing or altering visible features of mechanical systems that are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Failing to stabilize a deteriorated or damaged mechanical system until additional work is undertaken, thus allowing further damage to occur to the historic building.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of mechanical systems and their visible features results.

Enclosing mechanical systems in areas that are not adequately ventilated so that deterioration of the systems results.

Installing unnecessary climate control systems which can add excessive moisture to the building. This additional moisture can either condense inside, damaging interior surfaces, or pass through interior walls to the exterior, potentially damaging adjacent materials as it migrates.

Replacing a mechanical system or its functional parts when it could be upgraded and retained.

Installing a visible replacement feature that does not convey the same visual appearance.
The following should be considered in a **Preservation** project when the installation of new mechanical equipment or system is required to make the building functional.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Installing a new mechanical system if required, so that it causes the least alteration possible to the building.</td>
<td>Installing a new mechanical system so that character-defining structural or interior features are radically changed, damaged, or destroyed.</td>
</tr>
<tr>
<td>Providing adequate structural support for new mechanical equipment.</td>
<td>Failing to consider the weight and design of new mechanical equipment so that, as a result, historic structural members or finished surfaces are weakened or cracked.</td>
</tr>
<tr>
<td>Installing the vertical runs of ducts, pipes, and cables in closets, service rooms, and wall cavities.</td>
<td>Installing vertical runs of ducts, pipes, and cables in places where they will obscure character-defining features.</td>
</tr>
<tr>
<td>Installing air conditioning in such a manner that historic features are not damaged or obscured and excessive moisture is not generated that will accelerate deterioration of historic materials.</td>
<td>Concealing mechanical equipment in walls or ceilings in a manner that requires excessive removal of historic building material.</td>
</tr>
<tr>
<td></td>
<td>Cutting through features such as masonry walls in order to install air conditioning units.</td>
</tr>
</tbody>
</table>
Building Site

**Recommended**

*Identifying, retaining, and preserving* buildings and their features as well as features of the site that are important in defining its overall historic character. Site features may include circulation systems such as walks, paths, roads, or parking; vegetation such as trees, shrubs, fields, or herbaceous plant material; landforms such as terracing, berms or grading; furnishings such as lights, fences, or benches; decorative elements such as sculpture, statuary or monuments; water features including fountains, streams, pools, or lakes; and subsurface archeological features which are important in defining the history of the site.

Retaining the historic relationship between buildings and the landscape.

*Stabilizing* deteriorated or damaged building and site features as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

**Not Recommended**

Altering buildings and their features or site features which are important in defining the overall historic character of the property so that, as a result, the character is diminished.

Removing or relocating buildings or landscape features, thus destroying the historic relationship between buildings and the landscape.

Failing to stabilize a deteriorated or damaged building or site feature until additional work is undertaken, thus allowing further damage to occur to the building site.

Drayton Hall, near Charleston, South Carolina, is an excellent example of an evolved 18th century plantation. Of particular note in this photograph are the landscape features added in the late 19th century—a reflecting pond and rose mound. With an overall Preservation treatment plan, these later features have been retained and protected. If a Restoration treatment had been selected, later features of the landscape as well as changes to the house would have been removed. Photo: Courtesy, National Trust for Historic Preservation.
Recommended

Protecting and maintaining buildings and sites by providing proper drainage to assure that water does not erode foundation walls; drain toward the building; or damage or erode the landscape.

Minimizing disturbance of terrain around buildings or elsewhere on the site, thus reducing the possibility of destroying or damaging important landscape features or archeological resources.

Surveying and documenting areas where the terrain will be altered to determine the potential impact to important landscape features or archeological resources.

Protecting, e.g., preserving in place, important archeological resources.

Planning and carrying out any necessary investigation using professional archeologists and modern archeological methods when preservation in place is not feasible.

Preserving important landscape features, including ongoing maintenance of historic plant material.

Protecting building and landscape features against arson and vandalism before preservation work begins, i.e., erecting protective fencing and installing alarm systems that are keyed into local protection agencies.

Providing continued protection of historic building materials and plant features through appropriate cleaning, rust removal, limited paint removal, and re-application of protective coating systems; and pruning and vegetation management.

Not Recommended

Failing to maintain adequate site drainage so that buildings and site features are damaged or destroyed; or alternatively, changing the site grading so that water no longer drains properly.

Introducing heavy machinery into areas where it may disturb or damage important landscape features or archeological resources.

Failing to survey the building site prior to beginning work which results in damage to, or destruction of, important landscape features or archeological resources.

Leaving known archeological material unprotected so that it is damaged during preservation work.

Permitting unqualified personnel to perform data recovery on archeological resources so that improper methodology results in the loss of important archeological material.

Allowing important landscape features to be lost or damaged due to a lack of maintenance.

Permitting the property to remain unprotected so that the building and landscape features or archeological resources are damaged or destroyed.

Removing or destroying features from the buildings or site such as wood siding, iron fencing, masonry balustrades, or plant material.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of building and site feature results.
**Recommended**

Evaluating the existing condition of materials and features to determine whether more than protection and maintenance are required, that is, if repairs to building and site features will be necessary.

**Repairing** features of the building and site by reinforcing historic materials using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

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**Not Recommended**

Failing to undertake adequate measures to assure the protection of building and site features.

Removing materials that could be repaired, using improper repair techniques, or failing to document the new work.

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*The following work is highlighted to indicate that it represents the greatest degree of intervention generally recommended within the treatment Preservation, and should only be considered after protection, stabilization, and repair concerns have been addressed.*

---

**Recommended**

**Limited Replacement in Kind**

Replacing in kind extensively deteriorated or missing parts of the building or site where there are surviving prototypes such as part of a fountain, or portions of a walkway. New work should match the old in materials, design, color, and texture; and be unobtrusively dated to guide future research and treatment.

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**Not Recommended**

Replacing an entire feature of the building or site when limited replacement of deteriorated and missing parts is appropriate.

Using replacement material that does not match the building site feature; or failing to properly document the new work.
Setting (District/Neighborhood)

**Recommended**

**Identifying retaining, and preserving** building and landscape features which are important in defining the historic character of the setting. Such features can include roads and streets, furnishings such as lights or benches, vegetation, gardens and yards, adjacent open space such as fields, parks, commons or woodlands, and important views or visual relationships.

Retaining the historic relationship between buildings and landscape features of the setting. For example, preserving the relationship between a town common and its adjacent historic houses, municipal buildings, historic roads, and landscape features.

**Stabilizing** deteriorated or damaged building and landscape features of the setting as a preliminary measure, when necessary, prior to undertaking appropriate preservation work.

**Protecting and maintaining** historic building materials and plant features through appropriate cleaning, rust removal, limited paint removal, and reapplication of protective coating systems; and pruning and vegetation management.

Protecting building and landscape features against arson and vandalism before preservation work begins by erecting protective fencing and installing alarm systems that are keyed into local preservation agencies.

Evaluating the existing condition of the building and landscape features to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

**Not Recommended**

Altering those features of the setting which are important in defining the historic character.

Altering the relationship between the buildings and landscape features within the setting by widening existing streets, changing landscape materials, or constructing inappropriately located new streets or parking.

Removing or relocating historic buildings or landscape features, thus destroying their historic relationship within the setting.

Failing to stabilize a deteriorated or damaged building or landscape feature of the setting until additional work is undertaken, thus allowing further damage to the setting to occur.

Failing to provide adequate protection of materials on a cyclical basis which results in the deterioration of building and landscape features.

Permitting the building and setting to remain unprotected so that interior or exterior features are damaged.

Stripping or removing features from buildings or the setting such as wood siding, iron fencing, terra cotta balusters, or plant material.

Failing to undertake adequate measures to assure the protection of building and landscape features.
**Recommended**

**Repairing** features of the building and landscape using recognized preservation methods. The new work should be unobtrusively dated to guide future research and treatment.

**Not Recommended**

Removing material that could be repaired, using improper repair techniques, or failing to document the new work.

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<td>Replacing in kind extensively deteriorated or missing parts of building and landscape features where there are surviving prototypes such as porch balustrades or paving materials.</td>
<td>Using replacement material that does not match the building or landscape feature; or failing to properly document the new work.</td>
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*The goal of Preservation is to retain the historic form, materials, and features of the building and its site as they have changed—or evolved—over time. This bank barn was built in the 1820s, then enlarged in 1898 and again in 1914. Today, it continues its role as a working farm structure as a result of sensitive preservation work. This included foundation re-grading; a new gutter system; structural strengthening; and replacement of a severely deteriorated metal roof. Photo: Jack E. Boucher, HABS.*
Although the work in the following sections is quite often an important aspect of preservation projects, it is usually not part of the overall process of preserving character-defining features (maintenance, repair, and limited replacement); rather, such work is assessed for its potential negative impact on the building’s historic character. For this reason, particular care must be taken not to obscure, alter, or damage character-defining features in the process of preservation work.

**Energy Efficiency**

*Recommended*

**Masonry/Wood/Architectural Metals**

Installing thermal insulation in attics and in unheated cellars and crawlspaces to increase the efficiency of the existing mechanical systems.

Installing insulating material on the inside of masonry walls to increase energy efficiency where there is no character-defining interior molding around the windows or other interior architectural detailing.

**Windows**

Utilizing the inherent energy conserving features of a building by maintaining windows and louvered blinds in good operable condition for natural ventilation.

Improving thermal efficiency with weatherstripping, storm windows, caulking, interior shades, and if historically appropriate, blinds and awnings.

Installing interior storm windows with air-tight gaskets, ventilating holes, and/or removable clips to insure proper maintenance and to avoid condensation damage to historic windows.

Installing exterior storm windows which do not damage or obscure the windows and frames.

*Not Recommended*

Applying thermal insulation with a high moisture content in wall cavities which may damage historic fabric.

Installing wall insulation without considering its effect on interior molding or other architectural detailing.

Removing historic shading devices rather than keeping them in an operable condition.

Replacing historic multi-paned sash with new thermal sash utilizing false muntins.

Installing interior storm windows that allow moisture to accumulate and damage the window.

Installing new exterior storm windows which are inappropriate in size or color.

Replacing windows or transoms with fixed thermal glazing or permitting windows and transoms to remain inoperable rather than utilizing them for their energy conserving potential.
**Recommended**

**Entrances and Porches**
Maintaining porches and double vestibule entrances so that they can retain heat or block the sun and provide natural ventilation.

**Interior Features**
Retaining historic interior shutters and transoms for their inherent energy conserving features.

**Mechanical Systems**
Improving energy efficiency of existing mechanical systems by installing insulation in attics and basements.

**Building Site**
Retaining plant materials, trees, and landscape features which perform passive solar energy functions such as sun shading and wind breaks.

**Setting** *(District/Neighborhood)*
Maintaining those existing landscape features which moderate the effects of the climate on the setting such as deciduous trees, evergreen wind-blocks, and lakes or ponds.

**Not Recommended**

**Entrances and Porches**
Changing the historic appearance of the building by enclosing porches.

**Interior Features**
Removing historic interior features which play an energy conserving role.

**Mechanical Systems**
Replacing existing mechanical systems that could be repaired for continued use.

**Building Site**
Removing plant materials, trees, and landscape features that perform passive solar energy functions.

**Setting** *(District/Neighborhood)*
Stripping the setting of landscape features and landforms so that the effects of wind, rain, and sun result in accelerated deterioration of the historic building.
Accessibility Considerations

**Recommended**

Identifying the historic building’s character-defining spaces, features, and finishes so that accessibility code-required work will not result in their damage or loss.

Complying with barrier-free access requirements, in such a manner that character-defining spaces, features, and finishes are preserved.

Working with local disability groups, access specialists, and historic preservation specialists to determine the most appropriate solution to access problems.

Providing barrier-free access that promotes independence for the disabled person to the highest degree practicable, while preserving significant historic features.

Finding solutions to meet accessibility requirements that minimize the impact on the historic building and its site, such as compatible ramps, paths, and lifts.

**Not Recommended**

Undertaking code-required alterations before identifying those spaces, features, or finishes which are character-defining and must therefore be preserved.

Altering, damaging, or destroying character-defining features in attempting to comply with accessibility requirements.

Making changes to buildings without first seeking expert advice from access specialists and historic preservationists to determine solutions.

Making modifications for accessibility that do not provide a reasonable balance between independent, safe access and preservation of historic features.

Making modifications for accessibility without considering the impact on the historic building and its site.
Health and Safety Considerations

**Recommended**

- Identifying the historic building’s character-defining spaces, features, and finishes so that code-required work will not result in their damage or loss.

- Complying with health and safety codes, including seismic code requirements, in such a manner that character-defining spaces, features, and finishes are preserved.

- Removing toxic building materials only after thorough testing has been conducted and only after less invasive abatement methods have been shown to be inadequate.

- Providing workers with appropriate personal protective equipment for hazards found in the worksite.

- Working with local code officials to investigate systems, methods, or devices of equivalent or superior effectiveness and safety to those prescribed by code so that unnecessary alterations can be avoided.

- Upgrading historic stairways and elevators to meet health and safety codes in a manner that assures their preservation, i.e., so that they are not damaged or obscured.

- Installing sensitively designed fire suppression systems, such as sprinkler systems that result in retention of historic features and finishes.

- Applying fire-retardant coatings, such as intumescent paints, which expand during fire to add thermal protection to steel.

- Adding a new stairway or elevator to meet health and safety codes in a manner that preserves adjacent character-defining features and spaces.

**Not Recommended**

- Undertaking code-required alterations to a building or site before identifying those spaces, features, or finishes which are character-defining and must therefore be preserved.

- Altering, damaging, or destroying character-defining spaces, features, and finishes while making modifications to a building or site to comply with safety codes.

- Destroying historic interior features and finishes without careful testing and without considering less invasive abatement methods.

- Removing unhealthful building materials without regard to personal and environmental safety.

- Making changes to historic buildings without first exploring equivalent health and safety systems, methods, or devices that may be less damaging to historic spaces, features, and finishes.

- Damaging or obscuring historic stairways and elevators or altering adjacent spaces in the process of doing work to meet code requirements.

- Covering character-defining wood features with fire-resistant sheathing which results in altering their visual appearance.

- Using fire-retardant coatings if they damage or obscure character-defining features.

- Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding a new code-required stairway or elevator.
Standards for Reconstruction & Guidelines for Reconstructing Historic Buildings

Reconstruction is defined as 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 period of time and in its historic location.
Standards for Reconstruction

1. Reconstruction will be used to depict vanished or non-surviving portions of a property when documentary and physical evidence is available to permit accurate reconstruction with minimal conjecture, and such reconstruction is essential to the public understanding of the property.

2. Reconstruction of a landscape, building, structure, or object in its historic location will be preceded by a thorough archeological investigation to identify and evaluate those features and artifacts which are essential to an accurate reconstruction. If such resources must be disturbed, mitigation measures will be undertaken.

3. Reconstruction will include measures to preserve any remaining historic materials, features, and spatial relationships.

4. Reconstruction will be based on the accurate duplication of historic features and elements substantiated by documentary or physical evidence rather than on conjectural designs or the availability of different features from other historic properties. A reconstructed property will re-create the appearance of the non-surviving historic property in materials, design, color, and texture.

5. A reconstruction will be clearly identified as a contemporary re-creation.

6. Designs that were never executed historically will not be constructed.
Guidelines for Reconstructing Historic Buildings

Introduction

Whereas the treatment Restoration provides guidance on restoring—or re-creating—building features, the Standards for Reconstruction and Guidelines for Reconstructing Historic Buildings address those aspects of treatment necessary to re-create an entire non-surviving building with new material. Much like restoration, the goal is to make the building appear as it did at a particular—and most significant—time in its history. The difference is, in Reconstruction, there is far less extant historic material prior to treatment and, in some cases, nothing visible. Because of the potential for historical error in the absence of sound physical evidence, this treatment can be justified only rarely and, thus, is the least frequently undertaken. Documentation requirements prior to and following work are very stringent. Measures should be taken to preserve extant historic surface and subsurface material. Finally, the reconstructed building must be clearly identified as a contemporary re-creation.

In the 1930s reconstruction of the 18th century Governor’s Palace at Colonial Williamsburg, Virginia, the archeological remains of the brick foundation were carefully preserved in situ, and serve as a base for the reconstructed walls.

Photo: The Colonial Williamsburg Foundation.
Research and Document Historical Significance

Guidance for the treatment Reconstruction begins with researching and documenting the building’s historical significance to ascertain that its re-creation is essential to the public understanding of the property. Often, another extant historic building on the site or in a setting can adequately explain the property, together with other interpretive aids. Justifying a reconstruction requires detailed physical and documentary evidence to minimize or eliminate conjecture and ensure that the reconstruction is as accurate as possible. Only one period of significance is generally identified; a building, as it evolved, is rarely re-created. During this important fact-finding stage, if research does not provide adequate documentation for an accurate reconstruction, other interpretive methods should be considered, such as an explanatory marker.

Investigate Archeological Resources

Investigating archeological resources is the next area of guidance in the treatment Reconstruction. The goal of physical research is to identify features of the building and site which are essential to an accurate recreation and must be reconstructed, while leaving those archeological resources that are not essential, undisturbed. Information that is not relevant to the project should be preserved in place for future research. The archeological findings, together with archival documentation, are then used to replicate the plan of the building, together with the relationship and size of rooms, corridors, and other spaces, and spatial relationships.

Identify, Protect and Preserve Extant Historic Features

Closely aligned with archeological research, recommendations are given for identifying, protecting, and preserving extant features of the historic building. It is never appropriate to base a Reconstruction upon conjectural designs or the availability of different features from other buildings. Thus, any remaining historic materials and features, such as remnants of a foundation or chimney and site features such as a walkway or path, should be retained, when practicable, and incorporated into the reconstruction. The historic as well as new material should be carefully documented to guide future research and treatment.

Reconstruct Non-Surviving Building and Site

After the research and documentation phases, guidance is given for Reconstruction work itself. Exterior and interior features are addressed in general, always emphasizing the need for an accurate depiction, i.e., careful duplication of the appearance of historic interior paints, and finishes such as stencilling, marbling, and graining. In the absence of extant historic materials, the objective in reconstruction is to re-create the appearance of the historic building for interpretive purposes. Thus, while the use of traditional materials and finishes is always preferred, in some instances, substitute materials may be used if they are able to convey the same visual appearance.

Where non-visible features of the building are concerned—such as interior structural systems or mechanical systems—it is expected that contemporary materials and technology will be employed.

Re-creating the building site should be an integral aspect of project work. The initial archeological inventory of subsurface and aboveground remains is used as documentation to reconstruct landscape features such as walks and roads, fences, benches, and fountains.
Energy Efficiency/Accessibility/Health and Safety Code Considerations

Code requirements must also be met in Reconstruction projects. For code purposes, a reconstructed building may be considered as essentially new construction. Guidance for these sections is thus abbreviated, and focuses on achieving design solutions that do not destroy extant historic features and materials or obscure reconstructed features.

Reconstruction as a Treatment. When a contemporary depiction is required to understand and interpret a property's historic value (including the re-creation of missing components in a historic district or site); when no other property with the same associative value has survived; and when sufficient historical documentation exists to ensure an accurate reproduction, Reconstruction may be considered as a treatment. Prior to undertaking work, a documentation plan for Reconstruction should be developed.

Reconstruction should generally be based on an extensive archeological investigation, as was done here to re-create a non-surviving commissary building at Fort Snelling.
Reconstruction

**Recommended**

*Researching and documenting* the property’s historical significance, focusing on the availability of documentary and physical evidence needed to justify reconstruction of the non-surviving building.

*Investigating* archeological resources to identify and evaluate those features and artifacts which are essential to the design and plan of the building.

**Not Recommended**

Undertaking a reconstruction based on insufficient research, so that, as a result, an historically inaccurate building is created.

Reconstructing a building unnecessarily when an existing building adequately reflects or explains the history of the property, the historical event, or has the same associative value.

Executing a design for the building that was never constructed historically.

Failing to identify and evaluate archeological information prior to reconstruction, or destroying extant historical information not relevant to the reconstruction but which should be preserved in place.

Jean Baptiste Wengler’s watercolor rendering of Fort Snelling, Minnesota, in 1857, is aesthetically pleasing, but the overall view does not constitute adequate documentary evidence for a Reconstruction. Oral histories are also unreliable sources of documentation for treatment.
**Recommended**

Minimizing disturbance of terrain to reduce the possibility of destroying archeological resources.

*Identifying, retaining, and preserving* extant historic features of the building and site, such as remnants of a foundation, chimney, or walkway.

**Not Recommended**

Introducing heavy machinery or equipment into areas where it may disturb archeological resources.

Beginning reconstruction work without first conducting a detailed site investigation to physically substantiate the documentary evidence.

Basing a reconstruction on conjectural designs or the availability of different features from other historic buildings.

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(a) and (b). Two photos illustrate the use of contemporary construction materials and techniques within the treatment, Reconstruction. Because Reconstruction is employed to portray a significant earlier time, usually for interpretive purposes, substitute materials may be appropriate if they are able to convey the historic appearance.
Reconstruction

**Recommended**

**Building Exterior**

Reconstructing a non-surviving building to depict the documented historic appearance. Although traditional building materials such as masonry, wood, and architectural metals are preferable, substitute materials may be used as long as they re-create the historical appearance.

Re-creating the documented design of exterior features such as the roof shape and coverings; architectural detailing; windows; entrances and porches; steps and doors; and their historic spatial relationships and proportions.

Reproducing the appearance of historic paint colors and finishes based on physical and documentary evidence.

Using signs to identify the building as a contemporary recreation.

**Building Interior**

Re-creating the appearance of visible features of the historical structural system, such as post and beam systems, trusses, summer beams, vigas, cast iron columns, above-grade stone foundations, or loadbearing brick or stone walls. Substitute materials may be used for unexposed structural features if they were not important to the historic significance of the building.

Re-creating a historic floor plan or interior spaces, including the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves.

**Not Recommended**

Reconstructing features that cannot be documented historically or for which inadequate documentation exists.

Using substitute materials that do not convey the appearance of the historic building.

Omitting a documented exterior feature; or re-building a feature, but altering its historic design.

Using inappropriate designs or materials that do not convey the historic appearance, such as aluminum storm and screen window combinations.

Using paint colors that cannot be documented through research and investigation to be appropriate to the building or using other undocumented finishes.

Failing to explain that the building is a reconstruction, thus confusing the public understanding.

Changing the documented appearance of visible features of the structural system.

Altering the documented historic floor plan or relocating an important interior feature such as a staircase so that the historic relationship between the feature and space is inaccurately depicted.
**Recommended**

Duplicating the documented historic appearance of the building's interior features and finishes, including columns, cornices, baseboards, fireplaces and mantels, panelling, light fixtures, hardware, and flooring; and wallpaper, plaster, paint and finishes such as stencilling, marbling and graining; and other decorative materials that accented interior features and provided color, texture, and patterning to walls, floors and ceilings.

Installing modern mechanical systems in the least obtrusive way possible, while meeting user need.

Installing the vertical runs of ducts, pipes, and cables in closets, service rooms, and wall cavities.

Installing exterior electrical and telephone cables underground, or in the least obtrusive way possible.

**Not Recommended**

Altering the documented appearance of interior features and finishes so that, as a result, an inaccurate depiction of the historic building is created. For example, moving a feature from one area of a room to another; or changing the type or color of the finish.

Altering the historic plan or the re-created appearance unnecessarily when installing modern mechanical systems.

Installing vertical runs in ducts, pipes, and cables in places where they will intrude upon the historic depiction of the building.

Attaching exterior electrical and telephone cables to the principal elevations of the reconstructed building, unless their existence and visibility can be documented.
Reconstruction

Building Site

Recommended

Basing decisions for reconstructing building site features on the availability of documentary and physical evidence.

Inventorying the building site to determine the existence of aboveground remains and subsurface archeological materials, then using this evidence as corroborating documentation for the reconstruction of related site features. These may include walks, paths, roads, and parking; trees, shrubs, fields or herbaceous plant material; terracing, berms, or grading; lights, fences, or benches; sculpture, statuary, or monuments; fountains, streams, pools, or lakes.

Re-establishing the historic relationship between the building or buildings and historic site features, whenever possible.

Not Recommended

Reconstructing building site features without first conducting a detailed investigation to physically substantiate the documentary evidence.

Giving the building’s site a false appearance by basing the reconstruction or conjectural designs or the availability of features from other nearby sites.

Changing the historic spatial relationship between the building and historic site features, or reconstructing some site features, but not others, thus creating a false appearance.

The spacious grounds at Middleton Place, near Charleston, South Carolina, constitute the first landscaped garden in America. The molded terraces, originally constructed in the 18th century, were largely reconstructed in the early 20th century based on extant remains and other documentary evidence. Photo: Middleton Place.
**Recommended**

**Setting (District or Neighborhood)**

Basing decisions for reconstructing features of the building's setting on the availability of documentary and physical evidence.

Inventorying the setting to determine the existence of above-ground remains and subsurface archeological materials, using this evidence as corroborating documentation for the reconstruction of missing features of the setting. Such features could include roads and streets; furnishings such as lights or benches; vegetation, gardens and yards; adjacent open space such as fields, parks, commons or woodlands; and important views or visual relationships.

Re-establishing the historic spatial relationship between buildings and landscape features of the setting.

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**Not Recommended**

Reconstructing features of the setting without first conducting a detailed investigation to physically substantiate the documentary evidence.

Giving the building's setting a false appearance by basing the reconstruction on conjectural designs or the availability of features from other nearby districts or neighborhoods.

Confusing the historic spatial relationship between buildings and landscape features within the setting by reconstructing some missing elements, but not others.

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(a) and (b). Two views of the Officers' Quarters at Fort Snelling (ca. 1885 to 1900) not only provide information on the materials and form of the historic block, they document the wooden walkways and other landscape features such as stairs, railings, and tree placement. Historical and pictorial evidence would need to be combined with specific physical evidence in order to make the case for Reconstruction as a treatment.
The 1778 Kershaw House, which served as British Headquarters during the Revolutionary War, was burned by Union troops in 1865. In the early 1970s, the house was reconstructed as part of Camden Battlefield, Camden, South Carolina. Built expressly for interpretive purposes, it serves as an illustrative reminder of a past event of national significance. The Standards for Reconstruction call for any re-created building to be clearly identified as a contemporary depiction. This is most often done by means of an exterior sign or plaque, or through an explanatory brochure or exhibit. A guide may inform visitors as well. Photo: Richard Frear.
Whereas preservation, rehabilitation, and restoration treatments usually necessitate retrofitting to meet code and energy requirements, in this treatment it is assumed that the reconstructed building will be essentially new construction. Thus, only minimal guidance is provided in the following section, although the work must still be assessed for its potential negative impact on the reconstructed building.

**Recommended**

**Energy Efficiency**

Installing thermal insulation, where appropriate, as part of the reconstruction.

Utilizing the inherent energy conserving features of windows and blinds, porches and double vestibule entrances in a reconstruction project.

Utilizing plant materials, trees, and landscape features, especially those which perform passive solar energy functions such as sun shading and wind breaks, when appropriate to the reconstruction.

**Accessibility Considerations**

Taking accessibility requirements into consideration early in the planning stage so that barrier-free access can be provided in a way that is compatible with the reconstruction.

**Health and Safety Considerations**

Considering health and safety code requirements, such as the installation of fire suppression systems, early in the planning stage of the project so that the work is compatible with the reconstruction.

**Not Recommended**

Installing thermal insulation with a high moisture content.

Using windows and shading devices that are inappropriate to the reconstruction.

Installing new thermal sash with false muntins instead of using sash that is appropriate to the reconstruction.

Removing plant materials and landscape features which perform passive energy functions if they are appropriate to the reconstruction.

Obscuring or damaging the appearance of the reconstructed building in the process of providing barrier-free access.

Meeting health and safety requirements without considering their visual impact on the reconstruction.
Standards for Rehabilitation
& Guidelines for Rehabilitating Historic Buildings

*Rehabilitation* is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.
Standards for Rehabilitation

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.
Guidelines for Rehabilitating Historic Buildings

Introduction

In Rehabilitation, historic building materials and character-defining features are protected and maintained as they are in the treatment Preservation; however, an assumption is made prior to work that existing historic fabric has become damaged or deteriorated over time and, as a result, more repair and replacement will be required. Thus, latitude is given in the Standards for Rehabilitation and Guidelines for Rehabilitation to replace extensively deteriorated, damaged, or missing features using either traditional or substitute materials. Of the four treatments, only Rehabilitation includes an opportunity to make possible an efficient contemporary use through alterations and additions.

Identify, Retain, and Preserve Historic Materials and Features

Like Preservation, guidance for the treatment Rehabilitation begins with recommendations to identify the form and detailing of those architectural materials and features that are important in defining the building’s historic character and which must be retained in order to preserve that character. Therefore, guidance on identifying, retaining, and preserving character-defining features is always given first. The character of a historic building may be defined by the form and detailing of exterior materials, such as masonry, wood, and metal; exterior features, such as roofs, porches, and windows; interior materials, such as plaster and paint; and interior features, such as moldings and stairways, room configuration and spatial relationships, as well as structural and mechanical systems.

Protect and Maintain Historic Materials and Features

After identifying those materials and features that are important and must be retained in the process of Rehabilitation work, then protecting and maintaining them are addressed. Protection generally involves the least degree of intervention and is preparatory to other work. For example, protection includes the maintenance of historic material through treatments such as rust removal, caulking, limited paint removal, and re-application of protective coatings; the cyclical cleaning of roof gutter systems; or installation of fencing, alarm systems and other temporary protective measures. Although a historic building will usually require more extensive work, an overall evaluation of its physical condition should always begin at this level.

Repair Historic Materials and Features

Next, when the physical condition of character-defining materials and features warrants additional work repairing is recommended. Rehabilitation guidance for the repair of historic materials such as masonry, wood, and architectural metals again begins with the least degree of intervention possible such as patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading them according to recognized preservation methods. Repairing also includes the limited replacement in kind—or with

compatible substitute material—of extensively deteriorated or missing parts of features when there are surviving prototypes (for example, brackets, dentils, steps, plaster, or portions of slate or tile roofing). Although using the same kind of material is always the preferred option, substitute material is acceptable if the form and design as well as the substitute material itself convey the visual appearance of the remaining parts of the feature and finish.

**Replace Deteriorated Historic Materials and Features**

Following repair in the hierarchy, Rehabilitation guidance is provided for *replacing* an entire character-defining feature with new material because the level of deterioration or damage of materials precludes repair (for example, an exterior cornice; an interior staircase; or a complete porch or storefront). If the essential form and detailing are still evident so that the physical evidence can be used to re-establish the feature as an integral part of the rehabilitation, then its replacement is appropriate. Like the guidance for repair, the preferred option is always replacement of the entire feature in kind, that is, with the same material. Because this approach may not always be technically or economically feasible, provisions are made to consider the use of a compatible substitute material.

It should be noted that, while the National Park Service guidelines recommend the replacement of an entire character-defining feature that is extensively deteriorated, they never recommend removal and replacement with new material of a feature that—although damaged or deteriorated—could reasonably be repaired and thus preserved.
Design for the Replacement of Missing Historic Features

When an entire interior or exterior feature is missing (for example, an entrance, or cast iron facade; or a principal staircase), it no longer plays a role in physically defining the historic character of the building unless it can be accurately recovered in form and detailing through the process of carefully documenting the historical appearance. Although accepting the loss is one possibility, where an important architectural feature is missing, its replacement is always recommended in the Rehabilitation guidelines as the first or preferred, course of action. Thus, if adequate historical, pictorial, and physical documentation exists so that the feature may be accurately reproduced, and if it is desirable to re-establish the feature as part of the building’s historical appearance, then designing and constructing a new feature based on such information is appropriate. However, a second acceptable option for the replacement feature is a new design that is compatible with the remaining character-defining features of the historic building. The new design should always take into account the size, scale, and material of the historic building itself and, most importantly, should be clearly differentiated so that a false historical appearance is not created.

Alterations/Additions for the New Use

Some exterior and interior alterations to a historic building are generally needed to assure its continued use, but it is most important that such alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes. Alterations may include providing additional parking space on an existing historic building site; cutting new entrances or windows on secondary elevations; inserting an additional floor; installing an entirely new mechanical system; or creating an atrium or light well. Alteration may also include the selective removal of buildings or other features of the environment or building site that are intrusive and therefore detract from the overall historic character.

The construction of an exterior addition on a historic building may seem to be essential for the new use, but it is emphasized in the Rehabilitation guidelines that such new additions should be avoided, if possible, and considered only after it is determined that those needs cannot be met by altering secondary, i.e., non character-defining interior spaces. If, after a thorough evaluation of interior solutions, an exterior addition is still judged to be the only viable alternative, it should be designed and constructed to be clearly differentiated from the historic building and so that the character-defining features are not radically changed, obscured, damaged, or destroyed.

Additions and alterations to historic buildings are referenced within specific sections of the Rehabilitation guidelines such as Site, Roofs, Structural Systems, etc., but are addressed in detail in New Additions to Historic Buildings, found at the end of this chapter.
Energy Efficiency/Accessibility
Considerations/Health and Safety Code
Considerations

These sections of the guidance address work done to meet accessibility requirements and health and safety code requirements; or retrofitting measures to improve energy efficiency. Although this work is quite often an important aspect of Rehabilitation projects, it is usually not a part of the overall process of protecting or repairing character-defining features; rather, such work is assessed for its potential negative impact on the building's historic character. For this reason, particular care must be taken not to radically change, obscure, damage, or destroy character-defining materials or features in the process of meeting code and energy requirements.

Rehabilitation as a Treatment

When repair and replacement of deteriorated features are necessary; when alterations or additions to the property are planned for a new or continued use; and when its depiction at a particular time is not appropriate, Rehabilitation may be considered as a treatment. Prior to undertaking work, a documentation plan for Rehabilitation should be developed.
Building Exterior

Masonry: Brick, stone, terra cotta, concrete, adobe, stucco and mortar

**Recommended**

*Identifying, retaining, and preserving* masonry features that are important in defining the overall historic character of the building such as walls, brackets, railings, cornices, window architraves, door pediments, steps, and columns; and details such as tooling and bonding patterns, coatings, and color.

*Protecting and maintaining* masonry by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved decorative features.

Cleaning masonry only when necessary to halt deterioration or remove heavy soiling.

Carrying out masonry surface cleaning tests after it has been determined that such cleaning is appropriate. Tests should be observed over a sufficient period of time so that both the immediate and the long range effects are known to enable selection of the gentlest method possible.

**Not Recommended**

Removing or radically changing masonry features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Replacing or rebuilding a major portion of exterior masonry walls that could be repaired so that, as a result, the building is no longer historic and is essentially new construction.

Applying paint or other coatings such as stucco to masonry that has been historically unpainted or uncoated to create a new appearance.

Removing paint from historically painted masonry.

Radically changing the type of paint or coating or its color.

Failing to evaluate and treat the various causes of mortar joint deterioration such as leaking roofs or gutters, differential settlement of the building, capillary action, or extreme weather exposure.

Cleaning masonry surfaces when they are not heavily soiled to create a new appearance, thus needlessly introducing chemicals or moisture into historic materials.

Cleaning masonry surfaces without testing or without sufficient time for the testing results to be of value.
**Rehabilitation**

**Recommended**

Cleaning masonry surfaces with the gentlest method possible, such as low pressure water and detergents, using natural bristle brushes.

Inspecting painted masonry surfaces to determine whether repainting is necessary.

Removing damaged or deteriorated paint only to the next sound layer using the gentlest method possible (e.g., hand-scraping) prior to repainting.

Applying compatible paint coating systems following proper surface preparation.

Repainting with colors that are historically appropriate to the building and district.

Evaluating the overall condition of the masonry to determine whether more than protection and maintenance are required, that is, if repairs to masonry features will be necessary.

**Repairing** masonry walls and other masonry features by repointing the mortar joints where there is evidence of deterioration such as disintegrating mortar, cracks in mortar joints, loose bricks, damp walls, or damaged plasterwork.

Removing deteriorated mortar by carefully hand-raking the joints to avoid damaging the masonry.

**Not Recommended**

Sandblasting brick or stone surfaces using dry or wet grit or other abrasives. These methods of cleaning permanently erode the surface of the material and accelerate deterioration.

Using a cleaning method that involves water or liquid chemical solutions when there is any possibility of freezing temperatures.

Cleaning with chemical products that will damage masonry, such as using acid on limestone or marble, or leaving chemicals on masonry surfaces.

Applying high pressure water cleaning methods that will damage historic masonry and the mortar joints.

Removing paint that is firmly adhering to, and thus protecting, masonry surfaces.

Using methods of removing paint which are destructive to masonry, such as sandblasting, application of caustic solutions, or high pressure waterblasting.

Failing to follow manufacturers’ product and application instructions when repainting masonry.

Using new paint colors that are inappropriate to the historic building and district.

Failing to undertake adequate measures to assure the protection of masonry features.

Removing nondeteriorated mortar from sound joints, then repointing the entire building to achieve a uniform appearance.

Using electric saws and hammers rather than hand tools to remove deteriorated mortar from joints prior to repointing.
**Recommended**

Duplicating old mortar in strength, composition, color, and texture.

Duplicating old mortar joints in width and in joint profile.

Repairing stucco by removing the damaged material and patching with new stucco that duplicates the old in strength, composition, color, and texture.

Using mud plaster as a surface coating over unfired, unstabilized adobe because the mud plaster will bond to the adobe.

Cutting damaged concrete back to remove the source of deterioration (often corrosion on metal reinforcement bars). The new patch must be applied carefully so it will bond satisfactorily with, and match, the historic concrete.

Repairing masonry features by patching, piecing-in, or consolidating the masonry using recognized preservation methods. Repair may also include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of masonry features when there are surviving prototypes such as terra-cotta brackets or stone balusters.

**Not Recommended**

Repointing with mortar of high portland cement content (unless it is the content of the historic mortar). This can often create a bond that is stronger than the historic mortar and can cause damage as a result of the differing coefficient of expansion and the differing porosity of the material and the mortar.

Repointing with a synthetic caulking compound.

Using a “scrub” coating technique to repoint instead of traditional repointing methods.

Changing the width or joint profile when repointing.

Removing sound stucco; or repairing with new stucco that is stronger than the historic material or does not convey the same visual appearance.

Applying cement stucco to unfired, unstabilized adobe. Because the cement stucco will not bond properly, moisture can become entrapped between materials, resulting in accelerated deterioration of the adobe.

Patching concrete without removing the source of deterioration.

Replacing an entire masonry feature such as a cornice or balustrade when repair of the masonry and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the masonry feature or that is physically or chemically incompatible.
Building Exterior

Masonry

Rehabilitation

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of Rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

**Recommended**

Applying new or non-historic surface treatments such as water-repellent coatings to masonry only after repointing and only if masonry repairs have failed to arrest water penetration problems.

Replacing in kind an entire masonry feature that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model to reproduce the feature. Examples can include large sections of a wall, a cornice, balustrade, column, or stairway. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

**Not Recommended**

Applying waterproof, water repellent, or non-historic coatings such as stucco to masonry as a substitute for repointing and masonry repairs. Coatings are frequently unnecessary, expensive, and may change the appearance of historic masonry as well as accelerate its deterioration.

Removing a masonry feature that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

**Recommended**

Design for the Replacement of Missing Historic Features

Designing and installing a new masonry feature such as steps or a door pediment when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

**Not Recommended**

Creating a false historical appearance because the replaced masonry feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new masonry feature that is incompatible in size, scale, material and color.
**Building Exterior**  
**Wood: Clapboard, weatherboard, shingles, and other wooden siding and decorative elements**

**Recommended**

*Identifying, retaining, and preserving* wood features that are important in defining the overall historic character of the building such as siding, cornices, brackets, window architraves, and doorway pediments; and their paints, finishes, and colors.

*Protecting and maintaining* wood features by providing proper drainage so that water is not allowed to stand on flat, horizontal surfaces or accumulate in decorative features.

Applying chemical preservatives to wood features such as beam ends or outriggers that are exposed to decay hazards and are traditionally unpainted.

Retaining coatings such as paint that help protect the wood from moisture and ultraviolet light. Paint removal should be considered only where there is paint surface deterioration and as part of an overall maintenance program which involves repainting or applying other appropriate protective coatings.

**Not Recommended**

Removing or radically changing wood features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Removing a major portion of the historic wood from a facade instead of repairing or replacing only the deteriorated wood, then reconstructing the facade with new material in order to achieve a uniform or “improved” appearance.

Radically changing the type of finish or its color or accent scheme so that the historic character of the exterior is diminished.

Stripping historically painted surfaces to bare wood, then applying clear finishes or stains in order to create a “natural look.”

Stripping paint or varnish to bare wood rather than repairing or reapplying a special finish, i.e., a grained finish to an exterior wood feature such as a front door.

Failing to identify, evaluate, and treat the causes of wood deterioration, including faulty flashing, leaking gutters, cracks and holes in siding, deteriorated caulking in joints and seams, plant material growing too close to wood surfaces, or insect or fungus infestation.

Using chemical preservatives such as creosote which, unless they were used historically, can change the appearance of wood features.

Stripping paint or other coatings to reveal bare wood, thus exposing historically coated surfaces to the effects of accelerated weathering.
Rehabilitation

**Recommended**

Inspecting painted wood surfaces to determine whether repainting is necessary or if cleaning is all that is required.

Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (handscraping and handsanding), then repainting.

Using with care electric hot-air guns on decorative wood features and electric heat plates on flat wood surfaces when paint is so deteriorated that total removal is necessary prior to repainting.

**Not Recommended**

Removing paint that is firmly adhering to, and thus, protecting wood surfaces.

Using destructive paint removal methods such as propane or butane torches, sandblasting or waterblasting. These methods can irreversibly damage historic woodwork.

Using thermal devices improperly so that the historic woodwork is scorched.

According to the Standards for Rehabilitation, existing historic materials should be protected, maintained and repaired. In an exemplary project, the windows and shutters of this historic residence were carefully preserved.
**Recommended**

- Using chemical strippers primarily to supplement other methods such as handscraping, handsanding and the above-recommended thermal devices. Detachable wooden elements such as shutters, doors, and columns may—with the proper safeguards—be chemically dip-stripped.

- Applying compatible paint coating systems following proper surface preparation.

- Repainting with colors that are appropriate to the historic building and district.

- Evaluating the overall condition of the wood to determine whether more than protection and maintenance are required, that is, if repairs to wood features will be necessary.

**Repairing** wood features by patching, piecing-in, consolidating, or otherwise reinforcing the wood using recognized preservation methods. Repair may also include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of features where there are surviving prototypes such as brackets, molding, or sections of siding.

**Replacing** in kind an entire wood feature that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model to reproduce the feature. Examples of wood features include a cornice, entablature or balustrade. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

**Not Recommended**

- Failing to neutralize the wood thoroughly after using chemicals so that new paint does not adhere.

- Allowing detachable wood features to soak too long in a caustic solution so that the wood grain is raised and the surface roughened.

- Failing to follow manufacturers’ product and application instructions when repainting exterior woodwork.

- Using new colors that are inappropriate to the historic building or district.

- Failing to undertake adequate measures to assure the protection of wood features.

- Replacing an entire wood feature such as a cornice or wall when repair of the wood and limited replacement of deteriorated or missing parts are appropriate.

- Using substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the wood feature or that is physically or chemically incompatible.

- Removing an entire wood feature that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.
The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of Rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

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<td>Creating a false historical appearance because the replaced wood feature is based on insufficient historical, pictorial, and physical documentation.</td>
</tr>
<tr>
<td>Designing and installing a new wood feature such as a cornice or doorway when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.</td>
<td>Introducing a new wood feature that is incompatible in size, scale, material and color.</td>
</tr>
</tbody>
</table>
Building Exterior

Architectural Metals: Cast iron, steel, pressed tin, copper, aluminum, and zinc

Recommended

Identifying, retaining, and preserving architectural metal features such as columns, capitals, window hoods, or stairways that are important in defining the overall historic character of the building; and their finishes and colors. Identification is also critical to differentiate between metals prior to work. Each metal has unique properties and thus requires different treatments.

Protecting and maintaining architectural metals from corrosion by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved, decorative features.

Cleaning architectural metals, when appropriate, to remove corrosion prior to repainting or applying other appropriate protective coatings.

Identifying the particular type of metal prior to any cleaning procedure and then testing to assure that the gentlest cleaning method possible is selected or determining that cleaning is inappropriate for the particular metal.

Not Recommended

Removing or radically changing architectural metal features which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Removing a major portion of the historic architectural metal from a facade instead of repairing or replacing only the deteriorated metal, then reconstructing the facade with new material in order to create a uniform, or “improved” appearance.

Radically changing the type of finish or its historic color or accent scheme.

Failing to identify, evaluate, and treat the causes of corrosion, such as moisture from leaking roofs or gutters.

Placing incompatible metals together without providing a reliable separation material. Such incompatibility can result in galvanic corrosion of the less noble metal, e.g., copper will corrode cast iron, steel, tin, and aluminum.

Exposing metals which were intended to be protected from the environment.

Applying paint or other coatings to metals such as copper, bronze, or stainless steel that were meant to be exposed.

Using cleaning methods which alter or damage the historic color, texture, and finish of the metal; or cleaning when it is inappropriate for the metal.

Removing the patina of historic metal. The patina may be a protective coating on some metals, such as bronze or copper, as well as a significant historic finish.
**Recommended**

Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with appropriate chemical methods because their finishes can be easily abraded by blasting methods.

Using the gentlest cleaning methods for cast iron, wrought iron, and steel—hard metals—in order to remove paint buildup and corrosion. If hand scraping and wire brushing have proven ineffective, low pressure grit blasting may be used as long as it does not abrade or damage the surface.

Applying appropriate paint or other coating systems after cleaning in order to decrease the corrosion rate of metals or alloys.

Repainting with colors that are appropriate to the historic building or district.

Applying an appropriate protective coating such as lacquer to an architectural metal feature such as a bronze door which is subject to heavy pedestrian use.

Evaluating the overall condition of the architectural metals to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

**Repairing** architectural metal features by patching, splicing, or otherwise reinforcing the metal following recognized preservation methods. Repairs may also include the limited replacement in kind—or with a compatible substitute material—of those extensively deteriorated or missing parts of features when there are surviving prototypes such as porch balusters, column capitals or bases; or porch cresting.

**Not Recommended**

Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with grit blasting which will abrade the surface of the metal.

Failing to employ gentler methods prior to abrasively cleaning cast iron, wrought iron or steel; or using high pressure grit blasting.

Failing to re-apply protective coating systems to metals or alloys that require them after cleaning so that accelerated corrosion occurs.

Using new colors that are inappropriate to the historic building or district.

Failing to assess pedestrian use or new access patterns so that architectural metal features are subject to damage by use or inappropriate maintenance such as salting adjacent sidewalks.

Failing to undertake adequate measures to assure the protection of architectural metal features.

Replacing an entire architectural metal feature such as a column or a balustrade when repair of the metal and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the architectural metal feature or that is physically or chemically incompatible.
Recommended

**Replacing** in kind an entire architectural metal feature that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model to reproduce the feature. Examples could include cast iron porch steps or steel sash windows. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

Not Recommended

Removing an architectural metal feature that is unrepairable and not replacing it; or replacing it with a new architectural metal feature that does not convey the same visual appearance.

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**Recommended**

**Design for the Replacement of Missing Historic Features**

Designing and installing a new architectural metal feature such as a metal cornice or cast iron capital when the historic feature is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

Not Recommended

Creating a false historical appearance because the replaced architectural metal feature is based on insufficient historical, pictorial, and physical documentation.

Introducing a new architectural metal feature that is incompatible in size, scale, material, and color.
Building Exterior

Roofs

Recommended

Identifying, retaining, and preserving roofs—and their functional and decorative features—that are important in defining the overall historic character of the building. This includes the roof’s shape, such as hipped, gambrel, and mansard; decorative features such as cupolas, cresting chimneys, and weathervanes; and roofing material such as slate, wood, clay tile, and metal, as well as its size, color, and patterning.

Protecting and maintaining a roof by cleaning the gutters and downspouts and replacing deteriorated flashing. Roof sheathing should also be checked for proper venting to prevent moisture condensation and water penetration; and to ensure that materials are free from insect infestation.

Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration.

Protecting a leaking roof with plywood and building paper until it can be properly repaired.

Not Recommended

Radically changing, damaging, or destroying roofs which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Removing a major portion of the roof or roofing material that is repairable, then reconstructing it with new material in order to create a uniform, or “improved” appearance.

Changing the configuration of a roof by adding new features such as dormer windows, vents, or skylights so that the historic character is diminished.

Stripping the roof of sound historic material such as slate, clay tile, wood, and architectural metal.

Applying paint or other coatings to roofing material which has been historically uncoated.

Failing to clean and maintain gutters and downspouts properly so that water and debris collect and cause damage to roof fasteners, sheathing, and the underlying structure.

Allowing roof fasteners, such as nails and clips to corrode so that roofing material is subject to accelerated deterioration.

Permitting a leaking roof to remain unprotected so that accelerated deterioration of historic building materials—masonry, wood, plaster, paint and structural members—occurs.
**Recommended**

**Repairing** a roof by reinforcing the historic materials which comprise roof features. Repairs will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of features when there are surviving prototypes such as cupola louvers, dentils, dormer roofing; or slates, tiles, or wood shingles on a main roof.

**Replacing** in kind an entire feature of the roof that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model to reproduce the feature. Examples can include a large section of roofing, or a dormer or chimney. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

**Not Recommended**

Replacing an entire roof feature such as a cupola or dormer when repair of the historic materials and limited replacement of deteriorated or missing parts are appropriate.

Failing to reuse intact slate or tile when only the roofing substrate needs replacement.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the roof or that is physically or chemically incompatible.

Removing a feature of the roof that is unrepairable, such as a chimney or dormer, and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.
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<tr>
<td>Designing and constructing a new feature when the historic feature is</td>
<td>Creating a false historical appearance because the replaced feature is based</td>
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<tr>
<td>completely missing, such as chimney or cupola. It may be an accurate</td>
<td>on insufficient historical, pictorial, and physical documentation.</td>
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<tr>
<td>restoration using historical, pictorial, and physical documentation; or be</td>
<td>Introducing a new roof feature that is incompatible in size, scale, material and</td>
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<tr>
<td>a new design that is compatible with the size, scale, material, and color of</td>
<td>color.</td>
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<td>the historic building.</td>
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<tr>
<td><strong>Alterations/Additions for the New Use</strong></td>
<td></td>
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<tr>
<td>Installing mechanical and service equipment on the roof such as air</td>
<td>Installing mechanical or service equipment so that it damages or obscures</td>
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<tr>
<td>conditioning, transformers, or solar collectors when required for the new</td>
<td>character-defining features; or is conspicuous from the public right-of-way.</td>
</tr>
<tr>
<td>use so that they are inconspicuous from the public right-of-way and do not</td>
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<tr>
<td>damage or obscure character-defining features.</td>
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<tr>
<td>Designing additions to roofs such as residential, office, or storage</td>
<td>Radically changing a character-defining roof shape or damaging or destroying</td>
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<tr>
<td>spaces; elevator housing; decks and terraces; or dormers or skylights when</td>
<td>character-defining roofing material as a result of incompatible design or</td>
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<tr>
<td>required by the new use so that they are inconspicuous from the public</td>
<td>improper installation techniques.</td>
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<tr>
<td>right-of-way and do not damage or obscure character-defining features.</td>
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Building Exterior

Windows

Recommended

Identifying, retaining, and preserving windows—and their functional and decorative features—that are important in defining the overall historic character of the building. Such features can include frames, sash, muntins, glazing, sills, heads, hoodmolds, panelled or decorated jambs and moldings, and interior and exterior shutters and blinds.

Conducting an in-depth survey of the condition of existing windows early in rehabilitation planning so that repair and upgrading methods and possible replacement options can be fully explored.

Protecting and maintaining the wood and architectural metals which comprise the window frame, sash, muntins, and surrounds through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.

Making windows weathertight by re-caulking and replacing or installing weatherstripping. These actions also improve thermal efficiency.

Not Recommended

Removing or radically changing windows which are important in defining the historic character of the building so that, as a result, the character is diminished.

Changing the number, location, size or glazing pattern of windows, through cutting new openings, blocking-in windows, and installing replacement sash that do not fit the historic window opening.

Changing the historic appearance of windows through the use of inappropriate designs, materials, finishes, or colors which noticeably change the sash, depth of reveal, and muntin configuration; the reflectivity and color of the glazing; or the appearance of the frame.

Obscuring historic window trim with metal or other material.

Stripping windows of historic material such as wood, cast iron, and bronze.

Replacing windows solely because of peeling paint, broken glass, stuck sash, and high air infiltration. These conditions, in themselves, are no indication that windows are beyond repair.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of the window results.

Retrofitting or replacing windows rather than maintaining the sash, frame, and glazing.
Rehabilitation

Recommended

Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, i.e. if repairs to windows and window features will be required.

Repairing window frames and sash by patching, splicing, consolidating or otherwise reinforcing. Such repair may also include replacement in kind—or with compatible substitute material—of those parts that are either extensively deteriorated or are missing when there are surviving prototypes such as architraves, hoodmolds, sash, sills, and interior or exterior shutters and blinds.

Replacing in kind an entire window that is too deteriorated to repair using the same sash and pane configuration and other design details. If using the same kind of material is not technically or economically feasible when replacing windows deteriorated beyond repair, then a compatible substitute material may be considered.

Not Recommended

Failing to undertake adequate measures to assure the protection of historic windows.

Replacing an entire window when repair of materials and limited replacement of deteriorated or missing parts are appropriate.

Failing to reuse serviceable window hardware such as brass sash lifts and sash locks.

Using substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the window or that is physically or chemically incompatible.

Removing a character-defining window that is unrepairable and blocking it in; or replacing it with a new window that does not convey the same visual appearance.
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<tr>
<td>Designing and installing new windows when the historic windows (frames, sash and glazing) are completely missing. The replacement windows may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the window openings and the historic character of the building.</td>
<td>Creating a false historical appearance because the replaced window is based on insufficient historical, pictorial, and physical documentation.</td>
</tr>
<tr>
<td><strong>Alterations/Additions for the New Use</strong></td>
<td></td>
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<tr>
<td>Designing and installing additional windows on rear or other non-character-defining elevations if required by the new use. New window openings may also be cut into exposed party walls. Such design should be compatible with the overall design of the building, but not duplicate the fenestration pattern and detailing of a character-defining elevation.</td>
<td>Installing new windows, including frames, sash, and muntin configuration that are incompatible with the building’s historic appearance or obscure, damage, or destroy character-defining features.</td>
</tr>
<tr>
<td>Providing a setback in the design of dropped ceilings when they are required for the new use to allow for the full height of the window openings.</td>
<td>Inserting new floors or furred-down ceilings which cut across the glazed areas of windows so that the exterior form and appearance of the windows are changed.</td>
</tr>
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</table>
(a) An armory complex was rehabilitated for rental housing.  
(b) This view of the rear elevation shows the paired, nine-over-nine wood sash windows and high sills that characterized the building.  
(c) After inappropriate rehabilitation work, the same rear elevation is shown with new skylights added to the roof, prefabricated panels filling the former brick areas, and new wood decks and privacy fences. Because the work changed the historic character, the project did not meet the Standards.
Building Exterior

Entrances and Porches

Recommended

Identifying, retaining, and preserving entrances and porches—and their functional and decorative features—that are important in defining the overall historic character of the building such as doors, fanlights, sidelights, pilaster, entablature, columns, balustrades, and stairs.

Protecting and maintaining the masonry, wood, and architectural metals that comprise entrances and porches through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.

Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, that is, repairs to entrance and porch features will be necessary.

Repairing entrances and porches by reinforcing the historic materials. Repair will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of repeated features where there are surviving prototypes such as balustrades, cornices, entablatures, columns, sidelights, and stairs.

Not Recommended

Removing or radically changing entrances and porches which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Stripping entrances and porches of historic material such as wood, cast iron, terra cotta tile, and brick.

Removing an entrance or porch because the building has been re-oriented to accommodate a new use.

Cutting new entrances on a primary elevation.

Altering utilitarian or service entrances so they appear to be formal entrances by adding panelled doors, fanlights, and sidelights.

Failing to provide adequate protection to materials on a cyclical basis so that deterioration of entrances and porches results.

Failing to undertake adequate measures to assure the protection of historic entrances and porches.

Replacing an entire entrance or porch when the repair of materials and limited replacement of parts are appropriate.

Using a substitute material for the replacement parts that does not convey the visual appearance of the surviving parts of the entrance and porch or that is physically or chemically incompatible.
In Rehabilitation, deteriorated features should be repaired, whenever possible, and replaced when the severity of the damage makes it necessary. Here, a two-story porch is seen prior to treatment (left). The floor boards are rotted out and the columns are in a state of collapse, supported only by crude, temporary shafts. Other components are in varying stages of decay. Appropriate work on the historic porch (right) included repairs to the porch rails; and total replacement of the extensively deteriorated columns and floor boards. Some dismantling of the porch was necessary.
Recommended

*Replacing* in kind an entire entrance or porch that is too deteriorated to repair—if the form and detailing are still evident—using the physical evidence as a model to reproduce the feature. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

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Designing and constructing a new entrance or porch when the historic entrance or porch is completely missing. It may be a restoration based on historical, pictorial, and physical documentation; or be a new design that is compatible with the historic character building. | Creating a false historical appearance because the replaced entrance or porch is based on insufficient historical, pictorial, and physical documentation. |
| **Alterations/Additions for the New Use**  
Designing enclosures for historic porches on secondary elevations when required by the new use in a manner that preserves the historic character of the building. This can include using large sheets of glass and recessing the enclosure wall behind existing scrollwork, posts, and balustrades.  
Designing and installing additional entrances or porches on secondary elevations when required for the new use in a manner that preserves the historic character of the buildings, i.e., limiting such alteration to non-character-defining elevations. | Enclosing porches in a manner that results in a diminution or loss of historic character by using materials such as wood, stucco, or masonry.  
Installing secondary service entrances and porches that are incompatible in size and scale with the historic building or obscure, damage, or destroy character-defining features. |
Building Exterior
Storefronts

Recommended

Identifying, retaining, and preserving storefronts—and their functional and decorative features—that are important in defining the overall historic character of the building such as display windows, signs, doors, transoms, kick plates, corner posts, and entablatures. The removal of inappropriate, non-historic cladding, false mansard roofs, and other later alterations can help reveal the historic character of a storefront.

Protecting and maintaining masonry, wood, and architectural metals which comprise storefronts through appropriate treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems.

Protecting storefronts against arson and vandalism before work begins by boarding up windows and installing alarm systems that are keyed into local protection agencies.

Evaluating the existing condition of storefront materials to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

Not Recommended

Removing or radically changing storefronts—and their features—which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Changing the storefront so that it appears residential rather than commercial in character.

Removing historic material from the storefront to create a recessed arcade.

Introducing coach lanterns, mansard designs, wood shakes, nonoperable shutters, and small-paned windows if they cannot be documented historically.

Changing the location of a storefront’s main entrance.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of storefront features results.

Permitting entry into the building through unsecured or broken windows and doors so that interior features and finishes are damaged by exposure to weather or vandalism.

Stripping storefronts of historic material such as wood, cast iron, terra cotta, carrara glass, and brick.

Failing to undertake adequate measures to assure the preservation of the historic storefront.
**Recommended**

*Repairing* storefronts by reinforcing the historic materials. Repairs will also generally include the limited replacement in kind—or with compatible substitute materials—of those extensively deteriorated or missing parts of storefronts where there are surviving prototypes such as transoms, kick plates, pilasters, or signs.

*Replacing* in kind an entire storefront that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model. If using the same material is not technically or economically feasible, then compatible substitute materials may be considered.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of Rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

**Recommended**

**Design for the Replacement of Missing Historic Features**

Designing and constructing a new storefront when the historic storefront is completely missing. It may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the size, scale, material, and color of the historic building.

**Not Recommended**

Replacing an entire storefront when repair of materials and limited replacement of its parts are appropriate.

Using substitute material for the replacement parts that does not convey the same visual appearance as the surviving parts of the storefront or that is physically or chemically incompatible.

Removing a storefront that is unrepairable and not replacing it; or replacing it with a new storefront that does not convey the same visual appearance.

Creating a false historical appearance because the replaced storefront is based on insufficient historical, pictorial, and physical documentation.

Introducing a new design that is incompatible in size, scale, material, and color.

Using inappropriately scaled signs and logos or other types of signs that obscure, damage, or destroy remaining character-defining features of the historic building.
In the treatment, Rehabilitation, one option for replacing missing historic features is to use pictorial documentation and/or physical evidence to re-create the historic feature. (a) In this example, the ornamental cornice of an 1866 limestone building was missing; and the ground level storefront had been extensively altered. (b) and (c) Based on the availability of photographic and other documentation, the owners were able to accurately restore the cornice and storefront to their historic configuration. A substitute material, fiberglass, was used to fabricate the missing pressed metal cornice, an acceptable alternative in this project. All work met the Standards.
Building Interior
Structural Systems

Recommended

**Identifying, retaining, and preserving** structural systems—and individual features of systems—that are important in defining the overall historic character of the building, such as post and beam systems, trusses, summer beams, vigas, cast iron columns, above-grade stone foundation walls, or load-bearing brick or stone walls.

**Protecting and maintaining** the structural system by cleaning the roof gutters and downspouts; replacing roof flashing; keeping masonry, wood, and architectural metals in a sound condition; and ensuring that structural members are free from insect infestation.

Examining and evaluating the physical condition of the structural system and its individual features using non-destructive techniques such as X-ray photography.

Not Recommended

Removing, covering, or radically changing visible features of structural systems which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Putting a new use into the building which could overload the existing structural system; or installing equipment or mechanical systems which could damage the structure.

Demolishing a loadbearing masonry wall that could be augmented and retained, and replacing it with a new wall (i.e., brick or stone), using the historic masonry only as an exterior veneer.

Leaving known structural problems untreated such as deflection of beams, cracking and bowing of walls, or racking of structural members.

Utilizing treatments or products that accelerate the deterioration of structural material such as introducing urea-formaldehyde foam insulation into frame walls.

Failing to provide proper building maintenance so that deterioration of the structural system results. Causes of deterioration include subsurface ground movement, vegetation growing too close to foundation walls, improper grading, fungal rot, and poor interior ventilation that results in condensation.

Utilizing destructive probing techniques that will damage or destroy structural material.
Recommended

**Repairing** the structural system by augmenting or upgrading individual parts or features. For example, weakened structural members such as floor framing can be paired with a new member, braced, or otherwise supplemented and reinforced.

**Replacing** in kind—or with substitute material—those portions or features of the structural system that are either extensively deteriorated or are missing when there are surviving prototypes such as cast iron columns, roof rafters or trusses, or sections of loadbearing walls. Substitute material should convey the same form, design, and overall visual appearance as the historic feature; and, at a minimum, be equal to its loadbearing capabilities.

Not Recommended

Upgrading the building structurally in a manner that diminishes the historic character of the exterior, such as installing strapping channels or removing a decorative cornice; or damages interior features or spaces.

Replacing a structural member or other feature of the structural system when it could be augmented and retained.

Installing a visible replacement feature that does not convey the same visual appearance, e.g., replacing an exposed wood summer beam with a steel beam.

Using substitute material that does not equal the loadbearing capabilities of the historic material and design or is otherwise physically or chemically incompatible.
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<table>
<thead>
<tr>
<th>Recommended</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Alterations/Additions for the New Use</strong></td>
<td><strong>Carrying out excavations or regrading adjacent to or within a historic building which could cause the historic foundation to settle, shift, or fail; could have a similar effect on adjacent historic buildings; or could destroy significant archeological resources.</strong></td>
</tr>
<tr>
<td>Limiting any new excavations adjacent to historic foundations to avoid undermining the structural stability of the building or adjacent historic buildings. Studies should be done to ascertain potential damage to archeological resources.</td>
<td>Radically changing interior spaces or damaging or destroying features or finishes that are character-defining while trying to correct structural deficiencies in preparation for the new use.</td>
</tr>
<tr>
<td>Correcting structural deficiencies in preparation for the new use in a manner that preserves the structural system and individual character-defining features.</td>
<td>Installing new mechanical and electrical systems or equipment in a manner which results in numerous cuts, splices, or alterations to the structural members.</td>
</tr>
<tr>
<td>Designing and installing new mechanical or electrical systems when required for the new use which minimize the number of cutouts or holes in structural members.</td>
<td>Inserting a new floor when such a radical change damages a structural system or obscures or destroys interior spaces, features, or finishes.</td>
</tr>
<tr>
<td>Adding a new floor when required for the new use if such an alteration does not damage or destroy the structural system or obscure, damage, or destroy character-defining spaces, features, or finishes.</td>
<td>Inserting new floors or furred-down ceilings which cut across the glazed areas of windows so that the exterior form and appearance of the windows are radically changed.</td>
</tr>
<tr>
<td>Creating an atrium or a light well to provide natural light when required for the new use in a manner that assures the preservation of the structural system as well as character-defining interior spaces, features, and finishes.</td>
<td>Damaging the structural system or individual features; or radically changing, damaging, or destroying character-defining interior spaces, features, or finishes in order to create an atrium or a light well.</td>
</tr>
</tbody>
</table>
Building Interior  
Spaces, Features, and Finishes

**Recommended**

**Interior Spaces**

Identifying, retaining, and preserving a floor plan or interior spaces that are important in defining the overall historic character of the building. This includes the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves such as lobbies, reception halls, entrance halls, double parlors, theaters, auditoriums, and important industrial or commercial spaces.

**Interior Features and Finishes**

Identifying, retaining, and preserving interior features and finishes that are important in defining the overall historic character of the building, including columns, cornices, baseboards, fireplaces and mantels, paneling, light fixtures, hardware, and flooring; and wallpaper, plaster, paint, and finishes such as stencilling, marbling, and graining; and other decorative materials that accent interior features and provide color, texture, and patterning to walls, floors, and ceilings.

**Not Recommended**

Radically changing a floor plan or interior spaces—including individual rooms—which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Altering the floor plan by demolishing principal walls and partitions to create a new appearance.

Altering or destroying interior spaces by inserting floors, cutting through floors, lowering ceilings, or adding or removing walls.

Relocating an interior feature such as a staircase so that the historic relationship between features and spaces is altered.

Removing or radically changing features and finishes which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Installing new decorative material that obscures or damages character-defining interior features or finishes.

Removing paint, plaster, or other finishes from historically finished surfaces to create a new appearance (e.g., removing plaster to expose masonry surfaces such as brick walls or a chimney piece).

Applying paint, plaster, or other finishes to surfaces that have been historically unfinished to create a new appearance.

Stripping paint to bare wood rather than repairing or reapplying grained or marbled finishes to features such as doors and paneling.

Radically changing the type of finish or its color, such as painting a previously varnished wood feature.
**Recommended**

**Protecting and maintaining** masonry, wood, and architectural metals which comprise interior features through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems.

Protecting interior features and finishes against arson and vandalism before project work begins, erecting protective fencing, boarding-up windows, and installing fire alarm systems that are keyed to local protection agencies.

Protecting interior features such as a staircase, mantel, or decorative finishes and wall coverings against damage during project work by covering them with heavy canvas or plastic sheets.

**Not Recommended**

Failing to provide adequate protection to materials on a cyclical basis so that deterioration of interior features results.

Permitting entry into historic buildings through unsecured or broken windows and doors so that the interior features and finishes are damaged by exposure to weather or vandalism.

Stripping interiors of features such as woodwork, doors, windows, light fixtures, copper piping, radiators; or of decorative materials.

Failing to provide proper protection of interior features and finishes during work so that they are gouged, scratched, dented, or otherwise damaged.

Historic features that characterize a building should always be protected from damage during rehabilitation work. The drawing shows how a resilient, temporary stair covering was applied over the existing marble staircase. Drawing: National Park Service staff, based on material originally prepared by Emery Roth and Sons, P.C.
**Recommended**

Installing protective coverings in areas of heavy pedestrian traffic to protect historic features such as wall coverings, parquet flooring and panelling.

Removing damaged or deteriorated paints and finishes to the next sound layer using the gentlest method possible, then repainting or refinishing using compatible paint or other coating systems.

Repainting with colors that are appropriate to the historic building.

Limiting abrasive cleaning methods to certain industrial warehouse buildings where the interior masonry or plaster features do not have distinguishing design, detailing, tooling, or finishes; and where wood features are not finished, molded, beaded, or worked by hand. Abrasive cleaning should only be considered after other, gentler methods have been proven ineffective.

Evaluating the existing condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to interior features and finishes will be necessary.

**Repairing** interior features and finishes by reinforcing the historic materials. Repair will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of repeated features when there are surviving prototypes such as stairs, balustrades, wood panelling, columns; or decorative wall coverings or ornamental tin or plaster ceilings.

**Not Recommended**

Failing to take new use patterns into consideration so that interior features and finishes are damaged.

Using destructive methods such as propane or butane torches or sandblasting to remove paint or other coatings. These methods can irreversibly damage the historic materials that comprise interior features.

Using new paint colors that are inappropriate to the historic building.

Changing the texture and patina of character-defining features through sandblasting or use of abrasive methods to remove paint, discoloration or plaster. This includes both exposed wood (including structural members) and masonry.

Failing to undertake adequate measures to assure the protection of interior features and finishes.

Replacing an entire interior feature such as a staircase, panelled wall, parquet floor, or cornice; or finish such as a decorative wall covering or ceiling when repair of materials and limited replacement of such parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts or portions of the interior feature or finish or that is physically or chemically incompatible.
**Recommended**

*Replacing* in kind an entire interior feature or finish that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model for reproduction. Examples could include wainscoting, a tin ceiling, or interior stairs. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

**Not Recommended**

Removing a character-defining feature or finish that is unrepairable and not replacing it; or replacing it with a new feature or finish that does not convey the same visual appearance.

Rehabilitating historic dwelling units often includes some level of lead-paint hazard abatement. Whenever lead-base paint begins to peel, chip, craze, or otherwise comes loose (a), it should be removed in a manner that protects the worker as well as the immediate environment. In this example (b), the deteriorating lead-paint was removed throughout the apartment building and a compatible primer and finish paint applied.

Photos: Sharon C. Park, AIA.
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<td><strong>Design for the Replacement of Missing Historic Features</strong></td>
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</tr>
<tr>
<td>Designing and installing a new interior feature or finish if the historic feature or finish is completely missing. This could include missing partitions, stairs, elevators, lighting fixtures, and wall coverings; or even entire rooms if all historic spaces, features, and finishes are missing or have been destroyed by inappropriate “renovations.” The design may be a restoration based on historical, pictorial, and physical documentation; or be a new design that is compatible with the historic character of the building, district, or neighborhood.</td>
<td>Creating a false historical appearance because the replaced feature is based on insufficient physical, historical, and pictorial documentation or on information derived from another building.</td>
</tr>
<tr>
<td><strong>Alterations/Additions for the New Use</strong></td>
<td>Introducing a new interior feature or finish that is incompatible with the scale, design, materials, color, and texture of the surviving interior features and finishes.</td>
</tr>
<tr>
<td>Accommodating service functions such as bathrooms, mechanical equipment, and office machines required by the building’s new use in secondary spaces such as first floor service areas or on upper floors.</td>
<td>Dividing rooms, lowering ceilings, and damaging or obscuring character-defining features such as fireplaces, niches, stairways or alcoves, so that a new use can be accommodated in the building.</td>
</tr>
<tr>
<td>Reusing decorative material or features that have had to be removed during the rehabilitation work including wall and baseboard trim, door molding, panelled doors, and simple wainscoting; and relocating such material or features in areas appropriate to their historic placement.</td>
<td>Discarding historic material when it can be reused within the rehabilitation project or relocating it in historically inappropriate areas.</td>
</tr>
<tr>
<td>Installing permanent partitions in secondary spaces; removable partitions that do not destroy the sense of space should be installed when the new use requires the subdivision of character-defining interior space.</td>
<td>Installing permanent partitions that damage or obscure character-defining spaces, features, or finishes.</td>
</tr>
<tr>
<td>Enclosing an interior stairway where required by code so that its character is retained. In many cases, glazed fire-rated walls may be used.</td>
<td>Enclosing an interior stairway with fire-rated construction so that the stairwell space or any character-defining features are destroyed.</td>
</tr>
</tbody>
</table>
**Recommended**

- Placing new code-required stairways or elevators in secondary and service areas of the historic building.
- Creating an atrium or a light well to provide natural light when required for the new use in a manner that preserves character-defining interior spaces, features, and finishes as well as the structural system.
- Adding a new floor if required for the new use in a manner that preserves character-defining structural features, and interior spaces, features, and finishes.

**Not Recommended**

- Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding new code-required stairways and elevators.
- Destroying character-defining interior spaces, features, or finishes; or damaging the structural system in order to create an atrium or light well.
- Inserting a new floor within a building that alters or destroys the fenestration; radically changes a character-defining interior space; or obscures, damages, or destroys decorative detailing.
Building Interior

Mechanical Systems: Heating, Air Conditioning, Electrical, and Plumbing

**Recommended**

**Identifying, retaining, and preserving** visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, plumbing fixtures, switchplates, and lights.

**Protecting and maintaining** mechanical, plumbing, and electrical systems and their features through cyclical cleaning and other appropriate measures.

Preventing accelerated deterioration of mechanical systems by providing adequate ventilation of attics, crawlspaces, and cellars so that moisture problems are avoided.

Improving the energy efficiency of existing mechanical systems to help reduce the need for elaborate new equipment. Consideration should be given to installing storm windows, insulating attic crawl space, or adding awnings, if appropriate.

**Repairing** mechanical systems by augmenting or upgrading system parts, such as installing new pipes and ducts; rewiring; or adding new compressors or boilers.

**Replacing** in kind—or with compatible substitute material—those visible features of mechanical systems that are either extensively deteriorated or are prototypes such as ceiling fans, switchplates, radiators, grilles, or plumbing fixtures.

**Not Recommended**

Removing or radically changing features of mechanical systems that are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of mechanical systems and their visible features results.

Enclosing mechanical systems in areas that are not adequately ventilated so that deterioration of the systems results.

Installing unnecessary air conditioning or climate control systems which can add excessive moisture to the building. This additional moisture can either condense inside, damaging interior surfaces, or pass through interior walls to the exterior, potentially damaging adjacent materials as it migrates.

Replacing a mechanical system or its functional parts when it could be upgraded and retained.

Installing a visible replacement feature that does not convey the same visual appearance.
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<tr>
<td><strong>Alterations/Additions for the New Use</strong></td>
<td><strong>Installing a new mechanical system so that character-defining structural or interior features are radically changed, damaged, or destroyed.</strong></td>
</tr>
<tr>
<td>Installing a completely new mechanical system if required for the new use so that it causes the least alteration possible to the building's floor plan, the exterior elevations, and the least damage to the historic building material.</td>
<td>Failing to consider the weight and design of new mechanical equipment so that, as a result, historic structural members or finished surfaces are weakened or cracked.</td>
</tr>
<tr>
<td>Providing adequate structural support for new mechanical equipment.</td>
<td>Installing vertical runs of ducts, pipes, and cables in places where they will obscure character-defining features.</td>
</tr>
<tr>
<td>Installing the vertical runs of ducts, pipes, and cables in closets, service rooms, and wall cavities.</td>
<td>Concealing mechanical equipment in walls or ceilings in a manner that requires the removal of historic building material.</td>
</tr>
<tr>
<td>Installing air conditioning units if required by the new use in such a manner that historic features are not damaged or obscured and excessive moisture is not generated that will accelerate deterioration of historic materials.</td>
<td>Installing a “dropped” acoustical ceiling to hide mechanical equipment when this destroys the proportions of character-defining interior spaces.</td>
</tr>
<tr>
<td>Installing heating/air conditioning units in the window frames in such a manner that the sash and frames are protected. Window installations should be considered only when all other viable heating/cooling systems would result in significant damage to historic materials.</td>
<td>Cutting through features such as masonry walls in order to install air conditioning units.</td>
</tr>
<tr>
<td></td>
<td>Radically changing the appearance of the historic building or damaging or destroying windows by installing heating/air conditioning units in historic window frames.</td>
</tr>
</tbody>
</table>
Building Site

**Recommended**

*Identifying, retaining, and preserving* buildings and their features as well as features of the site that are important in defining its overall historic character. Site features may include circulation systems such as walks, paths, roads, or parking; vegetation such as trees, shrubs, fields, or herbaceous plant material; landforms such as terracing, berms or grading; furnishings such as lights, fences, or benches; decorative elements such as sculpture, statuary or monuments; water features including fountains, streams, pools, or lakes; and subsurface archeological features which are important in defining the history of the site.

Retaining the historic relationship between buildings and the landscape.

**Not Recommended**

Removing or radically changing buildings and their features or site features which are important in defining the overall historic character of the property so that, as a result, the character is diminished.

Removing or relocating buildings or landscape features, thus destroying the historic relationship between buildings and the landscape.

Removing or relocating historic buildings on a site or in a complex of related historic structures—such as a mill complex or farm—thus diminishing the historic character of the site or complex.

Moving buildings onto the site, thus creating a false historical appearance.

Radically changing the grade level of the site. For example, changing the grade adjacent to a building to permit development of a formerly below-grade area that would drastically change the historic relationship of the building to its site.

Failing to maintain adequate site drainage so that buildings and site features are damaged or destroyed; or alternatively, changing the site grading so that water no longer drains properly.

Introducing heavy machinery into areas where it may disturb or damage important landscape features or archeological resources.
Recommended

Surveying and documenting areas where the terrain will be altered to determine the potential impact to important landscape features or archeological resources.

Protecting, e.g., preserving in place important archeological resources.

Planning and carrying out any necessary investigation using professional archeologists and modern archeological methods when preservation in place is not feasible.

Preserving important landscape features, including ongoing maintenance of historic plant material.

Protecting the building and landscape features against arson and vandalism before rehabilitation work begins, i.e., erecting protective fencing and installing alarm systems that are keyed into local protection agencies.

Providing continued protection of historic building materials and plant features through appropriate cleaning, rust removal, limited paint removal, and re-application of protective coating systems; and pruning and vegetation management.

Evaluating the overall condition of the materials and features of the property to determine whether more than protection and maintenance are required, that is, if repairs to building and site features will be necessary.

Not Recommended

Failing to survey the building site prior to the beginning of rehabilitation work which results in damage to, or destruction of, important landscape features or archeological resources.

Leaving known archeological material unprotected so that it is damaged during rehabilitation work.

Permitting unqualified personnel to perform data recovery on archeological resources so that improper methodology results in the loss of important archeological material.

Allowing important landscape features to be lost or damaged due to a lack of maintenance.

Permitting the property to remain unprotected so that the building and landscape features or archeological resources are damaged or destroyed.

Removing or destroying features from the building or site such as wood siding, iron fencing, masonry balustrades, or plant material.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of building and site features results.

Failing to undertake adequate measures to assure the protection of building and site features.
### Rehabilitation

**Recommended**

**Repairing** features of the building and site by reinforcing historic materials.

**Replacing** in kind an entire feature of the building or site that is too deteriorated to repair if the overall form and detailing are still evident. Physical evidence from the deteriorated feature should be used as a model to guide the new work. This could include an entrance or porch, walkway, or fountain. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

Replacing deteriorated or damaged landscape features in kind.

**Not Recommended**

Replacing an entire feature of the building or site such as a fence, walkway, or driveway when repair of materials and limited compatible replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the building or site feature or that is physically or chemically incompatible.

Removing a feature of the building or site that is unrepairable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.

Adding conjectural landscape features to the site such as period reproduction lamps, fences, fountains, or vegetation that are historically inappropriate, thus creating a false sense of historic development.
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</tr>
<tr>
<td>Designing and constructing a new feature of a building or site when the</td>
<td>Creating a false historical appearance because the replaced feature is based on</td>
</tr>
<tr>
<td>historic feature is completely missing, such as an outbuilding, terrace, or</td>
<td>insufficient historical, pictorial, and physical documentation.</td>
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<tr>
<td>driveway. It may be based on historical, pictorial, and physical</td>
<td>Introducing a new building or site feature that is out of scale or of an</td>
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<tr>
<td>documentation; or be a new design that is compatible with the historic</td>
<td>otherwise inappropriate design.</td>
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<tr>
<td>character of the building and site.</td>
<td>Introducing a new landscape feature, including plant material, that is</td>
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<td>visually incompatible with the site, or that alters or destroys the historic</td>
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<td>site patterns or vistas.</td>
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<tr>
<td><strong>Alterations/Additions for the New Use</strong></td>
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<tr>
<td>Designing new onsite parking, loading docks, or ramps when required by the</td>
<td>Locating any new construction on the building site in a location which</td>
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<tr>
<td>new use so that they are as unobtrusive as possible and assure the</td>
<td>contains important landscape features or open space, for example removing a</td>
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<tr>
<td>preservation of the historic relationship between the building or buildings</td>
<td>lawn and walkway and installing a parking lot.</td>
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<tr>
<td>and the landscape.</td>
<td>Placing parking facilities directly adjacent to historic buildings where</td>
</tr>
<tr>
<td>Designing new exterior additions to historic buildings or adjacent new</td>
<td>automobiles may cause damage to the buildings or landscape features, or be</td>
</tr>
<tr>
<td>construction which is compatible with the historic character of the site</td>
<td>intrusive to the building site.</td>
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<tr>
<td>and which preserves the historic relationship between the building or</td>
<td>Introducing new construction onto the building site which is visually</td>
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<tr>
<td>buildings and the landscape.</td>
<td>incompatible in terms of size, scale, design, materials, color, and texture;</td>
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<td></td>
<td>which destroys historic relationships on the site; or which damages or</td>
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<tr>
<td>Removing non-significant buildings, additions, or site features which</td>
<td>destroys important landscape features.</td>
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<tr>
<td>detract from the historic character of the site.</td>
<td>Removing a historic building in a complex of buildings; or removing a building</td>
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<tr>
<td></td>
<td>feature, or a landscape feature which is important in defining the historic</td>
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<td>character of the site.</td>
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</tbody>
</table>
Setting (District/Neighborhood)

**Recommended**

*Identifying retaining, and preserving* building and landscape features which are important in defining the historic character of the setting. Such features can include roads and streets, furnishings such as lights or benches, vegetation, gardens and yards, adjacent open space such as fields, parks, commons or woodlands, and important views or visual relationships.

Retaining the historic relationship between buildings and landscape features of the setting. For example, preserving the relationship between a town common and its adjacent historic houses, municipal buildings, historic roads, and landscape features.

*Protecting and maintaining* historic building materials and plant features through appropriate cleaning, rust removal, limited paint removal, and reapplication of protective coating systems; and pruning and vegetation management.

Protecting building and landscape features such as lighting or trees, against arson and vandalism before rehabilitation work begins by erecting protective fencing and installing alarm systems that are keyed into local protection agencies.

Evaluating the overall condition of the building and landscape features to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

**Not Recommended**

Removing or radically changing those features of the setting which are important in defining the historic character.

Destroying the relationship between the buildings and landscape features within the setting by widening existing streets, changing landscape materials or constructing inappropriately located new streets or parking.

Removing or relocating historic buildings or landscape features, thus destroying their historic relationship within the setting.

Failing to provide adequate protection of materials on a cyclical basis which results in the deterioration of building and landscape features.

Permitting the building and setting to remain unprotected so that interior or exterior features are damaged.

Stripping or removing features from buildings or the setting such as wood siding, iron fencing, terra cotta balusters, or plant material.

Failing to undertake adequate measures to assure the protection of building and landscape features.
**Recommended**

Repairing features of the building and landscape by reinforcing the historic materials. Repair will also generally include the replacement in kind—or with a compatible substitute material—of those extensively deteriorated or missing parts of features when there are surviving prototypes such as porch balustrades or paving materials.

**Replacing** in kind an entire feature of the building or landscape that is too deteriorated to repair—when the overall form and detailing are still evident—using the physical evidence as a model to guide the new work. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.

**Not Recommended**

Replacing an entire feature of the building or landscape when repair of materials and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the building or landscape, or that is physically, chemically, or ecologically incompatible.

Removing a feature of the building or landscape that is unreparable and not replacing it; or replacing it with a new feature that does not convey the same visual appearance.
Rehabilitation

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<td><strong>Design for the Replacement of Missing Historic Features</strong></td>
<td>Creating a false historical appearance because the replaced feature is based on insufficient documentary or physical evidence.</td>
</tr>
<tr>
<td>Designing and constructing a new feature of the building or landscape when the historic feature is completely missing, such as row house steps, a porch, a streetlight, or terrace. It may be a restoration based on documentary or physical evidence; or be a new design that is compatible with the historic character of the setting.</td>
<td>Introducing a new building or landscape feature that is out of scale or otherwise inappropriate to the setting's historic character, e.g., replacing picket fencing with chain link fencing.</td>
</tr>
<tr>
<td><strong>Alterations/Additions for the New Use</strong></td>
<td>Placing parking facilities directly adjacent to historic buildings which result in damage to historic landscape features, such as the removal of plant material, relocation of paths and walkways, or blocking of alleys.</td>
</tr>
<tr>
<td>Designing required new parking so that it is as unobtrusive as possible, thus minimizing the effect on the historic character of the setting. “Shared” parking should also be planned so that several businesses can utilize one parking area as opposed to introducing random, multiple lots.</td>
<td>Introducing new construction into historic districts that is visually incompatible or that destroys historic relationships within the setting.</td>
</tr>
<tr>
<td>Designing and constructing new additions to historic buildings when required by the new use. New work should be compatible with the historic character of the setting in terms of size, scale design, material, color, and texture.</td>
<td>Removing a historic building, building feature, or landscape feature that is important in defining the historic character of the setting.</td>
</tr>
<tr>
<td>Removing nonsignificant buildings, additions or landscape features which detract from the historic character of the setting.</td>
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</tbody>
</table>
If a rear elevation of a historic building is distinctive and highly visible in the neighborhood, altering it may not meet the Standards.

(a and b) This 3-story brick rowhouse featured a second story gallery and brick kitchen wing characteristic of other residences in the district which backed onto a connecting roadway. (c) In the rehabilitation, the wing and gallery were demolished and a large addition constructed that severely impacted the building's historic form and character.
Although the work in these sections is quite often an important aspect of rehabilitation projects, it is usually not part of the overall process of preserving character-defining features (maintenance, repair, replacement); rather, such work is assessed for its potential negative impact on the building’s historic character. For this reason, particular care must be taken not to obscure, radically change, damage, or destroy character-defining features in the process of rehabilitation work.

**Energy Efficiency**

**Recommended**

**Masonry/Wood/Architectural Metals**

Installing thermal insulation in attics and in unheated cellars and crawlspaces to increase the efficiency of the existing mechanical systems.

Installing insulating material on the inside of masonry walls to increase energy efficiency where there is no character-defining interior molding around the windows or other interior architectural detailing.

**Windows**

Utilizing the inherent energy conserving features of a building by maintaining windows and louvered blinds in good operable condition for natural ventilation.

Improving thermal efficiency with weatherstripping, storm windows, caulking, interior shades, and if historically appropriate, blinds and awnings.

Installing interior storm windows with air-tight gaskets, ventilating holes, and/or removable clips to ensure proper maintenance and to avoid condensation damage to historic windows.

Installing exterior storm windows which do not damage or obscure the windows and frames.

**Not Recommended**

Applying thermal insulation with a high moisture content in wall cavities which may damage historic fabric.

Installing wall insulation without considering its effect on interior molding or other architectural detailing.

Removing historic shading devices rather than keeping them in an operable condition.

Replacing historic multi-paned sash with new thermal sash utilizing false muntins.

Installing interior storm windows that allow moisture to accumulate and damage the window.

Installing new exterior storm windows which are inappropriate in size or color.

Replacing windows or transoms with fixed thermal glazing or permitting windows and transoms to remain inoperable rather than utilizing them for their energy conserving potential.
Recommended

**Entrances and Porches**
Maintaining porches and double vestibule entrances so that they can retain heat or block the sun and provide natural ventilation.

**Interior Features**
Retaining historic interior shutters and transoms for their inherent energy conserving features.

**Mechanical Systems**
Improving energy efficiency of existing mechanical systems by installing insulation in attics and basements.

**Building Site**
Retaining plant materials, trees, and landscape features which perform passive solar energy functions such as sun shading and wind breaks.

**Setting (District/Neighborhood)**
Maintaining those existing landscape features which moderate the effects of the climate on the setting such as deciduous trees, evergreen wind-blocks, and lakes or ponds.

**New Additions to Historic Buildings**
Placing a new addition that may be necessary to increase energy efficiency on non-character-defining elevations.

Not Recommended

**Not Recommended**

Changing the historic appearance of the building by enclosing porches.

Removing historic interior features which play an energy conserving role.

Replacing existing mechanical systems that could be repaired for continued use.

Removing plant materials, trees, and landscape features that perform passive solar energy functions.

Stripping the setting of landscape features and landforms so that effects of the wind, rain, and sun result in accelerated deterioration of the historic building.

Designing a new addition which obscures, damages, or destroys character-defining features.
New Additions to Historic Buildings

Recommended

Placing functions and services required for the new use in non-character-defining interior spaces rather than constructing a new addition.

Constructing a new addition so that there is the least possible loss of historic materials and so that character-defining features are not obscured, damaged, or destroyed.

Designing a new addition in a manner that makes clear what is historic and what is new.

Not Recommended

Expanding the size of the historic building by constructing a new addition when the new use could be met by altering non-character-defining interior spaces.

Attaching a new addition so that the character-defining features of the historic building are obscured, damaged, or destroyed.

Duplicating the exact form, material, style, and detailing of the historic building in a new addition so that the new work appears to be part of the historic building.

Imitating a historic style or period of architecture in a new addition.

Rehabilitation, like Preservation, acknowledges a building’s change over time; the retention and repair of existing historic materials and features is thus always recommended. However, unlike Preservation, the dual goal of Rehabilitation is to—respectfully—add to or alter a building in order to meet new use requirements. This downtown Chicago library was expanded in 1981 when additional space was required with light and humidity control for the rare book collection. The compatible 10-story wing was linked to the historic block on side and rear elevations. Its simple design is compatible with the historic form, features, and detailing; old and new are clearly differentiated. Photo: Dave Clifton.
### Recommended

Considering the design for an attached exterior addition in terms of its relationship to the historic building as well as the historic district or neighborhood. Design for the new work may be contemporary or may reference design motifs from the historic building. In either case, it should always be clearly differentiated from the historic building and be compatible in terms of mass, materials, relationship of solids to voids, and color.

Placing a new addition on a non-character-defining elevation and limiting the size and scale in relationship to the historic building.

Designing a rooftop addition when required for the new use, that is set back from the wall plane and as inconspicuous as possible when viewed from the street.

### Not Recommended

Designing and constructing new additions that result in the diminution or loss of the historic character of the resource, including its design, materials, workmanship, location, or setting.

Designing a new addition that obscures, damages, or destroys character-defining features of the historic building.

Constructing a rooftop addition so that the historic appearance of the building is radically changed.
**Accessibility Considerations**

*Recommended*

Identifying the historic building’s character-defining spaces, features, and finishes so that accessibility code-required work will not result in their damage or loss.

Complying with barrier-free access requirements, in such a manner that character-defining spaces, features, and finishes are preserved.

Working with local disability groups, access specialists, and historic preservation specialists to determine the most appropriate solution to access problems.

Providing barrier-free access that promotes independence for the disabled person to the highest degree practicable, while preserving significant historic features.

Designing new or additional means of access that are compatible with the historic building and its setting.

*Not Recommended*

Undertaking code-required alterations before identifying those spaces, features, or finishes which are character-defining and must therefore be preserved.

Altering, damaging, or destroying character-defining features in attempting to comply with accessibility requirements.

Making changes to buildings without first seeking expert advice from access specialists and historic preservationists, to determine solutions.

Making access modifications that do not provide a reasonable balance between independent, safe access and preservation of historic features.

Designing new or additional means of access without considering the impact on the historic building and its setting.

*Making a building accessible to the public is a requirement under the Americans with Disabilities Act of 1990, whatever the treatment. Full, partial, or alternative approaches to accessibility depends upon the historical significance of a building and the ability to make changes. In these examples, thresholds that exceed allowable heights were modified several ways to increase accessibility without jeopardizing the historic character. Drawing: Uniform Federal Accessibility Standard (UFAS) Retrofit Manual.*
Health and Safety Considerations

Recommended

Identifying the historic building’s character-defining spaces, features, and finishes so that code-required work will not result in their damage or loss.

Complying with health and safety codes, including seismic code requirements, in such a manner that character-defining spaces, features, and finishes are preserved.

Removing toxic building materials only after thorough testing has been conducted and only after less invasive abatement methods have been shown to be inadequate.

Providing workers with appropriate personal protective equipment for hazards found in the worksite.

Working with local code officials to investigate systems, methods, or devices of equivalent or superior effectiveness and safety to those prescribed by code so that unnecessary alterations can be avoided.

Upgrading historic stairways and elevators to meet health and safety codes in a manner that assures their preservation, i.e., so that they are not damaged or obscured.

Installing sensitively designed fire suppression systems, such as sprinkler systems that result in retention of historic features and finishes.

Applying fire-retardant coatings, such as intumescent paints, which expand during fire to add thermal protection to steel.

Adding a new stairway or elevator to meet health and safety codes in a manner that preserves adjacent character-defining features and spaces.

Placing a code-required stairway or elevator that cannot be accommodated within the historic building in a new exterior addition. Such an addition should be on an inconspicuous elevation.

Not Recommended

Undertaking code-required alterations to a building or site before identifying those spaces, features, or finishes which are character-defining and must therefore be preserved.

Altering, damaging, or destroying character-defining spaces, features, and finishes while making modifications to a building or site to comply with safety codes.

Destroying historic interior features and finishes without careful testing and without considering less invasive abatement methods.

Removing unhealthful building materials without regard to personal and environmental safety.

Making changes to historic buildings without first exploring equivalent health and safety systems, methods, or devices that may be less damaging to historic spaces, features, and finishes.

Damaging or obscuring historic stairways and elevators or altering adjacent spaces in the process of doing work to meet code requirements.

Covering character-defining wood features with fire-resistant sheathing which results in altering their visual appearance.

Using fire-retardant coatings if they damage or obscure character-defining features.

Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding a new code-required stairway or elevator.

Constructing a new addition to accommodate code-required stairs and elevators on character-defining elevations highly visible from the street; or where it obscures, damages, or destroys character-defining features.
Standards for Restoration & Guidelines for Restoring Historic Buildings

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.
Standards for Restoration

1. A property will be used as it was historically or be given a new use which reflects the property’s restoration period.

2. Materials and features from the restoration period will be retained and preserved. The removal of materials or alteration of features, spaces, and spatial relationships that characterize the period will not be undertaken.

3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate and conserve materials and features from the restoration period will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.

4. Materials, features, spaces, and finishes that characterize other historical periods will be documented prior to their alteration or removal.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the restoration period will be preserved.

6. Deteriorated features from the restoration period will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials.

7. Replacement of missing features from the restoration period will be substantiated by documentary and physical evidence. A false sense of history will not be created by adding conjectural features, features from other properties, or by combining features that never existed together historically.

8. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

9. Archeological resources affected by a project will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

10. Designs that were never executed historically will not be constructed.
Guidelines for Restoring Historic Buildings

Introduction

Rather than maintaining and preserving a building as it has evolved over time, the expressed goal of the Standards for Restoration and Guidelines for Restoring Historic Buildings is to make the building appear as it did at a particular—and most significant—time in its history. First, those materials and features from the “restoration period” are identified, based on thorough historical research. Next, features from the restoration period are maintained, protected, repaired (i.e., stabilized, consolidated, and conserved), and replaced, if necessary. As opposed to other treatments, the scope of work in Restoration can include removal of features from other periods; missing features from the restoration period may be replaced, based on documentary and physical evidence, using traditional materials or compatible substitute materials. The final guidance emphasizes that only those designs that can be documented as having been built should be re-created in a restoration project.

Identify, Retain, and Preserve Materials and Features from the Restoration Period

The guidance for the treatment Restoration begins with recommendations to identify the form and detailing of those existing architectural materials and features that are significant to the restoration period as established by historical research and documentation. Thus, guidance on identifying, retaining, and preserving features from the restoration period is always given first. The historic building’s appearance may be defined by the form and detailing of its exterior materials, such as masonry, wood, and metal; exterior features, such as roofs, porches, and windows; interior materials, such as plaster and paint; and interior features, such as moldings and stairways, room configuration and spatial relationships, as well as structural and mechanical systems; and the building’s site and setting.

Protect and Maintain Materials and Features from the Restoration Period

After identifying those existing materials and features from the restoration period that must be retained in the process of Restoration work, then protecting and maintaining them is addressed. Protection generally involves the least degree of intervention and is preparatory to other work. For example, protection includes the maintenance of historic material through treatments such as rust removal, caulking, limited paint removal, and re-application of protective coatings; the cyclical cleaning of roof gutter systems; or installation of fencing, alarm systems and other temporary protective measures. Although a historic building will usually require more extensive work, an overall evaluation of its physical condition should always begin at this level.

Repair (Stabilize, Consolidate, and Conserve) Materials and Features from the Restoration Period

Next, when the physical condition of restoration period features requires additional work, repairing by stabilizing, consolidating, and conserving is recommended. Restoration guidance focuses upon the preservation of those materials and features that are significant to the period. Consequently, guidance for repairing a historic material, such as masonry, again begins with the least degree of intervention possible, such as strengthening fragile materials through consolidation, when appropriate, and repointing with mortar of an appropriate strength. Repairing masonry as well as wood and architectural metals includes
patching, splicing, or otherwise reinforcing them using recognized preservation methods. Similarly, portions of a historic structural system could be reinforced using contemporary material such as steel rods. In Restoration, repair may also include the limited replacement in kind—or with compatible substitute material—of extensively deteriorated or missing parts of existing features when there are surviving prototypes to use as a model. Examples could include terra-cotta brackets, wood balusters, or cast iron fencing.

**Replace Extensively Deteriorated Features from the Restoration Period**

In Restoration, replacing an entire feature from the restoration period (i.e., a cornice, balustrade, column, or stairway) that is too deteriorated to repair may be appropriate. Together with documentary evidence, the form and detailing of the historic feature should be used as a model for the replacement. Using the same kind of material is preferred; however, compatible substitute material may be considered. All new work should be unobtrusively dated to guide future research and treatment.

In a project at Fort Hays, Kansas, the wood frame officers’ quarters were restored to the late 1860s—their period of significance. This included replacing a missing kitchen ell, chimneys, porch columns, and cornice, and closing a later window opening in the main block. The building and others in the museum complex is used to interpret frontier history.
If documentary and physical evidence are not available to provide an accurate re-creation of missing features, the treatment Rehabilitation might be a better overall approach to project work.

**Remove Existing Features from Other Historic Periods**

Most buildings represent continuing occupancies and change over time, but in **Restoration**, the goal is to depict the building as it appeared at the most significant time in its history. Thus, work is included to remove or alter existing historic features that do not represent the restoration period. This could include features such as windows, entrances and doors, roof dormers, or landscape features. Prior to altering or removing materials, features, spaces, and finishes that characterize other historical periods, they should be documented to guide future research and treatment.

**Re-Create Missing Features from the Restoration Period**

Most **Restoration** projects involve re-creating features that were significant to the building at a particular time, but are now missing. Examples could include a stone balustrade, a porch, or cast iron storefront. Each missing feature should be substantiated by documentary and physical evidence. Without sufficient documentation for these “re-creations,” an accurate depiction cannot be achieved. Combining features that never existed together historically can also create a false sense of history. Using traditional materials to depict lost features is always the preferred approach; however, using compatible substitute material is an acceptable alternative in **Restoration** because, as emphasized, the goal of this treatment is to replicate the “appearance” of the historic building at a particular time, not to retain and preserve all historic materials as they have evolved over time.

If documentary and physical evidence are not available to provide an accurate re-creation of missing features, the treatment Rehabilitation might be a better overall approach to project work.

**Energy Efficiency/Accessibility Considerations/ Health and Safety Code Considerations**

These sections of the **Restoration** guidance address work done to meet accessibility requirements and health and safety code requirements; or limited retrofitting measures to improve energy efficiency. Although this work is quite often an important aspect of restoration projects, it is usually not part of the overall process of protecting, stabilizing, conserving, or repairing features from the restoration period; rather, such work is assessed for its potential negative impact on the building’s historic appearance. For this reason, particular care must be taken not to obscure, damage, or destroy historic materials or features from the restoration period in the process of undertaking work to meet code and energy requirements.

**Restoration as a Treatment.** When the property’s design, architectural, or historical significance during a particular period of time outweighs the potential loss of extant materials, features, spaces, and finishes that characterize other historical periods; when there is substantial physical and documentary evidence for the work; and when contemporary alterations and additions are not planned, Restoration may be considered as a treatment. Prior to undertaking work, a particular period of time, i.e., the restoration period, should be selected and justified, and a documentation plan for Restoration developed.
Building Exterior

Masonry: Brick, stone, terra cotta, concrete, adobe, stucco and mortar

**Recommended**

*Identifying, retaining, and preserving* masonry features from the restoration period such as walls, brackets, railings, cornices, window architraves, door pediments, steps, and columns; and details such as tooling and bonding patterns, coatings, and color.

*Protecting and maintaining* masonry from the restoration period by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved decorative features.

Cleaning masonry only when necessary to halt deterioration or remove heavy soiling.

Carrying out masonry surface cleaning tests after it has been determined that such cleaning is appropriate. Tests should be observed over a sufficient period of time so that both the immediate and the long range effects are known to enable selection of the gentlest method possible.

**Not Recommended**

Altering masonry features from the restoration period.

Failing to properly document masonry features from the restoration period which may result in their loss.

Applying paint or other coatings such as stucco to masonry or removing paint or stucco from masonry if such treatments cannot be documented to the restoration period.

Changing the type or color of the paint or coating unless the work can be substantiated by historical documentation.

Failing to evaluate and treat the various causes of mortar joint deterioration such as leaking roofs or gutters, differential settlement of the building, capillary action, or extreme weather exposure.

Cleaning masonry surfaces when they are not heavily soiled, thus needlessly introducing chemicals or moisture into historic materials.

Cleaning masonry surfaces without testing or without sufficient time for the testing results to be of value.
**Recommended**

Cleaning masonry surfaces with the gentlest method possible, such as low pressure water and detergents, using natural bristle brushes.

Inspecting painted masonry surfaces to determine whether repainting is necessary.

Removing damaged or deteriorated paint only to the next sound layer using the gentlest method possible (e.g., hand-scraping) prior to repainting.

Applying compatible paint coating systems following proper surface preparation.

Repainting with colors that are documented to the restoration period of the building.

Evaluating the existing condition of the masonry to determine whether more than protection and maintenance are required, that is, if repairs to masonry features from the restoration period will be necessary.

**Repairing, stabilizing and conserving** fragile masonry from the restoration period by well-tested consolidants, when appropriate. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.

**Not Recommended**

Sandblasting brick or stone surfaces using dry or wet grit or other abrasives. These methods of cleaning permanently erode the surface of the material and accelerate deterioration.

Using a cleaning method that involves water or liquid chemical solutions when there is any possibility of freezing temperatures.

Cleaning with chemical products that will damage masonry, such as using acid on limestone or marble, or leaving chemicals on masonry surfaces.

Applying high pressure water cleaning methods that will damage historic masonry and the mortar joints.

Removing paint that is firmly adhering to, and thus protecting, masonry surfaces.

Using methods of removing paint which are destructive to masonry, such as sandblasting, application of caustic solutions, or high pressure waterblasting.

Failing to follow manufacturers’ product and application instructions when repainting masonry.

Using new paint colors that are not documented to the restoration period of the building.

Failing to undertake adequate measures to assure the protection of masonry features from the restoration period.

Removing masonry from the restoration period that could be stabilized, repaired and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile historic materials.
**Recommended**

Repairing masonry walls and other masonry features by repointing the mortar joints where there is evidence of deterioration such as disintegrating mortar, cracks in mortar joints, loose bricks, damp walls, or damaged plasterwork.

Removing deteriorated mortar by carefully hand-raking the joints to avoid damaging the masonry.

Duplicating and, if necessary, reproducing period mortar in strength, composition, color, and texture.

Duplicating and, if necessary, reproducing period mortar joints in width and in joint profile.

Repairing stucco by removing the damaged material and patching with new stucco that duplicates stucco of the restoration period in strength, composition, color, and texture.

Using mud plaster as a surface coating over unfired, unstabilized adobe because the mud plaster will bond to the adobe.

Cutting damaged concrete back to remove the source of deterioration (often corrosion on metal reinforcement bars). The new patch must be applied carefully so it will bond satisfactorily with, and match, the historic concrete.

**Not Recommended**

Removing nondeteriorated mortar from sound joints, then repointing the entire building to achieve a uniform appearance.

Using electric saws and hammers rather than hand tools to remove deteriorated mortar from joints prior to repointing.

Repointing with mortar of high portland cement content (unless it is the content of the historic mortar). This can often create a bond that is stronger than the historic material and can cause damage as a result of the differing coefficient of expansion and the differing porosity of the material and the mortar.

Repointing with a synthetic caulking compound.

Using a “scrub” coating technique to repoint instead of traditional repointing methods.

Changing the width or joint profile when repointing.

Removing sound stucco; or repairing with new stucco that is stronger than the historic material or does not convey the same visual appearance.

Applying cement stucco to unfired, unstabilized adobe. Because the cement stucco will not bond properly, moisture can become entrapped between materials, resulting in accelerated deterioration of the adobe.

Patching concrete without removing the source of deterioration.
**Recommended**

Repairing masonry features from the restoration period by patching, piecing-in, or otherwise reinforcing the masonry using recognized preservation methods. Repair may also include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of masonry features from the restoration period when there are surviving prototypes such as terra-cotta brackets or stone balusters. The new work should be unobtrusively dated to guide future research and treatment.

Applying new or non-historic surface treatments such as water-repellent coatings to masonry only after repointing and only if masonry repairs have failed to arrest water penetration problems.

**Not Recommended**

Replacing an entire masonry feature from the restoration period such as a cornice or balustrade when repair of the masonry and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the masonry feature or that is physically or chemically incompatible.

Applying waterproof, water repellent, or non-historic coatings such as stucco to masonry as a substitute for repointing and masonry repairs. Coatings are frequently unnecessary, expensive, and may change the appearance of historic masonry as well as accelerate its deterioration.

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*The Meyer May House in Grand Rapids, Michigan, was designed by Frank Lloyd Wright and built in 1909. In 1922, May added to the house for an expanding family. After the May occupancy, the house was altered for use as apartments, with a carport added in 1955. In the 1980s restoration, the Wright’s original design was deemed more significant than May’s later changes, and, as a result, the additions were removed and the house returned to its 1909 appearance. Drawing: Martha L. Werenfels, AIA.*
**Restoration**

**Recommended**

*Replacing* in kind an entire masonry feature from the restoration period that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model to reproduce the feature. Examples can include large sections of a wall, a cornice, balustrade, column, or stairway. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work should be unobtrusively dated to guide future research and treatment.

The following Restoration work is highlighted to indicate that it involves the removal or alteration of existing historic masonry features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing masonry features from the restoration period using all new materials.

**Recommended**

- **Removing Existing Features from Other Historic Periods**
  - Removing or altering masonry features from other historic periods such as a later doorway, porch, or steps.
  - Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.

- **Re-creating Missing Features from the Restoration Period**
  - Re-creating a missing masonry feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a terra-cotta bracket or stone balustrade.

**Not Recommended**

- Removing a masonry feature from the restoration period that is unrepairable and not replacing it.

- Failing to remove a masonry feature from another period, thus confusing the depiction of the building's significance.

- Failing to document masonry features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.

- Constructing a masonry feature that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but for which there is insufficient documentation.
Building Exterior

Wood: Clapboard, weatherboard, shingles, and other wooden siding and decorative elements

*Recommended*

**Identifying, retaining, and preserving** wood features from the restoration period such as siding, cornices, brackets, window architraves, and doorway pediments; and their paints, finishes, and color.

**Protecting and maintaining** wood features from the restoration period by providing proper drainage so that water is not allowed to stand on flat, horizontal surfaces or accumulate in decorative features.

Applying chemical preservatives to wood features such as beam ends or outriggers that are exposed to decay hazards and are traditionally unpainted.

Retaining coatings such as paint that help protect the wood from moisture and ultraviolet light. Paint removal should be considered only where there is paint surface deterioration and as part of an overall maintenance program which involves repainting or applying other appropriate protective coatings.

Inspecting painted wood surfaces to determine whether repainting is necessary or if cleaning is all that is required.

Removing damaged or deteriorated paint to the next sound layer using the gentlest method possible (handscraping and handsanding), then repainting.

*Not Recommended*

Altering wood features from the restoration period.

Failing to properly document wood features from the restoration period which may result in their loss.

Applying paint or other coatings to wood or removing paint from wood if such treatments cannot be documented to the restoration period.

Changing the type or color of the paint or coating unless the work can be substantiated by historical documentation.

Failing to identify, evaluate, and treat the causes of wood deterioration, including faulty flashing, leaking gutters, cracks and holes in siding, deteriorated caulking in joints and seams, plant material growing too close to wood surfaces, or insect or fungus infestation.

Using chemical preservatives such as creosote which, unless they were used historically, can change the appearance of wood features.

Stripping paint or other coatings to reveal bare wood, thus exposing historically coated surfaces to the effects of accelerated weathering.

Removing paint that is firmly adhering to, and thus, protecting wood surfaces.

Using destructive paint removal methods such as propane or butane torches, sandblasting or waterblasting. These methods can irreversibly damage historic woodwork.
Recommended

Using with care electric hot-air guns on decorative wood features and electric heat plates on flat wood surfaces when paint is so deteriorated that total removal is necessary prior to repainting.

Using chemical strippers primarily to supplement other methods such as handscraping, handsanding and the above-recommended thermal devices. Detachable wooden elements such as shutters, doors, and columns may—with the proper safeguards—be chemically dip-stripped.

Not Recommended

Using thermal devices improperly so that the historic woodwork is scorched.

Failing to neutralize the wood thoroughly after using chemicals so that new paint does not adhere.

Allowing detachable wood features to soak too long in a caustic solution so that the wood grain is raised and the surface roughened.
**Recommended**

Applying compatible paint coating systems following proper surface preparation.

Repainting with colors that are documented to the restoration period of the building.

Evaluating the existing condition of the wood to determine whether more than protection and maintenance are required, that is, if repairs to wood features from the restoration period will be necessary.

**Repairing, stabilizing, and conserving** fragile wood from the restoration period using well-tested consolidants, when appropriate. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.

Repairing wood features from the restoration period by patching, piecing-in, or otherwise reinforcing the wood using recognized preservation methods. Repair may also include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of features from the restoration period where there are surviving prototypes such as brackets, molding, or sections of siding. The new work should be unobtrusively dated to guide future research and treatment.

**Replacing** in kind an entire wood feature from the restoration period that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model to reproduce the feature. Examples of wood features include a cornice, entablature or balustrade. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work should be unobtrusively dated to guide future research and treatment.

**Not Recommended**

Failing to follow manufacturers’ product and application instructions when repainting exterior woodwork.

Using new colors that are not documented to the restoration period of the building.

Failing to undertake adequate measures to assure the protection of wood features from the restoration period.

Removing wood from the restoration period that could be stabilized and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile historic materials.

Replacing an entire wood feature from the restoration period such as a cornice or wall when repair of the wood and limited replacement of deteriorated or missing parts are appropriate.

Using substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the wood feature or that is physically or chemically incompatible.

Removing a wood feature from the restoration period that is unrepairable and not replacing it.
### Recommended

#### Removing Existing Features from Other Historic Periods

Removing or altering wood features from other historic periods such as a later doorway, porch, or steps.

Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.

#### Re-creating Missing Features from the Restoration Period

Re-creating a missing wood feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a roof dormer or porch.

### Not Recommended

#### Failing to remove a wood feature from another period, thus confusing the depiction of the building's significance.

Failing to document wood features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.

Constructing a wood feature that was part of the original design for the building, but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but for which there is insufficient documentation.

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*The following Restoration work is highlighted to indicate that it involves the removal or alteration of existing historic wood features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing wood features from the restoration period using all new materials.*
Building Exterior

Architectural Metals: Cast iron, steel pressed tin, copper, aluminum, and zinc

*Recommended*

Identifying, retaining, and preserving architectural metal features from the restoration period such as columns, capitals, window hoods, or stairways; and their finishes and colors. Identification is also critical to differentiate between metals prior to work. Each metal has unique properties and thus requires different treatments.

Protecting and maintaining restoration period architectural metals from corrosion by providing proper drainage so that water does not stand on flat, horizontal surfaces or accumulate in curved, decorative features.

Cleaning architectural metals, when appropriate, to remove corrosion prior to repainting or applying other appropriate protective coatings.

Identifying the particular type of metal prior to any cleaning procedure and then testing to assure that the gentlest cleaning method possible is selected or determining that cleaning is inappropriate for the particular metal.

Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with appropriate chemical methods because their finishes can be easily abraded by blasting methods.

*Not Recommended*

Altering architectural metal features from the restoration period.

Failing to properly document architectural metal features from the restoration period which may result in their loss.

Changing the type of finish, historic color, or accent scheme unless the work can be substantiated by historical documentation.

Failing to identify, evaluate, and treat the causes of corrosion, such as moisture from leaking roofs or gutters.

Exposing metals which were intended to be protected from the environment.

Applying paint or other coatings to metals such as copper, bronze, or stainless steel that were meant to be exposed.

Using cleaning methods which alter or damage the historic color, texture, and finish of the metal; or cleaning when it is inappropriate for the metal.

Removing the patina of historic metal. The patina may be a protective coating on some metals, such as bronze or copper, as well as a significant historic finish.

Cleaning soft metals such as lead, tin, copper, terneplate, and zinc with grit blasting which will abrade the surface of the metal.
Restoration

**Recommended**

Using the gentlest cleaning methods for cast iron, wrought iron, and steel—in order to remove paint buildup and corrosion. If hand scraping and wire brushing have proven ineffective, low pressure grit blasting may be used as long as it does not abrade or damage the surface.

Applying appropriate paint or other coating systems after cleaning in order to decrease the corrosion rate of metals or alloys.

Repainting with colors that are documented to the restoration period of the building.

Applying an appropriate protective coating such as lacquer to an architectural metal feature such as a bronze door which is subject to heavy pedestrian use.

Evaluating the existing condition of the architectural metals to determine whether more than protection and maintenance are required, that is, if repairs to metal features from the restoration period will be necessary.

*Repairing, stabilizing, and conserving* fragile architectural metal from the restoration period using well-tested consolidants, when appropriate. Repairs should be physically and visually compatible and identifiable upon close inspection for future research.

Repairing architectural metal features from the restoration period by patching, splicing, or otherwise reinforcing the metal using recognized preservation methods. Repairs may also include the limited replacement in kind—or with a compatible substitute material—of those extensively deteriorated or missing parts of features from the restoration period when there are surviving prototypes such as porch balusters, column capitals or bases; or porch cresting. The new work should be unobtrusively dated to guide future research and treatment.

**Not Recommended**

Failing to employ gentler methods prior to abratively cleaning cast iron, wrought iron or steel; or using high pressure grit blasting.

Failing to re-apply protective coating systems to metals or alloys that require them after cleaning so that accelerated corrosion occurs.

Using new colors that are not documented to the restoration period of the building.

Failing to assess pedestrian use or new access patterns so that architectural metal features are subject to damage by use or inappropriate maintenance such as salting adjacent sidewalks.

Failing to undertake adequate measures to assure the protection of architectural metal features from the restoration period.

Removing architectural metal from the restoration period that could be stabilized and conserved; or using untested consolidants and untrained personnel, thus causing further damage to fragile historic materials.

Replacing an entire architectural metal feature from the restoration period such as a column or a balustrade when repair of the metal and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the architectural metal feature or that is physically or chemically incompatible.
Recommended

Replacing in kind an entire architectural metal feature from the restoration period that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model to reproduce the feature. Examples could include cast iron porch steps or roof crestoning. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work should be unobtrusively dated to guide future research and treatment.

Not Recommended

Removing an architectural metal feature from the restoration period that is unrepairable and not replacing it.

The Standards for Restoration call for the repair of existing features from the restoration period as well as the re-creation of missing features from the period. In some instances, when missing features are replaced, substitute materials may be considered if they convey the appearance of the historic materials. In this example at Philadelphia’s Independence Hall, the clock was re-built in 1972-73 using cast stone and wood with fiberglass and polyester bronze ornamentation. Photo: Lee H. Nelson, FAIA.
The following Restoration work is highlighted to indicate that it involves the removal or alteration of existing historic architectural metal features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing architectural metal features from the restoration period using all new materials.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Removing Existing Features from Other Historic Periods</strong>&lt;br&gt;Removing or altering architectural metal features from other historic periods such as a later cast iron porch railing or aluminum windows.&lt;br&gt;Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.</td>
<td>Failing to remove an architectural metal feature from another period, thus confusing the depiction of the building’s significance.&lt;br&gt;Failing to document architectural metal features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.</td>
</tr>
<tr>
<td><strong>Re-creating Missing Features from the Restoration Period</strong>&lt;br&gt;Re-creating a missing architectural metal feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a cast iron storefront or porch.</td>
<td>Constructing an architectural metal feature that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but for which there is insufficient documentation.</td>
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Building Exterior

Roofs

Recommended

Identifying, retaining, and preserving roofs and roof features from the restoration period. This includes the roof’s shape, such as hipped, gambrel, and mansard; decorative features such as cupolas, cresting, chimneys, and weathervanes; and roofing material such as slate, wood, clay tile, and metal, as well as size, color, and patterning.

Protecting and maintaining a restoration period roof by cleaning the gutters and downspouts and replacing deteriorated flashing. Roof sheathing should also be checked for proper venting to prevent moisture condensation and water penetration; and to insure that materials are free from insect infestation.

Providing adequate anchorage for roofing material to guard against wind damage and moisture penetration.

Protecting a leaking roof with plywood and building paper until it can be properly repaired.

Evaluating the existing condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to roofs and roof features will be necessary.

Repairing a roof from the restoration period by reinforcing the materials which comprise roof features. Repairs will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of features when there are surviving prototypes such as cupola louvers, dentils, dormer roofing; or slates, tiles, or wood shingles. The new work should be unobtrusively dated to guide future research and treatment.

Not Recommended

Altering roofs and roof features from the restoration period.

Failing to properly document roof features from the restoration period which may result in their loss.

Changing the type or color of roofing materials unless the work can be substantiated by historical documentation.

Failing to clean and maintain gutters and downspouts properly so that water and debris collect and cause damage to roof fasteners, sheathing, and the underlying structure.

Allowing roof fasteners, such as nails and clips, to corrode so that roofing material is subject to accelerated deterioration.

Permitting a leaking roof to remain unprotected so that accelerated deterioration of historic building materials—masonry, wood, plaster, paint and structural members—occurs.

Failing to undertake adequate measures to assure the protection of roofs and roof features from the restoration period.

Replacing an entire roof feature from the restoration period such as a cupola or dormer when the repair of materials and limited replacement of deteriorated or missing parts are appropriate.

Failing to reuse intact slate or tile when only the roofing substrate needs replacement.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the roof or that is physically or chemically incompatible.
**Recommended**

**Replacing** in kind an entire roof feature from the restoration period that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model to reproduce the feature. Examples can include a large section of roofing, or a dormer or chimney. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work should be unobtrusively dated to guide future research and treatment.

The following **Restoration** work involves the removal or alteration of existing historic roofs and roof features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing roof features from the restoration period using all new materials in order to create an accurate historic appearance.

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<td><strong>Removing Existing Features from Other Historic Periods</strong></td>
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</tr>
<tr>
<td>Removing or altering roofs or roof features from other historic periods such as a later dormer or asphalt roofing.</td>
<td>Failing to document roofing materials and roof features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.</td>
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<tr>
<td>Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.</td>
<td><strong>Constructing a roof feature that was part of the original design for the building, but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but for which there is insufficient documentation.</strong></td>
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</table>

| **Re-creating Missing Features from the Restoration Period** | |
| Re-creating missing roofing material or a roof feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a dormer or cupola. |
Building Exterior
Windows

**Recommended**

*Identifying, retaining, and preserving* windows—and their functional and decorative features—from the restoration period. Such features can include frames, sash, muntins, glazing, sills, heads, hoodmolds, panelled or decorated jambs and moldings, and interior and exterior shutters and blinds.

Conducting an indepth survey of the condition of existing windows from the restoration period early in the planning process so that repair and upgrading methods and possible replacement options can be fully explored.

*Protecting and maintaining* the wood and architectural metals from the restoration period which comprise the window frame, sash, muntins, and surrounds through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.

Making windows weathertight by re-caulking, and replacing or installing weatherstripping. These actions also improve thermal efficiency.

Evaluating the existing condition of materials to determine whether more than protection and maintenance are required, i.e. if repairs to windows and window features will be required.

**Not Recommended**

Altering windows or window features from the restoration period.

Failing to properly document window features from the restoration period which may result in their loss.

Applying paint or other coatings to window features or removing them if such treatments cannot be documented to the restoration period.

Changing the type or color of protective surface coatings on window features unless the work can be substantiated by historical documentation.

Stripping windows of sound material such as wood, cast iron, and bronze.

Replacing windows from the restoration period solely because of peeling paint, broken glass, stuck sash, and high air infiltration. These conditions, in themselves, are no indication that windows are beyond repair.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of the window results.

Retrofitting or replacing windows from the restoration period rather than maintaining the sash, frame, and glazing.

Failing to undertake adequate measures to assure the protection of window materials from the restoration period.
**Recommended**

Reparing window frames and sash from the restoration period by patching, splicing, consolidating or otherwise reinforcing. Such repair may also include replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts when there are surviving prototypes such as architraves, hoodmolds, sash, sills, and interior or exterior shutters and blinds. The new work should be unobtrusively dated to guide future research and treatment.

Replacing in kind a window feature from the restoration period that is too deteriorated to repair using the same sash and pane configuration and other design details. If using the same kind of material is not technically or economically feasible when replacing windows deteriorated beyond repair, then a compatible substitute material may be considered. The new work should be unobtrusively dated to guide future research and treatment.

**Not Recommended**

Replacing an entire window from the restoration period when repair of materials and limited replacement of deteriorated or missing parts are appropriate.

Failing to reuse serviceable window hardware such as brass sash lifts and sash locks.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the window or that is physically or chemically incompatible.

Removing a window feature from the restoration period that is unrepairable and not replacing it; or failing to document the new work.
The following **Restoration** work is highlighted to indicate that it involves the removal or alteration of existing historic windows and window features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing window features from the restoration period using all new materials.

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<tr>
<td>Removing or altering windows or window features from other historic periods, such as later single-pane glazing or inappropriate shutters.</td>
<td>Failing to remove a window feature from another period, thus confusing the depiction of the building's significance.</td>
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<td>Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.</td>
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<td>Re-creating a missing window or window feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a hoodmold or shutter.</td>
<td>Constructing a window feature that was part of the original design for the building, but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but for which there is insufficient documentation.</td>
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Building Exterior
Entrances and Porches

Recommended

Identifying, retaining, and preserving entrances and porches from the restoration period—and their functional and decorative features—such as doors, fanlights, sidelights, pilasters, entablatures, columns, balustrades, and stairs.

Protecting and maintaining the masonry, wood, and architectural metals that comprise restoration period entrances and porches through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.

Evaluating the existing condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to entrance and porch features will be necessary.

Not Recommended

Altering entrances and porch features from the restoration period.

Failing to properly document entrance and porch features from the restoration period which may result in their loss.

Applying paint or other coatings to entrance and porch features or removing them if such treatments cannot be documented to the restoration period.

Changing the type or color of protective surface coatings on entrance and porch features unless the work can be substantiated by historical documentation.

Stripping entrances and porches of sound material such as wood, iron, cast iron, terra cotta, tile and brick.

Failing to provide adequate protection to materials on a cyclical basis so that deterioration of entrances and porches results.

Failing to undertake adequate measures to assure the protection of historic entrances and porches from the restoration period.
Recommended

Repairing entrances and porches from the restoration period by reinforcing the historic materials. Repairs will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of repeated features where there are surviving prototypes such as balustrades, cornices, entablatures, columns, sidelights, and stairs. The new work should be unobtrusively dated to guide future research and treatment.

Replacing in kind an entire entrance or porch from the restoration period that is too deteriorated to repair—if the form and detailing are still evident—using the physical evidence as a model to reproduce the feature. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work should be unobtrusively dated to guide future research and treatment.

Not Recommended

Replacing an entire entrance or porch feature from the restoration period when the repair of materials and limited replacement of parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the entrance and porch or that is physically or chemically incompatible.

Removing an entrance or porch feature from the restoration period that is unrepairable and not replacing it; or failing to document the new work.

Portions of the small porch on an Italianate mansion were carefully numbered prior to Restoration. Some original elements were restored in place, while others had to be removed for repair, then reinstalled. Any element too deteriorated to save was replaced with a new one replicated to match the original design. Photo: Morgan W. Phillips.
The following Restoration work is highlighted to indicate that it involves the removal or alteration of existing historic entrance and porch features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing entrance and porch features from the restoration period using all new materials.

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<td>the restoration period based on physical or documentary evidence; for example,</td>
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<td>duplicating a fanlight or porch column.</td>
<td>which was thought to have existed during the restoration period, but for which</td>
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<td>there is insufficient documentation.</td>
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Building Exterior

Storefronts

Recommended

Identifying, retaining, and preserving storefronts from the restoration period—and their functional and decorative features—such as display windows, signs, doors, transoms, kick plates, corner posts, and entablatures.

Protecting and maintaining masonry, wood, and architectural metals which comprise restoration period storefronts through appropriate treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems.

Protecting storefronts against arson and vandalism before restoration work begins by boarding up windows and installing alarm systems that are keyed into local protection agencies.

Evaluating the existing condition of storefront materials to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

Not Recommended

Altering storefronts—and their features—from the restoration period.

Failing to properly document storefront features from the restoration period which may result in their loss.

Applying paint or other coatings to storefront features or removing them if such treatments cannot be documented to the restoration period.

Changing the type or color of protective surface coatings on storefront features unless the work can be substantiated by historical documentation.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of storefront features results.

Permitting entry into the building through unsecured or broken windows and doors so that interior features and finishes are damaged by exposure to weather or vandalism.

Stripping storefronts of historic material from the restoration period such as wood, cast iron, terra cotta, carrara glass, and brick.

Failing to undertake adequate measures to assure the protection of storefront materials from the restoration period.
**Recommended**

*Repairing* storefronts from the restoration period by reinforcing the historic materials. Repairs will also generally include the limited replacement in kind—or with compatible substitute materials—of those extensively deteriorated or missing parts of storefronts where there are surviving prototypes such as transoms, kick plates, pilasters, or signs. The new work should be unobtrusively dated to guide future research and treatment.

*Replacing* in kind a storefront from the restoration period that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model. If using the same material is not technically or economically feasible, then compatible substitute materials may be considered. The new work should be unobtrusively dated to guide future research and treatment.

The following *Restoration* work is highlighted to indicate that it involves the removal or alteration of existing historic storefront features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing storefront features from the restoration period using all new materials.

**Not Recommended**

Replacing an entire storefront feature from the restoration period when repair of materials and limited replacement of its parts are appropriate.

Using substitute material for the replacement part that does not convey the same visual appearance as the surviving parts of the storefront or that is physically or chemically incompatible.

Removing a storefront feature from the restoration period that is unrepairable, and not replacing it; or failing to document the new work.

**Recommended**

**Removing Existing Features from Other Historic Periods**

Removing or altering storefronts and their features from other historic periods such as inappropriate cladding or signage.

Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.

**Re-creating Missing Features from the Restoration Period**

Re-creating a missing storefront or storefront feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a display window or transom.

**Not Recommended**

Failing to remove a storefront feature from another period, thus confusing the depiction of the building’s significance.

Failing to document storefront features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.

Constructing a storefront feature that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but for which there is insufficient documentation.
Building Interior
Structural Systems

Recommended

Identifying, retaining, and preserving structural systems from the restoration period—and individual features of systems—such as post and beam systems, trusses, summer beams, vigas, cast iron columns, above-grade stone foundation walls, or loadbearing brick or stone walls.

Protecting and maintaining the structural system by cleaning the roof gutters and downspouts; replacing roof flashing; keeping masonry, wood, and architectural metals in a sound condition; and ensuring that structural members are free from insect infestation.

Examining and evaluating the physical condition of the structural system and its individual features using non-destructive techniques such as X-ray photography.

Repairing the structural system by augmenting or upgrading individual parts or features in a manner that is consistent with the restoration period. For example, weakened structural members such as floor framing can be paired with a new member, braced, or otherwise supplemented and reinforced. The new work should be unobtrusively dated to guide future research and treatment.

Not Recommended

Altering visible features of structural systems from the restoration period.

Failing to properly document structural systems from the restoration period which may result in their loss.

Overloading the existing structural system; or installing equipment or mechanical systems which could damage the structure.

Replacing a loadbearing masonry wall that could be augmented and retained.

Leaving known structural problems untreated such as deflection of beams, cracking and bowing of walls, or racking of structural members.

Failing to provide proper building maintenance so that deterioration of the structural system results. Causes of deterioration include subsurface ground movement, vegetation growing too close to foundation walls, improper grading, fungal rot, and poor interior ventilation that results in condensation.

Utilizing destructive probing techniques that will damage or destroy structural material.

Upgrading the building structurally in a manner that diminishes the historic character of the exterior, such as installing strapping channels or removing a decorative cornice; or that damages interior features or spaces.

Replacing a structural member or other feature of the structural system when it could be augmented and retained.
**Recommended**

**Replacing** in kind—or with substitute material—those portions or features of the structural system that are either extensively deteriorated or are missing when there are surviving prototypes such as cast iron columns, roof rafters or trusses, or sections of loadbearing walls. Substitute material should convey the same form, design, and overall visual appearance as the historic feature; and, at a minimum, be equal to its loadbearing capabilities. The new work should be unobtrusively dated to guide future research and treatment.

*The following Restoration work is highlighted to indicate that it involves the removal or alteration of existing historic structural systems and features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing structural system features from the restoration period using all new materials.*

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<td>Removing or altering visually intrusive structural features from other historic periods such as a non-matching column or exposed ceiling beams.</td>
<td>Failing to document structural features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.</td>
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| **Re-creating Missing Features from the Restoration Period** | **Failing to remove or alter a visually intrusive structural feature from another period, thus confusing the depiction of the building’s significance.** |
| Re-creating a missing structural feature that existed during the restoration period based on physical or documentary evidence; for example, duplicating a viga or cast iron column. | Failing to document structural features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost. |

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Building Interior
Spaces, Features, and Finishes

Recommended

Interior Spaces

Identifying, retaining, and preserving a floor plan or interior spaces from the restoration period. This includes the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves, such as lobbies, reception halls, entrance halls, double parlors, theaters, auditoriums, and important industrial or commercial spaces.

Interior Features and Finishes

Identifying, retaining, and preserving interior features and finishes from the restoration period. These include columns, cornices, baseboards, fireplaces and mantels, panelling, light fixtures, hardware, and flooring; and wallpaper, plaster, paint, and finishes such as stencilling, marbling, and graining; and other decorative materials that accent interior features and provide color, texture, and patterning to walls, floors, and ceilings.

Protecting and maintaining masonry, wood, and architectural metals that comprise restoration period interior features through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coating systems.

Not Recommended

Altering a floor plan or interior spaces—including individual rooms—from the restoration period.

Altering features or finishes from the restoration period.

Failing to properly document spaces, features, and finishes from the restoration period which may result in their loss.

Applying paint, plaster, or other finishes to surfaces unless the work can be substantiated historical documentation.

Stripping paint to bare wood rather than repairing or reapplying grained or marbled finishes from the restoration period to features such as doors and panelling.

Changing the type of finish or its color, such as painting a previously varnished wood feature, unless the work can be substantiated by historical documentation.

Failing to provide adequate protection to materials on a cyclical basis so that deterioration of interior features results.
**Building Interior Spaces, Features, and Finishes**

**Restoration**

**Recommended**

Protecting interior spaces, features and finishes against arson and vandalism before project work begins, erecting protective fencing, boarding-up windows, and installing fire alarm systems that are keyed to local protection agencies.

Protecting interior features such as a staircase, mantel, or decorative finishes and wall coverings against damage during project work by covering them with heavy canvas or plastic sheets.

Installing protective coverings in areas of heavy pedestrian traffic to protect historic features such as wall coverings, parquet flooring and panelling.

Removing damaged or deteriorated paints and finishes to the next sound layer using the gentlest method possible, then repainting or refinishing using compatible paint or other coating systems based on historical documentation.

Repainting with colors that are documented to the building's restoration period.

Limiting abrasive cleaning methods to certain industrial warehouse buildings where the interior masonry or plaster features do not have distinguishing design, detailing, tooling, or finishes; and where wood features are not finished, molded, beaded, or worked by hand. Abrasive cleaning should only be considered after other, gentler methods have been proven ineffective.

Evaluating the existing condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to interior features and finishes will be necessary.

**Not Recommended**

Permitting entry into historic buildings through unsecured or broken windows and doors so that the interior features and finishes are damaged by exposure to weather or vandalism.

Stripping interiors of restoration period features such as woodwork, doors, windows, light fixtures, copper piping, radiators; or of decorative materials.

Failing to provide proper protection of interior features and finishes during work so that they are gouged, scratched, dented, or otherwise damaged.

Failing to take new use patterns into consideration so that interior features and finishes are damaged.

Using destructive methods such as propane or butane torches or sandblasting to remove paint or other coatings. These methods can irreversibly damage the historic materials that comprise interior features.

Using new paint colors that are inappropriate to the building's restoration period.

Changing the texture and patina of features from the restoration period through sandblasting or use of abrasive methods to remove paint, discoloration or plaster. This includes both exposed wood (including structural members) and masonry.

Failing to undertake adequate measures to assure the protection of interior features and finishes.
**Recommended**

**Repairing** interior features and finishes from the restoration period by reinforcing the historic materials. Repair will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of repeated features when there are surviving prototypes such as stairs, balustrades, wood panelling, columns; or decorative wall coverings or ornamental tin or plaster ceilings. The new work should be unobtrusively dated to guide future research and treatment.

**Replacing** in kind an entire interior feature or finish from the restoration period that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence as a model for reproduction. Examples could include wainscoting, a tin ceiling, or interior stairs. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work should be unobtrusively dated to guide future research and treatment.

**Not Recommended**

Replacing an interior feature from the restoration period such as a staircase, panelled wall, parquet floor, or cornice; or finish such as a decorative wall covering or ceiling when repair of materials and limited replacement of such parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts or portions of the interior feature or finish or that is physically or chemically incompatible.

Removing a feature or finish from the restoration period that is unrepairable and not replacing it; or failing to document the new work.

A complete paint investigation often needs to be conducted during Restoration. Paint samples are carefully collected onsite. In the laboratory, an ultra violet light is used to identify pigment and binding media. Paint samples are then photographed. Physical evidence documented through laboratory research provides a sound basis for an accurate restoration of painted finishes, such as the complex stencilling pictured here. Photo left: Courtesy, Alexis Elza; Photo right: Courtesy, Andrea Gilmore.
The following **Restoration** work is highlighted to indicate that it involves the removal or alteration of existing historic interior spaces, features, and finishes that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing interior spaces, features, and finishes from the restoration period using all new materials.

<table>
<thead>
<tr>
<th><strong>Recommended</strong></th>
<th><strong>Not Recommended</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Removing Existing Features from Other Historic Periods</strong></td>
<td>Failing to remove or alter an interior space, feature, or finish from another period, thus confusing the depiction of the building’s significance.</td>
</tr>
<tr>
<td>Removing or altering interior spaces, features and finishes from other historic periods such as a later suspended ceiling or wood panelling.</td>
<td>Failing to document interior spaces, features, and finishes from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.</td>
</tr>
<tr>
<td>Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.</td>
<td>Constructing an interior space, feature, or finish that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but for which there is insufficient documentation.</td>
</tr>
<tr>
<td><strong>Re-creating Missing Features from the Restoration Period</strong></td>
<td></td>
</tr>
<tr>
<td>Re-creating an interior space, or a missing feature or finish from the restoration period based on physical or documentary evidence; for example, duplicating a marbleized mantel or a staircase.</td>
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</tr>
</tbody>
</table>

*The missing plaster cornice was restored as part of an overall project to return a residence to its original appearance. The traditional method of producing a cornice is unchanged today.*
*Photo: Old-House Journal.*
Building Interior

Mechanical Systems: Heating, Air Conditioning, Electrical, and Plumbing

**Recommended**

*Identifying, retaining, and preserving* visible features of mechanical systems from the restoration period such as radiators, vents, fans, grilles, plumbing fixtures, switchplates, and lights.

*Protecting and maintaining* mechanical, plumbing, and electrical systems and their features from the restoration period through cyclical cleaning and other appropriate measures.

Preventing accelerated deterioration of mechanical systems by providing adequate ventilation of attics, crawlspace, and cellars so that moisture problems are avoided.

Improving the energy efficiency of existing mechanical systems to help reduce the need for elaborate new equipment.

*Repairing* mechanical systems from the restoration period by augmenting or upgrading system parts, such as installing new pipes and ducts; rewiring; or adding new compressors or boilers.

*Replacing* in kind—or with compatible substitute material—those visible features of restoration period mechanical systems that are either extensively deteriorated or are prototypes such as ceiling fans, switchplates, radiators, grilles, or plumbing fixtures.

Installing a new mechanical system, if required, in a way that results in the least alteration possible to the building.

**Not Recommended**

Altering visible decorative features of mechanical systems from the restoration period.

Failing to properly document mechanical systems and their visible decorative features from the restoration period which may result in their loss.

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of mechanical systems and their visible features results.

Enclosing mechanical systems in areas that are not adequately ventilated so that deterioration of the systems results.

Installing unnecessary air conditioning or climate control systems which can add excessive moisture to the building. This additional moisture can either condense inside, damaging interior surfaces, or pass through interior walls to the exterior, potentially damaging adjacent materials as it migrates.

Replacing a mechanical system from the restoration period or its functional parts when it could be upgraded and retained.

Installing a visible replacement feature that does not convey the same visual appearance.

Installing a new mechanical system so that structural or interior features from the restoration period are altered.
Restoration

**Recommended**

Providing adequate structural support for new mechanical equipment.

Installing the vertical runs of ducts, pipes, and cables in closets, service rooms, and wall cavities.

Installing air conditioning units in such a manner that features are not damaged or obscured and excessive moisture is not generated that will accelerate deterioration of historic materials.

**Not Recommended**

Failing to consider the weight and design of new mechanical equipment so that, as a result, historic structural members or finished surfaces are weakened or cracked.

Installing vertical runs of ducts, pipes, and cables in places where they will obscure features from the restoration period.

Concealing mechanical equipment in walls or ceilings in a manner that requires the removal of building material from the restoration period.

Cutting through features such as masonry walls in order to install air conditioning units.

The following Restoration work is highlighted to indicate that it involves the removal or alteration of existing historic mechanical systems and features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing mechanical systems and features from the restoration period using all new materials.

**Recommended**

**Removing Existing Features from Other Historic Periods**

Removing or altering mechanical systems and features from other historic periods such as a later elevator or plumbing fixture.

Documenting materials and features dating from other periods prior to their alteration or removal. If possible, selected examples of these features or materials should be stored to facilitate future research.

**Re-creating Missing Features from the Restoration Period**

Re-creating a missing feature of the mechanical system that existed during the restoration period based on physical or documentary evidence; for example, duplicating a heating vent or gaslight fixture.

**Not Recommended**

Failing to remove a mechanical system or feature from another period, thus confusing the depiction of the building’s significance.

Failing to document mechanical systems and features from other historic periods that are removed from the building so that a valuable portion of the historic record is lost.

Constructing a mechanical system or feature that was part of the original design for the building but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but for which there is insufficient documentation.
Building Site

Recommended

Identifying, retaining, and preserving restoration period buildings and their features as well as features of the site. Site features may include circulation systems such as walks, paths, roads, or parking; vegetation such as trees, shrubs, fields, or herbaceous plant material; landforms such as terracing, berms or grading; furnishings such as lights, fences, or benches; decorative elements such as sculpture, statuary or monuments; water features including fountains, streams, pools, or lakes; and subsurface archeological features which are important in defining the restoration period.

Not Recommended

Altering buildings and their features or site features from the restoration period.

Failing to properly document building and site features from the restoration period which may result in their loss.

This ca. 1900 photograph (left) would be invaluable to guide restoration of the deteriorated house (right) to its documented earlier appearance, complete with decorative trim, shutters, polychromed exterior, and fencing. Photos: Courtesy, North Carolina Department of Archives and History.
**Recommended**

Re-establishing the relationship between buildings and the landscape that existed during the restoration period.

**Protecting and maintaining** buildings and the site by providing proper drainage to assure that water does not erode foundation walls; drain toward the building; or damage or erode the landscape.

Minimizing disturbance of terrain around buildings or elsewhere on the site, thus reducing the possibility of destroying or damaging important landscape features or archeological resources.

Surveying and documenting areas where the terrain will be altered during restoration work to determine the potential impact to landscape features or archeological resources.

Protecting, e.g., preserving in place, important archeological resources.

Planning and carrying out any necessary investigation using professional archeologists and modern archeological methods when preservation in place is not feasible.

Preserving important landscape features from the restoration period, including ongoing maintenance of historic plant material.

Protecting building and landscape features against arson and vandalism before restoration work begins, i.e., erecting protective fencing and installing alarm systems that are keyed into local protection agencies.

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**Not Recommended**

Retaining non-restoration period buildings or landscape features.

Failing to maintain adequate site drainage so that buildings and site features are damaged or destroyed; or alternatively, changing the site grading so that water no longer drains properly.

Introducing heavy machinery into areas where it may disturb or damage important landscape features or archeological resources.

Failing to survey the building site prior to beginning restoration work which results in damage to, or destruction of, landscape features or archeological resources.

Leaving known archeological material unprotected so that it is damaged during restoration work.

Permitting unqualified personnel to perform data recovery on archeological resources so that improper methodology results in the loss of important archeological material.

Allowing restoration period landscape features to be lost or damaged due to a lack of maintenance.

Permitting the property to remain unprotected so that the building and landscape features or archeological resources are damaged or destroyed.

Removing restoration period features from the building or site such as wood siding, iron fencing, masonry balustrades, or plant material.
**Recommended**

Providing continued protection of building materials and plant features from the restoration period through appropriate cleaning, rust removal, limited paint removal, and re-application of protective coating systems; and pruning and vegetation management.

Evaluating the existing condition of materials and features to determine whether more than protection and maintenance are required, that is, if repairs to building and site features will be necessary.

**Repairing** restoration period features of the building and site by reinforcing historic materials. The new work should be unobtrusively dated to guide future research and treatment.

**Replacing** in kind an entire restoration period feature of the building or site that is too deteriorated to repair if the overall form and detailing are still evident. Physical evidence from the deteriorated feature should be used as a model to guide the new work. This could include an entrance or porch, walkway, or fountain. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work should be unobtrusively dated to guide future research and treatment.

Replacing deteriorated or damaged landscape features of the restoration period in kind or with compatible substitute material. The replacement feature should be based on physical evidence and convey the same appearance.

**Not Recommended**

Failing to provide adequate protection of materials on a cyclical basis so that deterioration of building and site features results.

Failing to undertake adequate measures to assure the protection of building and site features.

Replacing an entire restoration period feature of the building or site such as a fence, walkway, or driveway when repair of materials and limited compatible replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the building or site feature or that is physically or chemically incompatible.

Removing a restoration period feature of the building or site that is unrepairable and not replacing it; or failing to document the new work.

Adding conjectural landscape features to the site such as period reproduction lamps, fences, fountains, or vegetation that are historically inappropriate, thus creating an inaccurate depiction of the restoration period.
The following Restoration work is highlighted to indicate that it involves the removal or alteration of existing historic building site features that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing building site features from the restoration period using all new materials.

<table>
<thead>
<tr>
<th>Recommended</th>
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<tbody>
<tr>
<td><strong>Removing Existing Features from Other Historic Periods</strong></td>
<td></td>
</tr>
<tr>
<td>Removing or altering features of the building or site from other historic periods such as a later outbuilding, paved road, or overgrown tree.</td>
<td>Failing to remove a feature of the building or site from another period, thus creating an inaccurate historic appearance.</td>
</tr>
<tr>
<td>Documenting features of the building or site from other periods prior to their alteration or removal.</td>
<td>Failing to document features of the building or site from other historic periods that are removed during restoration so that a valuable portion of the historic record is lost.</td>
</tr>
<tr>
<td><strong>Re-creating Missing Features from the Restoration Period</strong></td>
<td></td>
</tr>
<tr>
<td>Re-creating a missing feature of the building or site that existed during the restoration period based on physical or documentary evidence; for example, duplicating a terrace, gazebo, or fencing.</td>
<td>Constructing a feature of the building or site that was part of the original design, but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but for which there is insufficient documentation.</td>
</tr>
</tbody>
</table>
Setting (District/Neighborhood)

**Recommended**

*Identifying retaining, and preserving* restoration period building and landscape features of the setting. Such features can include roads and streets, furnishings such as lights or benches, vegetation, gardens and yards, adjacent open space such as fields, parks, commons or woodlands, and important views or visual relationships.

Re-establishing the relationship between buildings and landscape features of the setting that existed during the restoration period.

*Protecting and maintaining* building materials and plant features from the restoration period through appropriate cleaning, rust removal, limited paint removal, and reapplication of protective coating systems; and pruning and vegetation management.

Protecting buildings and landscape features against arson and vandalism before restoration work begins by erecting protective fencing and installing alarm systems that are keyed into local protection agencies.

Evaluating the existing condition of the building and landscape features to determine whether more than protection and maintenance are required, that is, if repairs to features will be necessary.

*Repairing* restoration period features of the building and landscape by reinforcing the historic materials. Repair will generally include the replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of features where there are surviving prototypes such as porch balustrades or paving materials. The new work should be unobtrusively dated to guide future research and treatment.

**Not Recommended**

Altering features of the setting that can be documented to the restoration period.

Failing to properly document restoration period building and landscape features, which may result in their loss.

Retaining non-restoration period buildings or landscape features.

Failing to provide adequate protection of materials on a cyclical basis which results in the deterioration of building and landscape features.

Permitting the building and setting to remain unprotected so that interior or exterior features are damaged.

Stripping or removing features from buildings or the setting such as wood siding, iron fencing, terra cotta balusters, or plant material.

Failing to undertake adequate measures to assure the protection of building and landscape features.

Replacing an entire restoration period feature of the building or landscape setting when repair of materials and limited replacement of deteriorated or missing parts are appropriate.

Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the building or landscape, or that is physically, chemically, or ecologically incompatible.
Restoration

**Recommended**

*Replacing* in kind an entire restoration period feature of the building or landscape that is too deteriorated to repair—when the overall form and detailing are still evident—using the physical evidence as a model to guide the new work. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered. The new work should be unobtrusively dated to guide future research and treatment.

*The following Restoration work is highlighted to indicate that it involves the removal or alteration of existing features of the historic setting that would be retained in Preservation and Rehabilitation treatments; and the replacement of missing features from the restoration period using all new materials.*

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Removing Existing Features from Other Historic Periods</strong></td>
<td></td>
</tr>
<tr>
<td>Removing or altering features of the building or landscape from other historic periods, such as a later road, sidewalk, or fence.</td>
<td>Failing to remove a feature of the building or landscape from another period, thus creating an inaccurate historic appearance.</td>
</tr>
<tr>
<td>Documenting features of the building or landscape dating from other periods prior to their alteration or removal.</td>
<td>Failing to document features of the building or landscape from other historic periods that are removed from the setting so that a valuable portion of the historic record is lost.</td>
</tr>
<tr>
<td><strong>Re-creating Missing Features from the Restoration Period</strong></td>
<td></td>
</tr>
<tr>
<td>Re-creating a missing feature of the building or landscape in the setting that existed during the restoration period based on physical or documentary evidence; for example, duplicating a path or park bench.</td>
<td>Constructing a feature of the building or landscape that was part of the original design for the setting but was never actually built; or constructing a feature which was thought to have existed during the restoration period, but for which there is insufficient documentation.</td>
</tr>
</tbody>
</table>

Removing a restoration period feature of the building or landscape that is unrepairable and not replacing it; or failing to document the new work.
The Bronson-Mulholland House in Palatka, Florida, ca. 1845, is shown (a) before and (b) after the treatment, Restoration. Over the years the east (far right) side of the veranda had been filled in as a sixth bay. During the restoration, this later infill was removed and the east veranda, together with its flooring, stairs, and foundation, restored. Photo: City of Palatka, Community Development Department.
Although the work in the following sections is quite often an important aspect of restoration projects, it is usually not part of the overall process of preserving features from the restoration period (protection, stabilization, conservation, repair, and replacement); rather, such work is assessed for its potential negative impact on the building’s historic appearance. For this reason, particular care must be taken not to obscure, alter, or damage features from the restoration period in the process of undertaking work to meet code and ener-

**Energy Efficiency**

*Recommended*

**Masonry/Wood/Architectural Metals**

Installing thermal insulation in attics and in unheated cellars and crawlspaces to increase the efficiency of the existing mechanical systems.

Installing insulating material on the inside of masonry walls to increase energy efficiency where there is no interior molding around the windows or other interior architectural detailing from the restoration period.

**Windows**

Utilizing the inherent energy conserving features of a building by maintaining windows and louvered blinds from the restoration period in good operable condition for natural ventilation.

Improving thermal efficiency with weatherstripping, storm windows, caulking, interior shades, and if historically appropriate, blinds and awnings.

Installing interior storm windows with air-tight gaskets, ventilating holes, and/or removable clips to ensure proper maintenance and to avoid condensation damage to historic windows.

Installing exterior storm windows which do not damage or obscure the windows and frames.

*Not Recommended*

Applying thermal insulation with a high moisture content in wall cavities which may damage historic fabric.

Installing wall insulation without considering its effect on interior or other architectural detailing.

Using shading devices that are inappropriate to the restoration period.

Replacing multi-paned sash from the restoration period with new thermal sash utilizing false muntins.

Installing interior storm windows that allow moisture to accumulate and damage the window.

Installing new exterior storm windows which are inappropriate in size or color.

Replacing windows or transoms from the restoration period with fixed thermal glazing or permitting windows and transoms to remain inoperative rather than utilizing them for their energy conserving potential.
<table>
<thead>
<tr>
<th><strong>Recommended</strong></th>
<th><strong>Not Recommended</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entrances and Porches</strong></td>
<td>Changing porches significant to the restoration period by enclosing them.</td>
</tr>
<tr>
<td>Maintaining porches and double vestibule entrances from the restoration period so that they can retain heat or block the sun and provide natural ventilation.</td>
<td></td>
</tr>
<tr>
<td><strong>Interior Features</strong></td>
<td>Removing interior features from the restoration period that play a secondary energy conserving role.</td>
</tr>
<tr>
<td>Retaining interior shutters and transoms from the restoration period for their inherent energy conserving features.</td>
<td></td>
</tr>
<tr>
<td><strong>Mechanical Systems</strong></td>
<td>Replacing existing mechanical systems that could be repaired for continued use.</td>
</tr>
<tr>
<td>Improving energy efficiency of existing mechanical systems by installing insulation in attics and basements.</td>
<td></td>
</tr>
<tr>
<td><strong>Building Site</strong></td>
<td>Removing plant materials, trees, and landscape features from the restoration period that perform passive solar energy functions.</td>
</tr>
<tr>
<td>Retaining plant materials, trees, and landscape features which perform passive solar energy functions, such as sun shading and wind breaks, if appropriate to the restoration period.</td>
<td></td>
</tr>
<tr>
<td><strong>Setting (District/Neighborhood)</strong></td>
<td>Stripping the setting of landscape features and landforms from the restoration period so that effects of the wind, rain, and sun result in accelerated deterioration of the historic building.</td>
</tr>
<tr>
<td>Maintaining those existing landscape features which moderate the effects of the climate on the setting such as deciduous trees, evergreen wind-blocks, and lakes or ponds, if appropriate to the restoration period.</td>
<td></td>
</tr>
</tbody>
</table>
Accessibility Considerations

**Recommended**

Identifying spaces, features, and finishes from the restoration period so that accessibility code-required work will not result in their damage or loss.

Complying with barrier-free access requirements in such a manner that spaces, features, and finishes from the restoration period are preserved.

Working with local disability groups, access specialists, and historic preservation specialists to determine the most appropriate solution to access problems.

Providing barrier-free access that promotes independence for to the highest degree practicable, while preserving significant historic features.

Finding solutions to meet accessibility requirements that minimize the impact on the historic building and its site, such as compatible ramps, paths, and lifts.

**Not Recommended**

Undertaking code-required alterations before identifying those spaces, features, or finishes from the restoration period which must be preserved.

Altering, damaging, or destroying features from the restoration period in attempting to comply with accessibility requirements.

Making changes to buildings without first seeking expert advice from access specialists and historic preservationists to determine solutions.

Making access modifications that do not provide a reasonable balance between independent, safe access and preservation of historic features.

Making modifications for accessibility without considering the impact on the historic building and its site.
Health and Safety Considerations

**Recommended**

Identifying spaces, features, and finishes from the restoration period so that code-required work will not result in their damage or loss.

Complying with health and safety codes, including seismic code requirements, in such a manner that spaces, features, and finishes from the restoration period are preserved.

Removing toxic building materials only after thorough testing has been conducted and only after less invasive abatement methods have been shown to be inadequate.

Providing workers with appropriate personal protective equipment for hazards found at the worksite.

Working with local code officials to investigate systems, methods, or devices of equivalent or superior effectiveness and safety to those prescribed by code so that unnecessary alterations can be avoided.

Upgrading historic stairways and elevators from the restoration period to meet health and safety codes in a manner that assures their preservation, i.e., so that they are not damaged or obscured.

Installing sensitively designed fire suppression systems, such as sprinkler systems, that result in retention of features and finishes from the restoration period.

Applying fire-retardant coatings, such as intumescent paints, which expand during fire to add thermal protection to steel.

Adding a new stairway or elevator to meet health and safety codes in a manner that preserves adjacent features and spaces from the restoration period.

**Not Recommended**

Undertaking code-required alterations to a building or site before identifying those spaces, features, or finishes from the restoration period which must be preserved.

Altering, damaging, or destroying spaces, features, and finishes while making modifications to a building or site to comply with safety codes.

Destroying interior features and finishes from the restoration period without careful testing and without considering less invasive abatement methods.

Removing unhealthful building materials without regard to personal and environmental safety.

Making changes to historic buildings without first exploring equivalent health and safety systems, methods, or devices that may be less damaging to spaces, features, and finishes from the restoration period.

Damaging or obscuring stairways and elevators or altering adjacent spaces from the restoration period in the process of doing work to meet code requirements.

Covering wood features from the restoration period with fire-resistant sheathing which results in altering their visual appearance.

Using fire-retardant coatings if they damage or obscure features from the restoration period.

Altering the appearance of spaces, features, or finishes from the restoration period when adding a new code-required stairway or elevator.
Appendix D

Glossary of Architectural Terms

The following is a listing of commonly used architectural terms. Project applicants should utilize this glossary to familiarize themselves with the common terms used when describing architectural styles, features and techniques.

**Accent Colors** – the accent color is used to highlight small details on window hoods, cornices, columns, and bulkheads.

**Adobe** – sun dried earth, generally with a straw binder, often shaped into bricks by hand or in forms, or used directly as a mortar or “plaster” finish.

**Anchor bolt** – any various rods or bolts embedded in masonry or concrete to hold, secure, or support a structural member.

**Arbor** – a shelter of shrubs and branches or of latticework intertwined with climbing vines and flowers.

**Arcade** – a covered porch supported by columns and joined by arches

**Arches** –
- **Basket** – an arch with a flat top like the shape of a basket handle.
- **Flat** – an arch with a flat, horizontal underside.
- **Pointed** – an arch ending in a central point.
- **Round** – half-circle arch.
- **Segmented** – an arch formed by only part of a circle.

**Arch head** – a round-arch top to a doorway or window.

**Archivolt molding** – trim, usually masonry, edging an arch; commonly found in Gothic and Romanesque design.

**Ashlar** – stone that has been cut and dressed with even edges. There may be a variety of surface finishes.

**Attic** – a room or space directly under the roof of a building, esp. a house.

**Balcony** – a platform cantilevered out from the facade of a building, surrounded by a handrail, and sometimes supported by brackets.
**Baltimore chimney** – a pair of chimneys at the end of a building which are joined together by a parapet wall; an element characteristic of Federal buildings.

**Baluster** – short posts or spindles supporting a handrail.

**Balustrade** – a short railing, often constructed around porches, with a horizontal handrail on top, and a row of individual vertical members (or balusters) below.

**Bank** – any group of architectural features, often used in reference to a row of windows.

**Bargeboard or vergeboard** – face board, often decorated, on the eaves edge of a gable roof.

**Battered** – a term used to describe a wall or pier that sloped gently inward as it rises.

**Bay** – the vertical division of a building facade.

**Belt course** – a wide horizontal band of stone or brick between the stories of a building. See string course.

**Blind** – an architectural opening attached to a wall (i.e., a window or arcade), which is decorative only and does not pierce the wall surface.

**Block** – part of a building that is definable as a separate section.

**Board and batten** – siding vertical wood siding in which two wide boards are laid side by side, the joint between them covered by a narrow wood strip.


**Boxed cornice** – the enclosure between the overhang of a roof, and the building facade.

![Boxed cornice with brackets](image)

**Brackets** – ornamental pieces placed under eaves, cornices, windowsills, etc., which appear to provide structural support.

![Example of brackets](image)

**Bulkheads** – the bulkhead is the solid portion at the base of the storefront that frames and protects the store window above.

**Bullnose** – brick a brick that is rounded at one end.

**Buttress** – a short wall built perpendicular to the main outer wall of a building, supporting or appearing to support, the exterior wall.

**Cantilever** – a beam or bracket projecting from a wall or frame and stabilized by weight on its inner end.

**Capital** – the decorative top of a column or pilaster.

**Cartouche** – an oval ornamental panel.

**Casement** – a window hinged to swing outward.

![Example of casement window](image)

**Cavetto** – a large, concave, curved molding, often used in cornices.

**Chair rail molding** – a horizontal molding on an interior wall for preventing the backs of chairs from rubbing against and damaging the wall surface.

**Chamfer** – an angled cut along the edge of a post or beam.

**Chimney pot** – an extension of a chimney itself, usually decorated and commonly made of brick or terra-cotta, but sometimes of cast iron.
**Clapboards** – exterior covering of frame buildings in which overlapping boards are placed horizontally.

**Clerestory** – the side walls of the main part of a church, which extend above the roof of the side aisles, and which usually have many windows.

**Coffer** – a recessed panel in a flat or vaulted ceiling.

**Colonnade** – a row of columns and their entablatures, as in a covered walkway.

**Colonnette** – a short or small column, often used for a decorative purpose.

**Column** – a round pier with a base, shaft and capital, usually supporting a projecting porch roof.

**Compound arch** – narrow arches set one within the other to form a larger arch. Commonly found in church design.

**Console** – a large, ornamental bracket, usually of a scroll shape, most often used in cornices and at doors or windows. A *modillion* is small by comparison.

**Coping** – the top course of a wall.

**Corbel** – a projecting piece supporting a beam.

**Corbel table** – a line of corbelling, often forming arches, usually decorating the parapets of Romanesque Revival buildings.

**Corbelling** – small projections built out from a masonry wall, where each course extends out further than the one below. Most often corbelling in St. Louis occurs at the cornices of brick buildings.

**Corinthian order** – a classical order with a foliated capital, slender columns and ornate, delicate trim at the base of the cornice.

**Corner pilaster** – a pilaster at the corner of a building, one or more stories in height. Stories in height.

**Cornice** – the projecting finish at the top of a building or porch, between the eaves and the wall, usually decorated with moldings, dentils, and/or modillions; in the classical orders, it is the top piece of the entablature.
Course – a single horizontal line of masonry on a facade.

Cove – a large concave molding, usually found in a cornice.

Crawl space – an area in a building having a clearance less than human height, but accessible by crawling, esp. such a space below the first floor that is enclosed by foundation walls.

Crocket – decorative pieces in leaf shapes placed on the edge of exterior features of a building such as gables and pediments, found regularly in Gothic Revival architecture.

Cross gable – a gable placed at right angles to the main gable of a building, most often facing the front.

Crown – the top of an arch; also used to refer to the ornamental head of a door or window.

Crown molding – any ornamental molding terminating the top of a structure or decorative feature.

Cruciform – plan the design of a building, usually a church, shaped like a cross, with a long section or nave, intersected at right angles by a shorter section, called a transept.

Cupola – a small domed structure rising from a roof or tower.

Dentils – small, vertical pieces in a simple, rectangular pattern that are most often seen as part of Greek Revival or Classical ornament.

Diaper pattern – a diamond-shaped pattern of brick across a facade, usually seen in Jacobethan or Tudor Revival buildings.

Doric order – one of the three basic classic column, capital, and entablature compositions; it has no base, a fluted shaft, and a simple molded capital below the entablature. The principal variation is the Tuscan, which has a plain, unfluted column with a base.

Dormer – a projecting window from a sloped roof. The most common dormer type in St. Louis has a small gable roof. When the dormer is located in the same plane as the building wall, it is called a wall dormer.

- Shed dormer – a dormer having a shed roof.
- Gable dormer – a dormer having a gable roof.
- Internal dormer – a vertical window set below the line of a sloped roof.
- Eyebrow dormer – a low dormer having a roof that is upwardly curving continuation of the main roof plane.
**Double-hung window** – a window comprised of two sashes, sliding vertically with or without pulleys or weights.

**Double-loaded corridor** – the interior floor plan, usually found in office buildings, apartments and hotels before the 1960’s, in which rooms are entered off both sides of a hallway.

**Eaves** – the portion of a roof that overhangs the wall.

**Elevation** – an individual side of a building. See also facade.

**Enclosed stair** – a stair encased by walls, and accessed through a door. These narrow, usually winding stairs are most often found in older house types.

**Enframement** – heavy, decorative moldings around square window and door openings.

**Engaged column** – a half-circular column that projects from a wall.

**Entablature** – in the classical orders, the arrangement of moldings and ornament in the horizontal member joining the tops of column capitals, and comprising from top to bottom, cornice, frieze, and architrave.

**Eyebrow dormer** – a low, wide, sometimes curved-headed dormer window.

**Facade** – a face or elevation of a building, as in front façade, meaning the front face of a house.

**Fanlight** – an arched transom over a door, usually with radial muntins.
Flat-iron building – a building whose footprint or floorplan is roughly triangular, or in the shape of a “flat-iron.” Often constructed at the intersection of three streets.

Flats – a property type in which there are two or more dwelling units, each having its own front door and rear entry.

Flemish bond – a brick wall with a pattern of alternating headers and stretchers at each course. Often, some of the headers are burned or glazed black to form a decorative pattern on the facade.

Foliated – decorative designs shaped like leaves that adorn interior and exterior architectural elements.

Frame construction – a building supported structurally by wood members.

Frieze – a flat, horizontal band, that extends below a cornice or pediment. Found most often in Greek and Classical Revival designs.

Frieze window – small horizontal or oval window set into the frieze of a building.

Frontpiece – decorative composition enriching a doorway; it may include columns or pilasters, consoles, cornice, or pediment.

Gable – the triangular end of the exterior wall of a building with a gable roof. See also roofs.


**Gallery** – a long roofed porch. This term is derived from the French term gallerie, to describe a porch associated with French Colonial architecture, often built above the first story.

**Gambrel** – a roof form with two pitches to the roof, the lower one steeper than the one above.

**Gazebo** – a freestanding roofed structure, usually open on the sides, affording shade and rest in a garden or park.

**Gingerbread** – trim wood trim boards usually found at gables and porches with delicate curves and scrolls.

**Half-timber framing** – the use of wood pieces of varying length for either decorative or structural purposes. Most commonly in St. Louis, half-timbering is expressed on the exterior of houses in the Tudor Revival style.

**Head** – the top horizontal member of a window or door.

**Header** – the short side of a brick.

**Hierarchical** – the placement of similar designs on a building, such as windows, that become larger and more elaborate at each story of the building.

**Hip roof** – a gable roof sloping inward on all four sides.

**Honeycomb brick** – a brick pattern in which space is left between some of the bricks for decoration or ventilation.

**Hood** – the cover at the top of a window or door that extends out from a facade, usually ornamental.

**Impost** – the horizontal block at the end of an arch.

**Incised ornament** – delicate ornament scored into a facade found commonly around window openings on stone Second Empire facades.

**Ionic order** – a classical order characterized by scrolled capitals, and plain geometric trim.

**Jack arch** – a flat arch above a window or door opening composed of brick or stone members, in which dimension of the top is wider than that of the bottom. The center is marked by a decorative triangular keystone.

**Joist** – any series of small, parallel beams for supporting floors, ceilings, or flat roofs.

**Keystone** – the center member of an arch, often larger or decorated.
Label – a molding over doors and windows common in Gothic Revival designs, with a straight line over the window, and symmetrical lines extending vertically down on either side.

Lancet or pointed arch – the basic Gothic arch, with a pointed apex; its height is greater than its width. Variations include the equilateral arch, where the width is the same as the height, and the dropped arch, where the arch is wider than it is high.

Light – a pane of glass. See windows, multilight.

Light court – an open, narrow shaft constructed in high-rise buildings to provide light and ventilation. An interior light court is fully enclosed by the building; an exterior light court is open on one side to the street or alley.

Lintel – a horizontal architectural member above a door or window, often decorated, that provides structural support for the opening.

Loggias – a gallery open on one or more sides usually at the edge of a structure along a garden.

Mansard roof – A traditional French roof design with the lower roof pitch almost vertical, creating a full attic storey and with a low slope above. The attic slope may be straight, concave, or convex.

Merlon – found commonly in Gothic Revival architecture, the part of a battlement that projects upward.

Mezzanine – a low or partial story between two main stories of a building, esp. one that projects as a balcony and forms a composition with the story beneath.

Modillion – large, ornamental blocks placed below the overhang of a cornice.

Molded brick – brick that is shaped before being placed in the kiln, used for ornamental treatments, such as cornices and moldings.

Molding – architectural designs that are commonly used on interior and exterior wood pieces, such as baseboards, crown moldings, cornices and chair rails.

Motif – (pl.: motives) a main element or feature of a design.

Mouse hole – a narrow passage from the front of two or more attached buildings, allowing access to the rear yard.
**Mullion** – a vertical piece, usually wood, that separates grouped windows from each other.

![Example of a mullion](image)

**Muntins** – thin pieces of wood or steel used to hold the individual panes of glass in a window sash.

**Nogging** – infill, which may be of various materials, between structural wood timbers in vertical or horizontal log, and half-timber construction.

**Oriel** – a bay window supported from below by corbels or brackets.

**Palladian window** – a grouping of windows found commonly in Colonial, and Colonial Revival architecture, comprised of a large central window flanked by narrower windows, with a semi-circular window above. A detail devised by Italian architect Antonio Palladio in the Renaissance.

![Example of Palladian window](image)

**Parapet** – the part of a wall which extends above the roof line.

![Example of parapet and pier](image)
Pediment – an architectural element, usually found around doors and windows and above porches, that has a gable set upon an entablature, with the same decorative molding running along the gable sides.

Pendants – in Gothic Revival architecture, a decorative form hanging from above, as on the eaves or from an ornamental plaster ceiling.

Pergola – a structure of parallel colonnades supporting an open roof of beams and crossing rafters or trelliswork over which climbing plants are trained to grow.

Peristyle – a row of columns that surround a building or open space.

Pier – a solid masonry support; also refers to the mass between windows or other openings in tall buildings.

Pilaster – a flat, rectangular post, attached to the side of a building, and configured in the same manner as a column.

Pillow – capital a capital found commonly in Romanesque architecture that is square at the top, with a rounded base. Sometimes called a cushion capital.

Pinnacle – a small turret-like end on the top of spires, buttresses, etc.

Pitch – the slope of the roof.

Porch – an exterior appendage to a building, forming a covered approach or vestibule to a doorway.

Portal – a dense, heavy surround on a church entry, found most often in Gothic Revival architecture.

Porte-cochere – a vehicular passageway leading through a building or screen wall into an interior courtyard. A structure attached to a main building projecting over a driveway at the entrance to a building for the temporary sheltering and unloading of passengers. Also called carriage porch.

Portico – a featured entrance porch, usually in the form of the pedimented, columned portico of classical architecture. If the pedimented portico projects from the building it is prostyle; if it recedes it is in antes. If there are four columns it is tetrastyle; six, hexastyle; eight octastyle; to cite the most common types. Thus a building may have, for example, a tetrastyle prostyle portico.
Appendix D – Glossary of Architectural Terms

Example of a portico

Projecting bay – an architectural element consisting of a bay which extends forward from the main plane of a building facade. Quoins dressed stones, placed at the comers of a building, alternating in size.

Quatrefoil – in Gothic architecture, a four-lobed or cusped decorative figure formed within a circle; if there are three lobes, it is trefoil, etc.

Return – an architectural element, usually a molding, that extends from one exterior surface or plane to a different one; for example, the part of a front cornice which extends around to the side elevation is called a return.

Ridge – the peak of a gable roof.

Rim joist – a joist set on top of the sill and forming the perimeter of a wood-framed floor. Also called header.

Riser – the vertical face of a stair step.

Roofs

- Bellcast – a roof line that is curved out slightly as the roof meets the facade.
- Catslide – a roof type found commonly in Neo-Tudor Revival buildings that has a very steep slope; often one side is longer than the other.
- False mansard – a roof which has the steep pitch of a mansard on the front, but does not cover a third, or attic story.
- Gable – a roof with two slopes meeting at a center ridge. A front gable has its gable ends oriented to the front and rear facades; a side gable has its gable ends perpendicular to the front facade.
- Gambrel – a gable roof with a double slope on each side; sometimes called a "barn roof."
- Helm – the design of a roof with a steeple above a four sided base.
- Hipped – a roof with four sloping sides, meeting at a center ridge.
- Mansard – a roof composed of a steep section, topped by a nearly flat
section, and providing an additional attic story.

- **Pyramidal** – a hipped roof in which four equal roof slopes meet at a single point.
- **Truncated** – hip a hipped roof whose slopes meet at a flat surface, instead of a ridge.

**Rose window** – a circular window, usually seen in church architecture, often containing stained glass and tracery.

**Rough-cut masonry** – blocks dressed on the sides but left in an unfinished condition on the front.

**Roundel** – a small bull’s-eye or circular ornamental panel.

**Rubble stone** – stone which may have been slightly worked to shape but has basically an unfinished surface when laid.

**Run** – the horizontal distance between successive risers or between the first and last riser of a flight of steps.

**Rusticated stone** – masonry laid in large blocks with deep joints, usually on the basement or first story of a building.

**Sash door** – a door with a window or, if fully glazed, sometimes called a French door.

**Scroll-work** – architectural ornament in the shape of a scroll. Scroll-work is most often found on the capital of Ionic columns.

**Scupper** – an opening in the side of a building, as in a parapet, for draining off rainwater.

**Shaped parapet** – a decorative parapet projecting above a roofline, with a rectangular or curvilinear edge.

**Sheathing** – exterior covering of a building or roof.

**Sidelights** – one or more windows that are placed at the side of a door or window.

**Sill plate** – the lowest horizontal member of a frame structure, resting on and anchored to a foundation wall. Also called mudsill, sill.

**Spandrel** – a non-structural horizontal member, usually found in tall buildings, between the windows of each story.

**Spark arrester** – a device, consisting of wire netting or the like, used to stop or deflect sparks or embers thrown from an open fireplace or chimney.

**Spindle work** – decorative Victorian turned woodwork.

**Spirelet** – a small, narrow spire.
Stoop – a narrow, unroofed porch, commonly built of stone, brick or concrete.

Story – the space between any two floors of a building, as expressed on the exterior.

Stretcher – the long side of a brick.

String course – a narrow band of stone or brick that extends across the facade, between the stories of a building. See belt course.

Stucco – plaster work on the exterior of a building.

Surround – the ornament around window and door openings.

Terra cotta – form of masonry made from fine grained clay, that is often heated in a mold, and used for ornamental purposes.

Terrace – an open, often paved area connected to a house or building and serving as an outdoor living area.

Top plate – the uppermost horizontal member of a framed wall on which joists or rafters rest.

Tower – a narrow structure extending above the roof of a building.

Symmetrical – the identical placement of architectural elements on a building on either side of a central axis.

Temple front – the construction of a Greek Revival front facade, with a gable roof in the form of a pediment, and columns or pilasters.

Tracery intricate – delicate trim, often in stone, that is commonly found around porch roofs and gables in Gothic, and other forms of picturesque architecture.

Transept – the part of a cruciform church design at right angles to the main portion of the building, or the nave. Also refers to each wing on either side of the nave. Transepts usually contain secondary entrances or chapels.

Transom – a small, narrow window placed above a door or window.
Trefoil – found commonly in church architecture, three circular ornamental pieces grouped together in a triangular shape.

Trellis – a light framework of horizontal or vertical members, often used to support climbing plants.

Turned – shaping of posts or balusters with a lathe to create ornamental designs.

Turret – a slender tower with a conical roof popular in residential and commercial buildings from the 1860’s through the 1890’s.

Tuscan – order a classical order defined by its simplicity: without fluted columns, or elaborate capitals and with a simple cornice and frieze.

Tympanum – the triangular piece that forms the top of a pediment; also the triangular, or arched space above a church door, often highly decorated.

Variegated brick – brick on the facade of a building of generally the same color, with slight variations in value.

Veneer – the application of a finished material such as brick over other material, often used to give a richer exterior appearance; as in stone veneer on a brick building.

Veranda – an exterior, open porch, most often found on the first story of residential buildings. The term is synonymous and used interchangeably with porch and gallery.

Water table – a brick or stone course extending across the front facade of a building between the basement and first story.

Weatherboards or clapboards – board covering for exterior walls, in which each course of boards partially overlaps the one below it.
**Windows**

- **Awning** – a single sash window hinged on the top swinging outward.
- **Bay windows** – a window or series of windows projecting outward from the main wall of a building and forming a bay or alcove in a room within, esp. one having its own foundation.
- **Casement** – a window hung on one side, and opening either outward or into a room.
- **Dormer window** – an upright window lighting the space in a roof.
- **Double hung** – a window with two sashes, one above the other, that may both be opened.
- **Gable window** – a window under a gable.
- **Industrial sash** – a multi-light window of metal with many small panes set in a rectangular grid, and generally combining fixed windows and casements. Usually seen in industrial design of the mid to late 20th century.
- **Multi-light** – windows with more than one pane of glass. Windows with decorative patterns are described by the number of panes, or lights, at each sash. For example, a six-light casement window has six small panes of glass. Double hung windows are described by the number of panes in the top sash being "over" the number in the bottom sash, as in two-over-two, or six-over-one.
- **Pane** – one of the divisions of a window or door, consisting of a single unit of glass set in a frame.
- **Paired windows** – two windows separated by a mullion, under a single arch or lintel.
- **Transom window** – the horizontal window panel above the storefront door.
- **Window frame** – the fixed frame of a window, consisting of two jams, a head, and a sill.
- **Window unit** – a manufactured assembly of a frame sash, glazing, and necessary hardware, made to fit a window opening.

**Wing wall** – an extension of a wall that projects out beyond the building itself.
Appendix E

Incentives for Historic Properties

The following is a listing of currently available incentives for the preservation of historic properties in Santa Ana.

Available incentives are dependent upon currently available local, state and federal resources and may change over time. Please consult with City of Santa Ana Planning Division for the most current incentives available.

E.1 Local Programs

City Awards for Outstanding Historic Preservation Projects

This facet of the incentives program is designed to recognize those property owners who have demonstrated outstanding achievement in historic preservation. The City Award for Outstanding Preservation Projects gives property owners a sense of pride in their achievements. This incentive also provides for a method of public education regarding historic preservation in the community through the presence of such projects in their own neighborhood.
Historic Designation Marker Program

A Historic Designation Marker Program is a way to promote and educate the public regarding the value of historic preservation. This component of the incentives program encourages public awareness of local historic properties and gives property owners a sense of pride. Each of the first 217 properties listed on the Santa Ana Register of Historical Properties will be awarded a plaque.

If your property is not among those awarded a plaque, but would like to order one for your historic property, you may contact the Planning Division at (714) 647-5804.

E.2 State Programs

The Mills Act

The Mills Act grants property tax relief. It is given for homeowners of qualified historic properties. Historic properties that are owner-occupied single-family residences and income producing commercial properties are recognized under the Act. The property tax relief is given to encourage property owners to maintain and preserve their historic properties. The property owner enters into a formal agreement with the City to establish conditions for the rehabilitation, restoration or maintenance of their property.

The amount of tax savings varies, but Mills Act Agreements can be up to 50% tax savings. The types of preservation conditions established by the Mills Act Agreement also enable the City to specify the standards and conditions of the property’s preservation. The property owner initiates application for entering into a Mills Act Agreement and acceptance by the City requires approval through the Historic Resources Commission and acceptance by the City Council.
APPENDIX E – INCENTIVES FOR HISTORIC PRESERVATION

State Historic Building Code (SHBC)

Local building officials may use the State Historic Building Code when reviewing projects for historic structures on the local, state, and/or national register as enabled by the State Health and Safety Code. This incentive gives the property owner relief from the strict interpretation of the code while maintaining overall safety standards, which in turn enables a property owner to maintain a structure’s unique historic features.

E.3 Federal Programs

Tax Incentives

The Tax Reform Act of 1986 makes tax credits to encourage preservation. These include:

- 20% rehabilitation tax credit equal to 20% of the amount spent in a certified rehabilitation of a certified historic structure or;

- 10% rehabilitation tax credit equal to 10% of the amount spent in a certified rehabilitation of a non-historic structure that was built prior to 1936.

A tax credit is different from a tax deduction because a deduction lowers the amount of income that is ultimately taxed, but a credit lowers the amount of tax owed. For both credits, the rehabilitation must be a substantial one (i.e., exceeds $5,000.00 or the adjusted basis of the property, whichever is greater), and must involve a depreciable building. This incentive is sponsored and implemented by the federal government. The two tax credits are mutually exclusive, so a property owner cannot use both for the same building.

To utilize the 20% tax credit, the property owner must file a two-part application with the National Parks Service. Part I of the application ensures that the building is a certified historic structure used for a commercial purpose. This certification indicates that the property contributes to the historic district in which it is located OR that the building is individually listed or eligible for listing on the National Register. Part II of the application certifies that the rehabilitation work meets the Secretary of the Interior’s Standards. These standards are nationally accepted guidelines concerning any work to be performed on a property designated as historic. A lessee may be eligible for the tax credits if their lease term is for thirty-nine (39) years or more.
Appendix E – Incentives for Historic Preservation

Old City Hall
Federal Income Tax Credit

To be eligible for the 10% tax credit, the building must not be historic, but the building must be used for a commercial purpose, and built prior to 1936. Property owners apply directly to the federal government in order to participate, and must also file Parts I and II of the application. In this case, Part I of the application certifies that the structure is not historic, or does not contribute to a historic district. Although non-historic buildings are not required to meet the Secretary of the Interior’s Standards, Part II of the application for the 10% credit ensures that the project meets the following physical requirements:

- at least 75% of the building’s existing external walls must remain in place as either external or internal walls, and
- at least 75% of the building’s internal structural framework must remain in place.

For both the 10% and 20% tax credits, preliminary fees for the applicant range from $250 to $2500 depending upon the cost of the rehabilitation. Preliminary fees are deducted from the final fee. Applicants are strongly encouraged to submit applications describing proposed work and to receive approval from the National Parks Service prior to the start of construction. Owners who undertake rehabilitation projects without prior approval do so at their own risk. Additionally, applicants should consult with current tax laws and other applicable legislation.

Ebell Club Presidents - Award of Merit

Additional Programs and Incentives

For the most current information on programs and incentives, please contact the City of Santa Ana Planning Division at (714) 647-5804.
Appendix F

Historic Precedents for Color

Whenever possible, exterior building colors should reflect the basic colors of the architectural style or period of the building. Historic color palettes based on research, old photographs and historic records are strongly encouraged. The Sherwin-Williams Preservation Palette or similar paint manufacturer pamphlets can also be consulted for information on historic color schemes. The following section identifies major color selections used on buildings during various periods.

Pre-1900 Victorian (about 1870 to 1890)

This period experienced three-color transitions in much of southern California. The earliest examples generally had the main body of the building painted pale colors, usually tans or white. Most were painted with just two colors with the predominant being the body of the house. Trim was usually of the same color, but in a deeper tone. Roofs were generally wood shingles stained green, red or black.

From 1884 to 1895 darker colors were used. In some cases, the number of colors on a single building increased to three or four, partly as a result of two different exterior materials. The two different materials were painted different colors, each with its own trim color. Roofs were still generally wood shingles stained green, red or black.

About 1895, colors were affected by the classical influence. The main body colors reverted to lighter colors – light grays, yellows and tans. Trim was often white, and the window sashes black. Roofs remained composed of green, red, or black stained wood shingles.

Turn of the Century (about 1900 to 1920)

Buildings of this period were generally white or light colors. Shingles were usually used at the upper level, with siding below. The upper area might be stained green or brown with white or tan used at the lower level. Building trim was generally white with window sashes generally painted black. Roofs continued a composition of green, red, or black stained wood shingles.
Bungalow/Craftsman (about 1910 to 1920)

Buildings of this style generally had rough wood siding or shingles, with finished wood usually used as trim. The shingles or siding were often stained “earth” colors of brown, green or left in their natural color. They were often painted light to medium, semi-neutral soft shades such as yellow, brown, red, green or gray. The trim was often painted white, ivory or cream. Roofs were generally wood shingles, stained green, red or black. Crushed brick and white gravel roofs were also introduced on flatter pitches at this time.

California Bungalow (about 1910 to 1925)

The material on the main body of the structure was generally wood siding. Wood siding or shingles were often stained a dark color. Shingles or siding were also painted a light to medium, semi-natural shade such as yellow, brown, red, green or gray. The wood trim, which had a smooth finish, was often painted a lighter color such as ivory, white or cream. Roofing materials similar to the Craftsman style continued.

Period Revivals (about 1920 to 1935)

The period includes many different styles, including Spanish Colonial/Mediterranean, Colonial and Tudor. Stucco was generally used as the primary material of the main body of the building with rough or smooth finished wood trim and either wood shingles, shakes or clay tile roofs. The main body was usually dark brown. The smooth wood trim was usually painted a dark color such as green or brown. Roofing materials were generally left in their natural state.
Colonial Revival (1880 – on)

Since the 1876 Centennial Exhibition in Philadelphia, the popularity of the Colonial Revival movement and the inclusion Colonial Revival elements – is evident in home design. Colonial Revival homes provided an alternative to the traditional earthy, progressive bungalow. Generally, Colonial Revivals were painted brighter and bolder tones than bungalows. Typical recommendations for paint selection for Colonial Revivals included a body of “Colonial yellow” with white trim and dark green shutters. White was also a popular body color with shutters and sash painted in a darker contrasting color to accentuate the white. In the 1920s and ‘30s, the Colonial Revival became a popular style choice, with many houses built in brick with white or yellow trim. All-wood Colonial Revivals also experienced lighter and whiter tones through the World War II era and into the 1950s. During this time, a white body was typically used and highlighted by bright contrasting shutters or trim.

Tudor and Tudor Revival (about 1905 to 1940)

From the beginning of the century until World War II, the Tudor Revival-style house offered an alternative to the symmetrical and clearly classical Colonial Revival. Tudor and Tudor-Revivals typically included steeply pitched roofs, half-timbering, and mixed of unpainted stucco, brick or stone, Tudors did not typically utilize a diverse palette of colors seen on other styles. Dark brown (almost black) was the most popular choice of trim color and contrasted with lighter stucco. Stucco often included a sparkled appearance with embedded mica or other minerals. Various browns were also favorite trim colors. Occasionally, Tudor trim was painted white.
Spanish and Mission Revival (about 1915 to 1940)

By the 1920s, the rich palette was replaced by colors that were characterized as being light, bright, pastel or muted. Spanish and Mission Revival residences typically had walls covered with cement plaster. The cement plaster was often left its natural color or slightly tinted. Painted plaster cement was typically painted with white and pale cream colors. Popular trim colors were often dark green, blue/green, gray/greens and medium to dark brown. Entry doors in the Southern California area were typically stained rather than painted.
Appendix G

Resources for Historic Preservation

There are numerous resources available to assist property owners, developers, architects and other interested parties in historic preservation. The following is a current listing of available resources to assist you. For the most current listing of online resources, please consult with the City of Santa Ana’s Planning Division;

Santa Ana Resources

Planning and Building Agency’s Historic Links Webpage
http://www.santa-ana.org/departments/pba/planning/Histori_Properties.htm

Santa Ana Library
http://www.ci.santa-ana.ca.us/library/hr/

Santa Ana Historical Preservation Society
www.santaanahistory.com/

Floral Park Neighborhood Association
www.floralpark.com

French Park Neighborhood Association
www.frenchpark.org

Heninger Park Neighborhood Association
www.neighborhoodlink.com/sana/heninpark

Washington Square Neighborhood Association
www.washington-square.org

West Floral Park Neighborhood Association
www.westfloralpark.com

Wilshire Square Neighborhood Association
www.neighborhoodlink.com/sana/wilshire

State and Regional Resources

Old Orange County Courthouse
211 W. Santa Ana Blvd.
Santa Ana, CA 92701
(714) 973-6605 or (714) 973-6607
www.ocparks.com/oldcourthouse/

California Preservation Foundation
5 Third Street, Suite 424
San Francisco, CA 94103
(415) 495-0349
www.californiapreservation.org
Los Angeles Conservancy
523 W. Sixth Street, Suite 826
Los Angeles, CA 90014
(213) 623-2489
www.laconservancy.org

Historical Society of Southern California
200 East Avenue 43
Los Angeles, CA 90031
(323) 222-0546
www.socalhistory.org

California State Parks
Office of Grants & Local Services
PO Box 942896
Sacramento, CA 94296-0001
(916) 653-7423
http://www.parks.ca.gov/default.asp?page_id=1008

Federal Historic Preservation Tax Credits – information on tax credit eligibility and applications
http://ohp.parks.ca.gov/default.asp?page_id=21746
http://www.cr.nps.gov/hps/tps/tax/brochure1.htm

Using the State Historic Building Code
http://ohp.parks.ca.gov/default.asp?page_id=21410
and;
http://www.dsa.dgs.ca.gov/StateHistoricalBuildingSafetyBoard/2001chbc.htm

Mills Act Information
http://ohp.parks.ca.gov/default.asp?page_id=21412

National Historic Preservation Act of 1966
www.cr.nps.gov/local-law/nhpa1966.htm

Government Links and Historic Preservation Incentive Information

Secretary of the Interior’s Standards for the Treatment of Historic Properties – an overview of all four treatment approaches.
www2.cr.nps.gov/tps/secstan1.htm

Secretary of the Interior’s Standards for Rehabilitation – a list of all the standards for an acceptable rehabilitation project.
www2.cr.nps.gov/tps/tax/rehabstandards.htm

California State Parks, Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296-0001
(916) 653-6624
http://ohp.cal-parks.ca.gov

Photo courtesy of Guy Ball
Practical Information and Instructional Guides

Good Guides to Historic Preservation – several useful links to understanding the preservation process
http://www2.cr.nps.gov/tps/care/goodguides.htm

Telling Historic Preservation Time – a guide to understanding how historic “time” is determined when rehabilitating a historic building
http://www2.cr.nps.gov/tps/clocks/index.htm

Illustrated Guide for Rehabilitating Historic Buildings – an illustrated guideline in implementing the Secretary of the Interior’s Standards for Rehabilitation
http://www2.cr.nps.gov/tps/tax/rhb/index.htm

Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings – choosing the appropriate treatment approach
http://www2.cr.nps.gov/tps/Standards/index.htm

A Checklist for Rehabilitating Historic Buildings – describes the typical process of documenting, evaluating, and assessing a historic building prior to undertaking rehabilitation work
http://www2.cr.nps.gov/tps/cheklist.htm

Preservation Briefs 1 – 42 – guidance on specific technical and structural topics related to the preservation of historic buildings
http://www2.cr.nps.gov/tps/briefs/presbhom.htm

Preservation Tech Notes (PTN) - provides specific and technical how-to’s for the acceptable and successful preservation of historic materials
http://www2.cr.nps.gov/tps/technotes/tnhome.htm

Boilerplate “Yes’s” and “No’s” – offers case studies and examples of what is acceptable (or not) in rehabilitating a historic building when using the Secretary of the Interior’s Standards for Rehabilitation
http://www2.cr.nps.gov/rehabyes-no/

Other Resources

National Trust for Historic Preservation
1785 Massachusetts Ave., NW
Washington, DC 20036-2117
TEL: 202-588-6000
www.nthp.org

Old House Journal
www.oldhousejournal.com

Researching an Old House
http://www.americanhistory.si.edu/house/default.asp

First American Title- History Room
2 First American Way
Santa Ana, CA 92707
(714) 800-3000
www.firstam.com/oc/index.html